Bethel Board of Education Curriculum Subcommittee Meeting

Thursday, August 23, 2012 6:00 PM
Board of Education Conf. Room E, 1 School Street, PO Box 253, Bethel, CT 06801

1. **Costa Rica Field Trip Presentation**

1.A. Spring 2013 Field Trip to Costa Rica

2. **Mathematics Curriculum Approval**

2.A. Grade Four Mathematics Curriculum

2.B. Grade Five Mathematics Curriculum

2.C. Precalculus 31 Curriculum

2.D. Precalculus 42 Curriculum

2.E. Algebra 1 12 - 9-12 Level 2

2.F. Algebra 1 13 - 9-12 Level 3

3. **World Languages Curriculum Approval**

3.A. French 21 Curriculum 2012

3.B. French 22 Curriculum 2012

3.C. French 31 Curriculum 2012

3.D. French 32 Curriculum 2012

4. **Audience Participation**

5. **Adjourn**

Bethel Abroad!!

Spring 2013 Trip to Costa Rica

To be presented to the Bethel Board of Education in June 2012:

TEACHER LEADERS: Andreia Dovale and Eugene Hellmann
Both Mrs. Dovale and Mr. Hellmann have extensive overseas travel experience.

OVERVIEW: The World Language Department hopes to sponsor a trip next spring to Costa Rica. This trip will be offered to any Bethel High School student who studies Spanish and is interested in learning about Costa Rica. We hope to take 36 students and 6 teacher chaperones on this educational journey.

TOUR COMPANY: We will use the reputable educational travel organization, *Education First Tours* www.eftours.com as our travel company. This is a well-known and respected company that has been organizing tours for the last 45 years.

DATES: April 12 – April 20, 2013

PRICE: $2033 per student (subject to change)

THE TRIP: We will travel throughout the country to see and experience different regions:

. Day 1: Fly to Costa Rica
. Day 2: San José • Arenal region
                    Visit INBioparque
                    Travel to the Arenal region
                    Visit Poás Volcano
                    Visit hot springs
. Day 3: Arenal region
                    Take a kayaking trip on Lake Arenal
                    Visit La Fortuna Waterfall
. Day 4: Monteverde
                    Travel to Monteverde Reserve
                    Visit a local school
. Day 5: Monteverde
                    Visit the Santa Elena Cloud Forest
                    Plant a tree in the EF reserve in Monteverde with your group
                    Participate in a canopy adventure
. Day 6: Carara • Central Pacific Coast
                    Visit Carara Biological Reserve

Travel to the Central Pacific Coast

. Day 7: Central Pacific Coast

Visit Manuel Antonio National Park

Return to Central Pacific Coast

. Day 8: Sarchi • San Jose

Travel via Sarchi to San José

. Day 9: Depart for home

EDUCATIONAL PURPOSE OF THIS TRIP: Travelling to a foreign country is an educational opportunity like no other. It is the quintessential hands-on experience. Sometimes we need to take students beyond the four walls of the classroom, beyond the town limits of Bethel, CT and beyond the border of the United States. In doing so, we can broaden students' awareness of other cultures and communities. This trip will allow students to experience what we discuss in Spanish 2 and 3 throughout the year. This trip also crosses disciplines and teaches students about nature, the environment, and biology. We will be visiting many diverse locations in Costa Rica. Students will visit a cloud forest, go kayaking, visit hot springs that come from an active volcano. Students will see many exotic animals in their natural habitat. Students will also use Spanish to communicate with locals and expand their speaking skills.

CURRICULAR STANDARDS:

STANDARDS FOR FOREIGN LANGUAGE LEARNING

COMMUNICATION - Communicate in Languages Other Than English

- **Standard 1.1:** Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions
- **Standard 1.2:** Students understand and interpret written and spoken language on a variety of topics

CULTURES - Gain Knowledge and Understanding of Other Cultures

- **Standard 2.1:** Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied
- **Standard 2.2:** Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied

CONNECTIONS - Connect with Other Disciplines and Acquire Information

- **Standard 3.1:** Students reinforce and further their knowledge of other disciplines through the foreign language
- **Standard 3.2:** Students acquire information and recognize the distinctive

viewpoints that are only available through the foreign language and its cultures

COMPARISONS   - Develop Insight into the Nature of Language and Culture

- **Standard 4.1:** Students demonstrate understanding of the nature of language through comparisons of the language studied and their own
- **Standard 4.2:** Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

COMMUNITIES -   Participate in Multilingual Communities at Home & Around the World

- **Standard 5.1:** Students use the language both within and beyond the school setting
- **Standard 5.2:** Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

STANDARDS OF CONDUCT:
Students will be held to the same behavioral expectations as outlined in the Bethel High School Student Agenda Book. More specifically, students are expected to:
- Behave appropriately throughout the entire trip.
- Represent their high school, their hometown, and their country with dignity.
- Be quiet and respectful on the plane, on guided tours, in the hotel, and in restaurants.
- Stay with the group at all times. During free time, students must stay in groups of at least three people.
- Be punctual for all wake-up calls, meet-back times, etc.
- Honor hotel curfews.
- Completely refrain from the use of drugs/alcohol.

CONSEQUENCES FOR MISBEHAVIOR:
If a student misbehaves on this trip, he/she will be subject to certain consequences. These consequences will be determined on a case by case basis. They include reduced free time, limited curfew, loss of preferential seating, bus clean-up duty, letters of apology, community service, or in an extreme situation, immediate dismissal from the tour at the parents' expense. If the student is involved in any illegal activities and the local authorities are involved, the student will be subject to the laws of the country he or she is visiting.

RESPONSIBILITIES OF PARENTS, STUDENTS, TEACHERS
Parents are responsible for attending all informational meetings involving this trip. Parents are responsible for honoring the payment plan as set up by EF Tours. Parents must ensure that the student receives his/her passport at least 4 months prior to travel. Parents will also need to provide the student with spending money.

Students are expected to attend all informational meetings involving this trip. On the trip, students are expected to behave like responsible and respectful young adults.

Teacher chaperones will monitor student behavior throughout the entire tour, create room charts, perform room checks, collect passports/photocopies, provide packing lists, disperse medication, provide educational background on the places of interest within the tour, and conduct informational meetings.

COST OF TRIP: The cost of this trip is approximately $2033. This price includes the round trip airfare, the transfers from airport to hotel, transportation to the different attractions, the overnight hotel stays, 3 meals a day, the guided tours, the full-time service of an EF Tour Director. The price does not include tipping, the bus from Bethel to NY and NY to Bethel, passport fees, and personal insurance.

SCHEDULE OF PAYMENTS: Students are encouraged to set up a monthly payment plan starting in October 2012 and continuing into April 2013. The seven monthly payments would be approximately $276.14 each. This does not include the enrollment fee, tipping, and incidentals.

FUND-RAISING: In the fall, we will assemble a parent committee to assist with and brainstorm fund-raising ideas. These ideas may include: bake sales, car washes, raffles, silent auctions, candy bar sales, dinners, other events, etc.

TRAVEL ARRANGEMENTS: We will take a coach bus to/from the NY airport at the beginning and end of our trip. Once we arrive in Costa Rica, all bus transfers will be set up through EF Tours. The overnight stays are in first-class, superior tourist class hotels (all with private bathrooms). The exact names of hotels will be provided to us 2 months prior to our departure.

DAILY ITINERARY: The broad daily itinerary is provided at the end of this document. A more specific daily itinerary will be provided 2 months prior to departure.

PROCEDURES FOR MEDICATIONS, ACCIDENTS, TRAVEL EMERGENCIES:
The teacher chaperones will be in charge of holding and dispensing all prescription medications to students. If a student is ill and needs to stay behind at the hotel or if a student needs medical attention, a teacher chaperone will always be present with that student. No student will be left unattended in cases of emergency or sickness.

HEALTH AND INSURANCE COVERAGE: EF Tours offers an all-inclusive insurance plan for just $145.00 per student. This plan includes:
- **Tour Cancellation and Interruption Insurance**
  A refund of the Program Fee if your child needs to cancel from or interrupt the tour due to reasons of serious injury or illness requiring hospitalization, financial hardship due to unexpected job loss, jury duty, military call to active duty or severe damage to home.

- **Medical and Accident Insurance**
  Coverage of up to $35,000 for hospital bills, doctors' fees and medical transportation for illnesses or injury while on tour, as well as travel and accommodation expenses for a family member to be with your child while hospitalized in the event of a life-threatening illness.
- **Baggage and Property Insurance**
  Coverage for baggage, cash, airline tickets, travel documents and valuable property in cases of theft or delay, including emergency on-tour cash reimbursement of up to $300 within 24 hours of a theft.
- **Flight Delay Insurance**
  Coverage up to $200 per day ($400 maximum) for expenses due to flight delays (lodging, food, and other reasonable expenses) as well as a refund for every full land day missed of your tour (2 days maximum) due to flight delays or cancellations.
- **24-hour Emergency Assistance**
  Round-the-clock handling of claims and assistance from English-speaking insurance representatives during your child's tour.

Tour Name Costa Rica
TOUR INFORMATION
Group Leader Name Andreia Dovale and Eugene Hellmann
Tour Number 1252554
Requested Departure Date Friday, April 12, 2012
Requested Return Date Sunday, April 20, 2012
Number of Days 9 Days, 8 Overnights
Departure Gateway New York, NY*
Free Place Ratio 6:1
*For all NYC departures, EF uses JFK, EWR, and LGA airports interchangeably.

PRICE QUOTE Program Fee*
Program fee $1605 (subject to change)

Additional Fees (Included in Total)
Enrollment Fee $95
Current Departure Fee** $263
Weekend Supplement $70

TOTAL COST OF TOUR For Students
Approximately $2,033

Additional Tour Items Available (Not Included in Total)
All Inclusive Insurance Plan $145

Tour Highlights and Details
Overnight stays:
8 overnight stays in hotels with private bathrooms.

Comprehensive sightseeing tours led by an expert local guide of the following:
San Jose
Arenal Region
Monteverde
Carara
Central Pacific Coast
Manuel Antonio National Park
Sarchi

Entrances included to the following sites:
INBioparque, Poas Volcano, Hot springs, Lake Arenal kayaking, La Fortuna
Waterfall, Santa Elena Cloud Forest, Canopy adventure, Carara Biological Reserve,
and Manuel Antonio National Park,

Included in the Program Fee:
• Round trip airfare
• Transfers to and from the airport and hotel and between destination cities (as per
program itinerary)
• Overnight stays in first-class, superior tourist class or tourist class hotels (all with
private bathrooms)
• 3 meals a day
• Full-time services of an EF Tour Director
• Comprehensive sightseeing of natural attractions

Not included in the Program Fee:
• Customary gratuities for your tour director, local guide and driver
• Personal Insurance

Costa Rica

Requested departure date: Friday, April 12, 2013
(Dates below are subject to change. Required date flexibility of **4** days on either side of requested departure date)

Day 1 Friday, April 12, 2013
Fly to San Jose

Day 2 Saturday, April 13, 2013
Visit INBioparque
Discover a world of biological diversity on your visit to this natural park and research station, created by the National Institute of Biodiversity. Get an up-close look into the lives of tarantulas, frogs, and bees in the permanent exhibits. Then, stretch your legs and wander the park's three different ecosystem trails. Venture to the pond to check out the freshwater flora and fauna. Thousands of colorful paper-thin wings flutter around you in the butterfly garden – see if you can spot Costa Rica's native species. Stop by the Ecological Tourism Office before you leave INBioparque for further information on conservation practices and protected wildlife regions.

Day 3 Sunday, April 14, 2013
Arenal Region
Get ready for an adventure to remember in Costa Rica's Arenal region! Behold the perfect conical shape that emerges from the green hills of Alajuela: this is the fascinating Arenal Volcano. Overlooking the San Carlos plain and the Pacific lowlands, this mile-high volcano has been active for the past 7,000 years. You'll see the volcano from a different angle on your kayaking excursion. Not only does the volcano server as a watershed for the lake, but it also provides thermal energy for the nearby hot springs. Relax in these naturally heated pools; then, walk to the bottom of the spectacular La Fortuna waterfall.

Day 4 Monday, April 15, 2013
Travel to Monteverde
Visit a local school
A local school will welcome your group with traditional dances.

Day 5 Tuesday, April 16, 2013
Monteverde
You'll tour the greenery of the Santa Elena Cloud Forest, where you can look for the rare orchids and elusive quetzal birds that thrive in the perpetual soft mist. At this altitude, you'll literally walk through clouds! Leave a positive mark on the earth when your group plans a tree together.

Day 6 Wednesday, April 17, 2013
Carara – Central Pacific Coast
This is the northernmost region of Pacific rainforest remaining in Costa Rica, and is the beginning of the transition zone into the tropical dry forests of the northwest. Carara is one of Costa Rica's most popular National Parks, in large part due to its proximity to San José. This is also where many cruise ship's passengers are bused

for a day trip when the liners dock just up the coast at Puerto Caldera.

Day 7 Thursday, April 18, 2013
Manuel Antonio National Park
With the establishment of Manuel Antonio National Park in 1972, the people of Costa Rica decided to preserve, for future generations, one of the most beautiful and bio-diverse areas in the world. Although it is the country's smallest national park, the stunning beauty and diversity of wildlife in its 683 hectares is unequaled. Manuel Antonio contains a charming combination of rain forest, beaches and coral reefs. This beaches are the most beautiful in the country, lined with lush forest, and the snorkeling is excellent too. The forest is home for sloths, iguanas, the rare and adorable squirrel monkeys and millions of colorful little crabs.

Day 8 Friday April 19, 2013
Sarchi – San Jose
Neighboring Grecia, a few kilometers away is the quaint little town of Sarchi, known throughout Costa Rica for its beautiful and intricate arts and crafts and souvenirs. Lying some 30 km northwest of Alajuela city, in Alajuela province, the town of Sarchi is perhaps most widely recognized for its colorful and decorative oxcarts that have been made here for over a century.

Day 9 Saturday, April 20, 2013
Depart for home

Itinerary is subject to change
For complete financial and registration details, please refer to the Booking Conditions at www.eftours.com/bc.

Bethel Public Schools
Grade Four Mathematics

Enduring Understandings for Grade Four Mathematics

1. Students develop understanding and fluency with multi-digit multiplication, and they develop understanding of dividing to find quotients involving multi-digit dividends.

   Students generalize their understanding of place value to 1,000,000, understanding relative sizes of numbers in each place.

   Students apply their understanding of models for multiplication as they develop, discuss, and use efficient, accurate, and generalizable methods to compute products of multi-digit whole numbers.

   Students understand why these methods work and can explain them based on place value and properties of operations, and the use them to solve problems.

   Students apply their understanding of models for division, place value, properties of operations, and the relationship of division to multiplication as they develop, discuss, and use procedures to find quotients involving multi-digit dividends.

2. Students develop an understanding of fraction equivalence, addition and subtraction of fractions with like denominators, and multiplication of fractions by whole numbers.

   Students recognize that two different fractions can be equal (e.g., 15/9=5/3), and they develop methods for generating and recognizing equivalent fractions.

   Students extend previous understandings about how fractions are built from unit fractions, composing fractions from unit fractions, decomposing fractions into unit fractions, and using the meaning of fractions and the meaning of multiplication to multiply a fraction by a whole number.

3. Students develop understanding that geometric figures can be analyzed and classified based on their properties, such as having parallel sides, perpendicular sides, particular angle measures, and symmetry.

   Students describe, analyze, compare, and classify two dimensional shapes.

Bethel Power Standards for Grade Four Mathematics

Operations and Algebraic Thinking (OA)

Use the four operations with whole numbers to solve problems.

1. Interpret a multiplication equation as a comparison, e.g. interpret 35 = 5 x 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.

2. Multiply or divide to solve word problems involving multiplicative comparison, e.g. by using drawings and equations with a symbol of the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.

3. Solve multi-step word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Gain Familiarity with Factors and Multiples.

4. Find all factor pairs from a whole number in the range 1-100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1-100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1-100 is prime or composite.

Generate and analyze patterns.

5. Generate a number or shape pattern that follows a given rule. Identify apparent features of the pattern that were not explicit in the rule itself. For example, given the rule 'add 3' and the starting number 1, generate terms in the resulting sequence and observe that the terms appear to alternate between odd and even numbers. Explain informally why the numbers will continue to alternate in this way.

Number and Operations in Base Ten (NBT)

Generalize place value understanding for multi-digit whole numbers.

1. Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right. For example, recognize that 700 ÷ 70= 10 by applying concepts of place value and division.

2. Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Compare two multi-digit numbers based on meanings of the digits in each place, using >, =, < symbols to record the results of comparisons.

3. Use place value understanding to round multi-digit whole numbers to any place.

Use place value understanding and properties of operations to perform multi-digit arithmetic.

4. Fluently add and subtract multi-digit whole numbers using the standard algorithm.

5. Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

6. Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

Number and Operations with Fractions (NOF)

Extend understanding of fraction equivalence and ordering.

1. Explain why a fraction a/b is equivalent to a fraction (n x a)/(n x b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Use this principle to recognize and generate equivalent fractions.

2. Compare two fractions with different numerators and different denominators, e.g. by creating common denominators or numerators, or by comparing a benchmark fraction such as 1/2. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions (by using a fraction model).

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.
(Grade 4 expectations in this domain are limited to fractions with denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100.)

3. Understand a fraction a/b with a > 1 as a sum of fractions 1/b.

   a. Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.

b. Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Justify decompositions, e.g. by using a visual fraction model. Examples: 3/8 = 1/8 + 1/8 + 1/8; 3/8 = 1/8 + 2/8; 17/8 = 1 + 1 + 1/8 = 8/8 + 8/8 + 1/8.

c. Add and subtract mixed numbers with like denominators, e.g., by replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.

d. Solve word problems involving addition and subtraction of fractions referring to the same whole and having like denominators, e.g., by using visual fraction models and equations to represent the problem.

4. Apply and extend previous understandings of multiplication to multiply a fraction by a whole number.

a. Understand a fraction a/b as a multiple of 1/b. For example, use a visual fraction model to represent 5/4 as the product 5 x (1/4), recording the conclusion by the equation 5/4 = 5 x (1/4).

b. Understand a multiple of a/b as a multiple of 1/b, and use this understanding to multiply a fraction by a whole number. For example, use a visual fraction model to express 3 x (2/5) as 6 x (1/5), recognizing this product as 6/5. (In general, n x (a/b) = (n x a)/b).

c. Solve word problems involving multiplication of a fraction by a whole number, e.g., by using visual fraction models and equations to represent the problem. For example, if each person at a party will eat 3/8 of a pound of roast beef, and there will be 5 people at the party, how many pounds of roast beef will be needed? Between what two whole numbers does your answer lie?

Understand decimal notation for fractions, and compare decimal fractions.

5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express 3/10 as 30/100, and add 3/10 + 4/100 = 34/100. (Students who can generate equivalent fractions can develop strategies for adding fractions with unlike denominators in general. But addition and subtraction with unlike denominators in general is not a requirement at this grade.)

6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as 62/100; describe a length as 0.62 meters; locate 0.62 on a number line diagram.

7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e. g. by using a visual model.

Measurement and Data (MD)

Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

1. Know relative sizes of measurement units within one system of unit, including km, m, cm; lb, oz; l, ml; hr, min, sec. Within a single system of measurement, express measurements in a larger unit in terms of a smaller unit. Record measurement equivalents in a two-column table. For example, know that 1 ft is 12 times as long as 1 in. Express the length of a 4 ft snake as 48 in. Generate a conversion table for feet and inches listing the number pairs (1, 12), (2, 24), (3, 36)... Measure time intervals in hours, minutes, and seconds.

2. Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money including problems involving simple fractions or decimals, and problems that require expressing measurements given in a large unit in terms of a smaller unit. Represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.

3. Apply the area and perimeter formulas for rectangles in real world and mathematical problems. For example, find the width of a rectangular room given the area of the flooring and the length, by viewing the area formula as a multiplication equation with an unknown factor.

Represent and interpret data.

4. Make a line plot to display a data set of measurements in fractions of a unit (1/2, ¼, 1/8). Solve problems involving addition and subtraction of fractions by using information presented in line plots. For example, from a line plot, find and interpret the difference in length between the longest and shortest specimens in an insect collection.

Geometric measurement: Understand concepts of angles, and be able to measure angles.

5. Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.

      a. An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. An angle that turns through 1/360 of a circle is called a "one-degree angle," and can be used to measure angles.

      b. An angle that turns through n one-degree angles is said to have an angle measure of n degrees.

6. Measure angles in whole-number degrees using a protractor. Sketch angles of specified measures.

7. Recognize angle measure as additive. When an angle is decomposed into non-overlapping parts, the angle measure of the whole is the sum of the angle measures of the parts. Solve addition and subtraction problems to find unknown angles on a diagram in real world and mathematical problems, e.g. by using an equation with a symbol for the unknown angle measure.

Geometry (G)

Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

1. Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.

2. Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles or a specified size. Recognize right triangles as a category, and identify right triangles.

3. Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.

Mathematical Communication and Reasoning (MCR)

1. Use the language of mathematics to communicate about mathematical concepts and skills and to explain thinking.

2. Describe the "reasonableness" of estimates when solving problems.

3. Apply mathematical knowledge to science and social studies classes, when appropriate.

4. Demonstrate mathematical reasoning while solving computation, number sense, measurement problems.

5. Increase repertoire of problem-solving strategies to use when solving mathematical problems.

Standards for Mathematical Practices

Teachers working to implement this curriculum will use the following Mathematical Practices delineated in the *Common Core State Standards*. Their students will:

1. Make sense of problems and persevere in solving them.

2. Reason abstractly and quantitatively.

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

8. Look for and express regularity in repeated reasoning.

Curriculum Pacing Chart

Bethel's Grade Four students have **70 minutes** of mathematics instruction per day.

August 30 to September 20—Place Value and Operations with Whole Numbers

Power Standard	Learning Objectives	Lessons	Formative Assessment
NBT.1 NBT.2 NBT. 2 NBT. 3 NBT.1, 2 NBT.3, 4 OA 3 NBT 3, 4 OA 3	**Place Value, and Addition and Subtraction within 1,000,000** 1. Model the ten-to-one relationship among place value positions in the base ten number system. 2. Read and write whole numbers in standard form, word form, and expanded form. 3. Compare and order whole numbers based on the values of the digits in each number. 4. Round a whole number to any place. 5. Rename whole numbers by re-grouping. 6. Add whole numbers and determine whether solutions to addition problems are reasonable. 7. Subtract whole numbers and determine whether solutions to subtraction problems are reasonable.	1.1 Model Place Value Relationships 1.2 Read and Write Numbers 1.3 Compare and Order numbers 1.4 Round Numbers. 1.5 Investigate-Rename Numbers 1.6 Add Whole Numbers 1.7 Subtract Whole Numbers	Prerequisite Skills test (8/31) Show What You Know (8/30) Mid-Chapter Checkpoint (9/11) Chapter 1 Review (9/19) Chapter 1 Test (9/20) Beginning of Year Assessment (TBD)

NBT 4	8. Use the strategy "Draw a Diagram" to solve comparison problems with addition and subtraction.	1.8 Problem Solving-Comparison Problems with Addition and Subtraction	
MP 2 and 6			

September 21 to October 18—Place Value and Operations with Whole Numbers

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Multiply by 1-Digit Numbers		Show What You Know (9/21)
OA 1	1. Relate multiplication equations and comparison statements.	2.1 Algebra: Multiplication Comparisons	Mid Chapter Checkpoint (10/4)
OA 2	2. Solve problems involving multiplicative comparison and additive comparison.	2.2 Comparison Problems	Chapter Review (10/17)
NBT 1, 5	3. Multiply 10's, 100's, and 1000's by whole numbers through 10.	2.3 Multiply Tens, Hundreds and Thousands.	Chapter Test (10/18) Benchmark Assessments (TBD)
NBT 3, 5	4. Estimate products by rounding and determine if exact answers to multiplication problems are reasonable.	2.4 Estimate Products	
NBT 5	5. Use the distributive property to multiply a 2-digit number by a 1-digit number.	2.5 Investigate: Multiply Using the Distributive Property	

NBT 5	6. Use expanded form to multiply a multi-digit number by a one-digit number.	2.6 Multiply Using Expanded Form
NBT 5	7. Use place value and partial products to multiply a multi-digit number by a one-digit number.	2.7 Multiply Using Partial Products
NBT 5	8. Use mental math and properties to multiply a multi-digit number by a one-digit number.	2.8 Multiply Using Mental Math
NBT 5 OA 3	9. Use the "Draw a Diagram" strategy to solve multi-step problems.	2.9 Problem Solving-Multistep Multiplication Problems
NBT 5	10. Use re-grouping to multiply a 2-digit number by a 1-digit number.	2.10 Multiply 2 digit Numbers with Regrouping
NBT 5	11. Use re-grouping to multiply a multi-digit number by a 1-digit number.	2.11 Multiply 3 digit and 4 digit numbers with Regrouping
OA 3 *MP 1 and 4*	12. Represent and solve multi-step problems using equations.	2.12 Algebra: Solve Multistep Problems Using Equations.

October 19 to November 6—Place Value and Operations with Whole Numbers

Power Standard	Learning Objectives	Lessons	Formative Assessment
NBT 1, 5 NBT 3, 5 NBT 5 NBT 5 NBT 5 NBT 5 NBT 5 OA 3 *MP 4 and 8*	**Multiply by 2-Digit Numbers** 1. Use place value and multiplication properties to multiply by 10's. 2. Estimate products by rounding or by using compatible numbers. 3. Use area models and partial products to multiply by 2-digit numbers. 4. Use place value and partial products to multiply 2-digit numbers. 5. Use re-grouping to multiply 2-digit numbers. 6. Choose a method to multiply 2-digit numbers. 7. Use the strategy "Draw a Diagram" to solve multi-step multiplication problems.	3.1 Multiply By Tens 3.2 Estimate Products 3.3 Investigate: Area Models and Partial Products 3.4 Multiply Using Partial Products 3.5 Multiply With Regrouping 3.6 Choose a Multiplication Method 3.7 Problem Solving: Multiply 2 digit Numbers	Show What You Know (10/19) Mid Chapter Checkpoint (10/26) Chapter Review (11/5) Chapter Test (11/6)

November 7 to December 5—Place Value and Operations with Whole Numbers

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Divide by 1-Digit Numbers		
NBT 6	1. Use multiples to estimate quotients.	4.1 Estimate Quotients Using Multiples	Show What You Know (11/2)
NBT 6	2. Use models to divide whole numbers that do not divide evenly.	4.2 Investigate Remainders	Mid Chapter Checkpoint (11/21)
NBT 6 OA 3	3. Use remainders to solve division problems.	4.3 Interpret the Remainders	Chapter Review (12/4) Chapter Test (12/5)
NBT 1, 6	4. Divide 10's, 100's, and 1000's by whole numbers through 10.	4.4 Divide Tens, Hundreds and Thousands	
NBT 6	5. Use compatible numbers to estimate quotients.	4.5 Estimate Quotients Using Compatible Numbers	
NBT 6	6. Use the distributive property to find quotients.	4.6 Investigate: Division and The Distributive Property	
NBT 6	7. Use repeated subtraction and multiples to find quotients.	4.7 Investigate: Divide Using Repeated Subtraction	
NBT 6	8. Use partial quotients to divide.	4.8 Divide Using Partial Quotients	
NBT 6	9. Use base ten blocks to model division with re-grouping.	4.9 Investigate: Model Division with Regrouping	
NBT 6	10. Use place value to determine where to place the first digit of a quotient.	4.10 Place the First Digit	

Power Standard	Learning Objectives	Lessons	Formative Assessment
NBT 6	11. Divide a multi-digit numbers by 1-digit divisors.	4.11 Divide by One Digit Numbers	
NBT 6 OA 3 *MP 2 and 4*	12. Solve problems by using the strategy "Draw a Diagram."	4.12 Problem Solving: Multistep Division Problems	

December 6 to December 17—Place Value and Operations with Whole Numbers

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Factors, Multiples, and Patterns		Show What You Know (11/30)
OA 4	1. Find all the factors of a number by using models.	5.1 Model Factors	Mid Chapter Checkpoint (12/11)
OA 4	2. Determine whether a number is a factor of a given number.	5.2 Factors and Divisibility	Chapter Review (12/14)
OA 4	3. Solve problems by using the strategy "Make a List."	5.3 Problem Solving: Common Factors	Chapter Test (12/17)
OA 4	4. Understand the relationship between factors and multiples, and determine whether a number is a multiple of a given number.	5.4 Factors and Multiples	
OA 4	5. Determine whether a number is prime or composite.	5.5 Prime and Composite Numbers	
OA 5 *MP 6 and 7*	6. Generate a number pattern and describe features of the pattern.	5.6 Algebra: Number Patterns	

13

December 18 to January 11—Fractions and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Fraction Equivalents and Comparison		
NF 1	1. Use models to show equivalent fractions.	6.1 Investigate: Equivalent Fractions	Show What You Know (12/14)
NF 1	2. Use multiplication to generate equivalent fractions.	6.2 Generate Equivalent Fractions	Mid Chapter Checkpoint (1/3)
NF 1	3. Write and identify equivalent fractions in simplest form.	6.3 Simplest Form	Chapter Review (1/10) Chapter Test (1/11)
NF 1	4. Use equivalent fractions to represent a pair of fractions as fractions with a common denominator.	6.4 Common Denominators	
NF 1	5. Use the strategy "Make a Table" to solve problems using equivalent fractions.	6.5 Problem Solving: Find Equivalent Fractions	
NF 2	6. Compare fractions using benchmarks.	6.6 Compare Fractions Using Benchmarks	
NF 2	7. Compare fractions by first writing them as fractions as fractions with a common numerator or a common denominator.	6.7 Compare Fractions	
NF 2	8. Compare and order fractions.	6.8 Compare and Order Fraction	

MP 4 and 7			

January 14 to February 1—Fractions and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Add and Subtract Fractions		
NF 3a	1. Understand that to add or subtract fractions, they must refer to parts of the same whole.	7.1 Investigate: Add and Subtract Parts of a Whole	Show What You Know (1/11)
NF 3b	2. Decompose a fraction by writing it as a sum of fractions with the same denominators.	7.2 Write Fractions as Sums	Mid Chapter Checkpoint (11/23)
NF 3d	3. Use models to represent and find sums involving fractions.	7.3 Add Fractions Using Models	Chapter Review (1/31)
NF 3d	4. Use models to represent and find differences involving fractions.	7.4 Subtract Fractions Using Models	Chapter Test (2/1)
NF 3d	5. Solve word problems involving addition and subtraction with fractions.	7.5 Add and Subtract Fractions	Benchmark Assessments (TBD)
NF 3b	6. Write fractions greater than one as mixed numbers, and write mixed numbers as fractions greater than one.	7.6 Rename Fractions and Mixed Numbers	Middle of Year Assessment (TBD)
NF 3c	7. Add and subtract mixed numbers.	7.7 Add and Subtract Mixed Numbers	

NF 3c	8. Re-name mixed numbers to subtract.	7.8 Subtraction with Renaming	
NF 3c	9. Use the properties of addition to add fractions.	7.9 Algebra: Fractions and Properties of Addition	
NF 3d	10. Use the strategy "Act It Out" to solve multi-step fraction problems.	7.10 Problem Solving: Multistep Fraction Problems	
MP 2, 4, and 5			

February 4 to February 13—Fractions and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Multiply Fractions by Whole Numbers		
NF 4a	1. Write a fraction as a product of a whole number and a unit fraction.	8.1 Multiples of Unit Fractions	Show What You Know (2/1)
NF 4b and 4c	2. Write a product of a whole number and a fraction as a product of a whole number and a unit fraction.	8.2 Multiples of Fractions	Mid Chapter Checkpoint (2/6)

Chapter Review (2/12)

Chapter Test (2/13) |
| NF 4b and 4c | 3. Use a model to multiply a fraction by a whole number. | 8.3 Multiply a Fraction by a Whole Number Using Models | |
| NF 4c | 4. Multiply a fraction by a whole number to solve a problem. | 8.4 Multiply a Fraction or a Mixed Number by a Whole Number | |
| NF 4c

MP 2 and 7 | 5. Use the strategy "Draw a Diagram" to solve comparison problems with fractions. | 8.5 Problem Solving-Comparisons | |

February 14 to March 1—Fractions and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Relate Fractions and Decimals		
NF 6	1. Record tenths as fractions and as decimals.	9.1 Relate Tenths and Decimals	Show What You Know (2/8)
NF 6	2. Record hundredths as fractions and as decimals.	9.2 Relate Hundredths and Decimals	Mid Chapter Checkpoint (2/22)
NF 5, 6	3. Record tenths and hundredths as fractions and as decimals.	9.3 Equivalent Fractions and Decimals	Chapter Review (2/28)
NF 6	4. Translate among representations of fractions, decimals, and money.	9.4 Relate Fractions, Decimals and Money	Chapter Test (3/1)
MD 2	5. Solve problems by using the strategy "Act It Out."	9.5 Problem Solving: Money	
NF 5	6. Add fractions when the denominators are 10 or 100.	9.6 Add Fractional Parts of 10 and 100	
NF 7	7. Compare decimals to hundredths by reasoning about their size.	9.7 Compare Decimals	
MP 7 and 8			

March 4 to March 15—Geometry, Measurement, and Data

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Two-Dimensional Figures		
G 1	1. Identify and draw points, lines, line segments, rays, and angles.	10.1 Lines, Rays and Angles	Show What You Know (3/1)
G 1, 2	2. Classify triangles by the size of their angles.	10.2 Classify Triangles	Mid Chapter Checkpoint (3/8)
G 1	3. Identify and draw parallel lines and perpendicular lines.	10.3 Parallel Lines and Perpendicular Lines	Chapter Review (3/14) Chapter Test (3/15)
G 2	4. Sort and classify quadrilaterals.	10.4 Classify Quadrilaterals	
G 3	5. Determine whether a figure has a line of symmetry.	10.5 Line Symmetry	
G 3	6. Identify and draw the lines of symmetry in two-dimensional figures.	10.6 Find and Draw Lines of Symmetry	
OA 5 *MP 6 and 7*	7. Use the strategy "Act It Out" to solve pattern problems.	10.7 Problem Solving-Shape Patterns	

March 18 to March 28—Geometry, Measurement, and Data

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Angles		
MD 5a	1. Relate angles and fractional parts of a circle.	11.1 Investigate: Angles and Fractional Parts of a Circle	Show What You Know (3/15)
MD 5a, 5b	2. Relate degrees to fractional parts of a circle by understanding that an angle that measures 1 degree turns through n/360 of a circle.	11.2 Degrees	Mid Chapter Checkpoint (3/21) Chapter Review (3/26)
MD 6	3. Use a protractor to measure an angle and to draw an angle with a given measure.	11.3 Measure and Draw Angles	Chapter Test (3/27)
MD 7	4. Determine the measure of an angle separated into parts.	11.4 Investigate: Join and Separate Angles	
MP 1 and 5	5. Use the strategy "draw a diagram" to solve angle measurement problems.	11.5 Problem Solving: Unknown Angle Measures	

April 1 to April 23—Geometry, Measurement, and Data

Power Standard	Learning Objectives	Lessons	Formative Assessment
MD 1	**Relative Sizes of Measurement Units**		Show What You Know (3/28)
MD 1, 2	1. Use benchmarks to understand the relative size of measurement units.	12.1 Measurement Benchmarks	Mid Chapter Checkpoint (4/5)
MD 1, 2	2. Use models to compare customary units of length.	12.2 Customary Units of Length	Chapter Review (4/22)
MD 1, 2	3. Use models to compare customary units of weight.	12.3 Customary Units of Weight	Chapter Test (4/23)
MD 2, 4	4. Use models to compare customary units of liquid volume.	12.4 Customary Units of Liquid Volume	
MD 1	5. Make and interpret line plots with fractional data.	12.5 Line Plots	
MD 1, 2	6. Use models to compare metric units of length.	12.6 Investigate: Metric Units of Length	
MD 1, 2	7. Use models to compare metric units of mass and liquid volume.	12.7 Metric Units of Mass and Liquid Volume	
MD 1, 2	8. Use models to compare units of time.	12.8 Units of Time	
MD 1, 2	9. Use the strategy "Draw a Diagram" to solve elapsed time problems.	12.9 Problem Solving: Elapsed Time	
MD 1	10. Solve problems involving mixed measures.	12.10 Mixed Measures	
	11. Use patterns to write number pairs for		

MP 2 and 4	measurement units.	12.11 Algebra: Patterns in Measurement Units	

April 24 through May 3—Geometry, Measurement, and Data

Power Standard	Learning Objectives	Lessons	Formative Assessment
MD 3	**Algebra: Perimeter and Area** 1. Use a formula to find the perimeter of a rectangle.	13.1 Perimeter	Show What You Know (4/12) Mid Chapter Checkpoint (4/26)
MD 3	2. Use a formula to find the area of a rectangle.	13.2 Area	Chapter Review (5/2)
MD 3	3. Find the area of combined rectangles.	13.3 Area of Combined Rectangles	Chapter Test (5/3)
MD 3	4. Given the perimeter or area, find the unknown measure of a side of a rectangle.	13.4 Find Unknown Measures	Benchmark Assessments (TBD)
MD 3	5. Use the strategy "Solve a Simpler Problem" to solve area problems.	13.5 Find the Area	
MP 1, 5, and 7			

May 6 to June 7—Getting Ready for Grade Five

Power Standard	Learning Objectives	Lessons	Formative Assessment
NBT 4 (NBT 7)	1. Find sums of decimal amounts in dollars and cents.	GR 1 Add Dollars and Cents	End Of Year Assessment (TBD)
NBT 4 (NBT 7)	2. Find differences between decimal amounts in dollars and cents.	GR 2 Subtract Dollars and Cents	Checkpoint (5/10)
OA 3 (OA 1)	3. Use the order of operations to find the value of expressions.	GR 3- Algebra- Order of Operations	Checkpoint (5/20) Checkpoint (5/31) Checkpoint (6/7)
NBT 6 (NBT 6)	4. Use patterns to divide by multiples of 10.	GR 4 Divide by Multiples of Ten	
NBT 6 (NBT 6)	5. Use base 10 blocks to divide with 2-digit divisors.	GR 5 Model Division with 2 Digit Divisors	
NBT 2 (NBT 1)	6. Read and write whole numbers through millions.	GR 6 Place Value through Millions	
NF 6 (NBT 3a)	7. Read and write decimals using place value.	GR 7 Decimals and Place Value	
NBT 3 (NBT 4)	8. Round decimal amounts, including money amounts, to the nearest whole number or dollar.	GR 8 Round Decimals	
NF 7 (NBT 3b)	9. Compare decimals to hundredths using place value.	GR 9 Place Value to Compare Decimals	
OA 4 (NBT 2)	10. Decompose multiples of 10, 100, and 1000.	GR 10 Decompose Multiples of 10, 100, 1000	
OA 5 (OA 3)	11. Use multiplication to describe patterns.	GR 11 Number Patterns	

NF 3d (NF 2)	12. Add fractions when one denominator is a multiple of the other.	GR 12 Add Related Fractions	
NF 3d (NF 2)	13. Subtract fractions when one denominator is a multiple of another.	GR 13 Subtract Related Fractions	
NF 4c (NF 5b)	14. Compare the size of the product to the size of each factor when multiplying fractions in real world situation.	GR 14 Compare Fraction Products	
NF 3d (NF 7b)	15. Use repeated subtraction to solve problems involving divisions with fractions.	GR 15 Repeated Subtraction with Fractions	
NF 3d (NF 3)	16. Write division problems as fractions.	GR 16 Fractions and Division	
MD 1 (G 1)	17. Use ordered pairs to locate points on a grid.	GR 17 Locate Points on a Grid	
MD 3 (NF 4b)	18. Use tiling to find the area of a rectangle.	GR 18 Area and Tiling	
NBT 5 (MD 5b)	19. Find the product of 3 factors.	GR 19 Multiply 3 Factors	
MD 3 (MD 5b)	20. Find the area of the base of a rectangular prism.	GR 20 Find Area of the Base	

Bethel Public Schools
Grade Five Mathematics

Enduring Understandings for Grade Five Mathematics

1. Students apply their understanding of fractions and fraction models to represent the addition and subtraction of fractions with unlike denominators as equivalent calculations with like denominators.

   Students develop fluency in calculating sums and differences of fractions, and make reasonable estimates of them.

   Students use the meaning of fractions of multiplication and division, and the relationship between multiplication and division to understand and explain why the procedures for multiplying and dividing fractions make sense.

2. Students develop understanding of why division procedures work based on the meaning of base-ten numerals and properties of operations.

   Students finalize fluency with multi-digit addition, subtraction, multiplication, and division.

   Students develop fluency with and apply their understanding of models for decimals, decimal notation, and properties of operations to add and subtract decimals to hundredths.

   Students use the relationship between decimals and fractions, as well as the relationship between finite decimals and whole numbers (i.e. a finite decimal multiplied by an appropriate power of 10 is a whole number) to understand and explain why the procedures for multiplying and dividing finite decimals make sense.

   Students compute products and quotients of decimals to hundredths efficiently and accurately.

3. Students recognize volume as an attribute of three-dimensional space, and they understand that volume can be measured by finding the total number of same-size units of volume required to fill the space without gaps or overlaps.

   Students select appropriate units, strategies, and tools for solving problems that involve estimating and measuring volume.

   Students de-compose three-dimensional shapes and find volumes of right rectangular prisms by viewing them as de-composed into layers of arrays of cubes.

   Students measure necessary attributes of shapes in order to determine volumes to solve real world and mathematical problems.

Bethel Power Standards for Grade Five Mathematics

Operations and Algebraic Thinking (OA)

Write and interpret numerical expressions.

1. Use parenthesis, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.

2. Write simple expressions that record calculations with numbers and interpret numerical expressions without evaluating them.

Analyze patterns and relationships.

3. Generate two numerical patterns using two given rules. Identify apparent relationships between corresponding terms. Form ordered pairs consisting of corresponding terms from the two patterns. (For example, given the rule "Add 3" and the starting number 0, and given the rule "Add 6" and the starting number 0, generate terms in the resulting sequences, and observe that the terms in one sequence are twice the corresponding terms in the other sequence. Explain informally why this is so.)

Number and Operations in Base Ten (NBT)

Understand the place value system.

1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left.

2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10.

3. Read, write, and compare decimals to thousandths.

   a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g. $347.392 = 3 \times 100 + 4 \times 10 + 7 \times 1 + 3 \times (1/10) + 9 \times (1/100) + 2 \times (1/1000)$.

   b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.

4. Use place value understanding to round decimals to any place.

Perform operations with multi-digit whole numbers and with decimals to hundredths.

5. Fluently multiply multi-digit whole numbers using the standard algorithm.

6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

7. Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Number and Operations with Fractions (NOF)

Use equivalent fractions as a strategy to add and subtract fractions.

1. Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such as way as to produce an equivalent sum or difference of fraction with like denominators. For example, 2/3 + 5/4 = 8/12 + 15/12 = 23/12 or, in general, a/b + c/d = (ad + bc)/bd.

2. Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g. by using visual fraction models or equations to represent the problem. Use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

3. Interpret a fraction as division of the numerator by the denominator (a/b = a ÷b). Solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

4. Apply and extend previous understandings of multiplication to multiply a fraction or a whole number by a fraction.

   a. Interpret the product (a/b) x q as *a* parts of a partition of *q* into *b* equal parts; equivalently, as the result of a sequence of operations *a x q ÷ b*.

   b. Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.

5. Interpret multiplication as scaling (resizing) by:

   a. Comparing the size of a product to the size of one factor on the basis of the size of the other factor, without performing the indicated multiplication.

   b. Explaining why multiplying a given number by a fraction greater than 1 results in a product greater than the given number (recognizing multiplication by whole numbers greater than 1 as a familiar case); explaining why multiplying a given number by a fraction less than 1 results in a product smaller than the given number; and relating the principle of fraction equivalence a/b = (n x a)/(n x b) to the effect of multiplying a/b by 1.

6. Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.

7. Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.

   a. Interpret division of a unit fraction by a non-zero whole number, and compute such quotients. For example, create a story context for (1/3) ÷ 4, and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that (1/3) ÷ 4 = 1/12 because (1/12) x 4 = 1/3.

   b. Interpret division of a whole number by a unit fraction, and compute such quotients. For example, create a story context for 4 ÷ (1/5), and use a visual fraction model to show the quotient. Use the relationship between multiplication and division to explain that 4 ÷ (1/5) = 20 because 20 x 1/5 = 4.

    c.   Solve real world problems involving division of unit fractions by non-zero whole numbers and division of whole numbers by unit fractions, e.g. by using visual fraction models and equations to represent the problem. For example, how much chocolate will each person get if 3 people share ½ lb. of chocolate equally?

Measurement and Data (MD)

Convert like measurement units within a given measurement system.

1. Convert among different-sized standard measurement units within a given measurement system (e.g. convert 5 cm to 0.05 m), and use these conversions in solving multi-step in solving multi-step, real-world problems.

Represent and interpret data.

2. Make a line plot to display a data set of measurements in fractions of a unit (1/2, ¼, 1/8). Use operations on fractions for this grade to solve problems involving information presented in line plots. For example, given different measurements of liquid in identical beakers, find the amount of liquid each beaker would contain if the total amount in all the beakers were re-distributed equally.

Geometric measurement: Understand concepts of volume and relate volume to multiplication and to addition.

3. Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

    a.   A cube with side length 1 unit, called a "unit cube," is said to have "one cubic unit" of volume, and be used to measure volume.

    b.   A solid figure which can be packed without gaps or overlaps using n unit cubes is said to have a volume of n cubic units.

4. Measure volumes by counting unit cubes, using cubic cm, cubic in, cubic ft, and improvised units.

5. Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

    a.   Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Represent three-fold whole number products as volumes, e.g., to represent the associative property of multiplication.

b. Apply the formulas $V = l$ x w x h and $V = b$ x h for rectangular prisms to find volumes of right rectangular prisms with whole number edge lengths in the context of solving real-world and mathematical problems.

c. Recognize volume as additive. Find volumes of solid figures composed of two non-overlapping right rectangular prisms by adding the volumes of non-overlapping parts, applying this technique to solve real-world problems.

Geometry (G)

Graph points on the coordinate plane to solve real-world and mathematical problems.

1. Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g. x-axis and x-coordinate, y-axis and y-coordinate).

2. Represent real world and mathematical problems by graphing points in the first quadrant of the coordinate plane, and interpret coordinate values of the points in the context of the situation.

Classify two-dimensional figures into categories based on their properties.

3. Understand that attributes belonging to a category of two-dimensional figures can also belong to all sub-categories of that category. For example, all rectangles have four right angles and squares are all rectangles, so all squares have four right angles.

4. Classify two-dimensional figures in a hierarchy based on properties.

Mathematical Communication and Reasoning (MCR)

1. Use the language of mathematics to communicate about mathematical concepts and skills and to explain thinking.

2. Describe the "reasonableness" of estimates when solving problems.

3. Apply mathematical knowledge to science and social studies classes, when appropriate.

4. Demonstrate mathematical reasoning while solving computation, number sense, measurement problems.

5. Increase repertoire of problem-solving strategies to use when solving mathematical problems.

Standards for Mathematical Practices

Teachers working to implement this curriculum will use the following Mathematical Practices delineated in the *Common Core State Standards*. Their students will:

1. Make sense of problems and persevere in solving them.

2. Reason abstractly and quantitatively.

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

5. Use appropriate tools strategically.

6. Attend to precision.

7. Look for and make use of structure.

8. Look for and express regularity in repeated reasoning.

Curriculum Pacing Chart

Bethel's Grade Five students have **70 minutes** of mathematics instruction per day.

August 31 to September 24—Fluency with Whole Numbers and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
NBT 1 NBT 1 NBT 6 NBT 2 NBT 2 NBT 5 NBT 5 NBT 6	**Chapter 1: Place Value, Multiplication, and Expressions** 1. Recognize the 10 to 1 relationship among place value positions. 2. Read and write whole numbers through hundred millions. 3. Use properties of operations to solve problems. 4. Write and evaluate repeated factors in exponent form. 5. Use a basic fact and a pattern to multiply mentally by multiples of 10, 100, and 1000. 6. Multiply by one digit numbers. 7. Multiply by two digit numbers. 8. Use multiplication to solve division problems.	1.1 Investigate: Place Value and Patterns 1.2 Place Value and Whole Numbers 1.3 Algebra: Properties 1.4 Algebra: Powers of Ten and Exponents 1.5 Algebra: Multiplication and Patterns 1.6 Multiply by One Digit Numbers 1.7 Multiply By Two Digit Numbers 1.8 Relate Mult to Division	Prerequisite Skills Test (8/30) Show What You Know (8/31) Mid Chapter Checkpoint (9/10) Chapter Review (9/24) Chapter Test (9/25) Beginning of Year Test (TBD)

NBT 6 OA 2 OA 1 OA 1 *MP 1 & 8*	9. Use the strategy "Solve a Simpler Problem" to solve problems. 10. Write numerical expressions. 11. Use the order of operations to evaluate numerical expressions. 12. Evaluate numerical expressions with parentheses, brackets, and braces.	1.9 Problem Solving: Multiplication and Division 1.10 Algebra: Numerical Expressions 1.11 Algebra: Evaluate Numerical Expressions 1.12 Algebra: Grouping Symbols	

September 27 to October 17—Fluency with Whole Numbers and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 2: Divide Whole Numbers		Show What You Know (9/19) Mid Chapter Checkpoint (10/3) Chapter Review (10/15) Chapter Test (10/16) Benchmark Assessments (TBD)
NBT 6	1. Place the first digit in the quotient by estimating or using place value.	2.1 Place the First Digit	
NBT 6	2. Divide three- and four-digit dividends by one-digit divisors.	2.2 Divide By One Digit Divisors	
NBT 6	3. Model division with two-digit divisors using base ten blocks.	2.3 Investigate: Division with 2 Digit Divisors	
NBT 6	4. Use partial quotients to divide by two-digit divisors.	2.4 Partial Quotients	
NBT 6	5. Estimate quotients using compatible numbers.	2.5 Estimate with 2 Digit Divisors	
NBT 6	6. Divide by two-digit divisors.	2.6 Divide by 2 Digit Divisors	
NBT 6 & NF 3	7. Solve division problems and decide when to write the remainder as a fraction.	2.7 Interpret the Remainder	
NBT 6	8. Adjust the quotient if the estimate is too high or too low.	2.8 Adjust Quotients	
NBT 6 *MP 1, 4, & 7*	9. Solve problems using the strategy "Draw a Diagram."	2.9 Problem Solving: Division	

October 7 to November 6—Fluency with Whole Numbers and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 3: Add and Subtract Decimals		
NBT 1 & 3a	1. Model, read, and write decimals to thousandths.	3.1 Investigate: Thousandths	Show What You Know (10/15) Mid Chapter Checkpoint (10/25) Chapter Review (11/5) Chapter Test (11/6)
NBT 1 & 3a	2. Read and write decimals through thousandths.	3.2 Place Value of Decimals	
NBT 3b	3. Compare and order decimals to thousandths using place value.	3.3 Compare and Order Decimals	
NBT 4	4. Round decimals to any place.	3.4 Round Decimals	
NBT 7	5. Model decimal addition using base ten blocks.	3.5 Investigate: Decimal Addition	
NBT 7	6. Model decimal subtraction using base ten blocks.	3.6 Investigate: Decimal Subtraction	
NBT 7	7. Make reasonable estimates of decimal sums and differences.	3.7 Estimate Decimal Sums and Differences	
NBT 7	8. Add decimals using place value.	3.8 Add Decimals	
NBT 7	9. Subtract decimals using place value.	3.9 Subtract Decimals	
NBT 7	10. Identify, describe, and create numeric patterns with decimals.	3.10 Algebra: Patterns with Decimals	
NBT 7	11. Solve problems using the strategy "Make a Table."	3.11 Problem Solving: Add and Subtract Money	

NBT 7	12. Choose a method to find a decimal sum or difference.	3.12 Choose a Method	
MP 3 & 8			

November 7 through November 27—Fluency with Whole Numbers and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 4: Multiply Decimals		
NBT 2 & 7	1. Find patterns and products when multiplying by powers of ten.	4.1 Algebra: Multiplication Patterns with Decimals	Show What You Know (11/5) Mid Chapter Checkpoint (11/16) Chapter Review (11/26) Chapter Test (11/27)
NBT 7	2. Model multiplication of whole numbers and decimals.	4.2 Investigate: Multiply Decimals and Whole Numbers	
NBT 2 & 7	3. Multiply a decimal and a whole number using drawings and place value.	4.3 Multiplication with Decimals and Whole Numbers	
NBT 2 & 7	4. Use expanded form and place value to multiply a decimal and a whole number.	4.4 Multiply Using Expanded Form	
NBT 7	5. Solve problems using the strategy "Draw a Diagram" to multiply money.	4.5 Problem Solving: Multiply Money	
NBT 7	6. Model multiplication by decimals.	4.6 Investigate: Decimal Multiplication	
NBT 2 & 7	7. Place the decimal point in decimal multiplication.	4.7 Multiply Decimals	
NBT 2 & 7	8. Multiply decimals with zeroes in the product.	4.8 Zeros in the Product	
MP 7 & 8			

November 28 to December 12—Fluency with Whole Numbers and Decimals

Power Standard	Learning Objectives	Lessons	Formative Assessment
NBT 2 NBT 7 NBT 7 NBT 2 & 7 NBT 7 NBT 2 & 7 NBT 7 & NF 3 NBT 7 *MP 3 & 7*	**Chapter 5: Divide Decimals** 1. Find patterns in quotients when dividing by powers of 10. 2. Model division of decimals by whole numbers. 3. Estimate decimal quotients. 4. Divide decimals by whole numbers. 5. Model division by decimals. 6. Place the decimal point in decimal division. 7. Write a 0 in the dividend to find a quotient. 8. Solve multi-step decimal problems using the strategy "Work Backward."	5.1 Algebra: Division Patterns with Decimals 5.2 Investigate: Divide Decimals by Whole Numbers 5.3 Estimate Quotients 5.4 Division of Decimals by Whole Numbers 5.5 Investigate: Decimal Division 5.6 Divide Decimals 5.7 Write Zeros in the Dividend 5.8 Problem Solving: Decimal Operations	Show What You Know (11/26) Mid Chapter Checkpoint (12/4) Chapter Review (12/11) Chapter Test (12/12)

December 13 to January 15—Operations with Fractions

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 6: Add and Subtract Fractions		Show What You Know (12/11)
NF 1 & 2	1. Use models to add fractions with unlike denominators.	6.1 Investigate: Addition with Unlike Denominators	Mid Chapter Checkpoint (12/20) Chapter Review (1/14) Chapter Test (1/15)
NF 1 & 2	2. Use models to subtract fractions with unlike denominators.	6.2 Investigate: Subtraction with Unlike Denominators	Middle of Year Test (TBD)
NF 2	3. Make reasonable estimates of fraction sums and differences.	6.3 Estimate Fraction Sums and Differences	
NF 1	4. Find a common denominator or a least common denominator to write equivalent fractions.	6.4 Common Denominators and Equivalent Fractions	
NF 1 & 2	5. Use equivalent fractions to add and subtract fractions.	6.5 Add and Subtract Fractions	
NF 1 & 2	6. Add and subtract mixed numbers with unlike denominators.	6.6 Add and Subtract Mixed Numbers	
NF 1 & 2	7. Rename to find the difference of two mixed numbers.	6.7 Subtraction with Renaming	
NF 1	8. Identify, describe, and create numeric patterns with fractions.	6.8 Algebra: Patterns with Fractions	
NF 1 & 2	9. Solve problems using the strategy "Work Backward."	6.9 Problem Solving: Practice Addition and Subtraction	

NF 1 *MP 2 & 4*	10. Add fractions and mixed numbers with unlike denominators using properties.	6.10 Algebra: Use Properties of Addition	

January 16 to February 8—Operations with Fractions

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 7: Multiply Fractions		
NF 4a	1. Model to find the fractional part of a group.	7.1 Find Part of a Group	Show What You Know (1/14) Mid Chapter Checkpoint (1/28)
NF 4a	2. Model the product of a fraction and a whole number.	7.2 Investigate: Multiply Fractions and Whole Numbers	Chapter Review (2/7) Chapter Test (2/8) Benchmark Assessments (TBD)
NF 4a	3. Multiply fractions and whole numbers.	7.3 Fraction and Whole Number Multiplication	
NF 4b	4. Multiply fractions using models.	7.4 Investigate: Multiply Fractions	
NF 5a & 5b	5. Relate the size of the product compared to the size of one factor when multiplying fractions.	7.5 Compare Fraction Factors and Products	
NF 4a, 5a, & 5b	6. Multiply fractions.	7.6 Fraction Multiplication	
NF 4b	7. Use a model to multiply two mixed numbers and find the area of a rectangle.	7.7 Investigate: Area and Mixed Numbers	
NF 5a & 5b	8. Relate the size of the product to the factors when	7.8 Compare Mixed Number Factors and Products	

	multiplying fractions greater than one.		
NF 6	9. Multiply mixed numbers.	7.9 Multiply Mixed Numbers	
NF 5b & 6	10. Solve problems using the strategy "Guess, Check, and Revise."	7.10 Problem Solving: Find Unknown Lengths	
MP 3 and 5			

February 11 to February 28—Operations with Fractions

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 8: Divide Fractions		
NF 7a, 7b, & 7c	1. Divide a whole number by a fraction and divide a fraction by a whole number.	8.1 Investigate: Divide Fractions and Whole Numbers	Show What You Know (2/7) Mid Chapter Checkpoint (2/15) Chapter Review (2/27) Chapter Test (2/28)
NF 7b	2. Solve problems using the strategy "Draw a Diagram."	8.2 Problem Solving: Use Multiplication	
NF 3	3. Interpret a fraction as division and solve whole number division problems that result in a fraction or a mixed number.	8.3 Connect Fractions To Division	
NF 7a, 7b, & 7c	4. Divide a whole number by a fraction and divide a fraction by a whole number. (Second lesson.)	8.4 Fraction and Whole-Number Division	
NF 7a, 7b, & 7c	5. Represent division by drawing diagrams, writing story problems, and equations.	8.5 Interpret Division with Fractions	
MP 2 & 4			

March 1 to March 18—Geometry and Measurement

Power Standard	Learning Objectives	Lessons	Formative Assessment
MD 2, OA 1, NF 7a G 1 G 2 G 2 OA 3 OA 3 OA 3, G 2 *MP 4, 8*	**Chapter 9: Algebra: Patterns and Graphing** 1. Make and use line plot with fractions to solve problems. 2. Graph and name points on a coordinate plane using ordered pairs. 3. Collect and graph data on a coordinate grid. 4. Analyze and display data in a line graph. 5. Use two rules to generate a numerical pattern, and identify the relationship between the corresponding terms in the pattern. 6. Solve problems using the strategy "solve a simpler problem". 7. Graph the relationship between two numerical patterns on a coordinate grid.	9.1 Line Plots 9.2 Ordered Pairs 9.3 Investigate: Graph Data 9.4 Line Graphs 9.5 Numerical Patterns 9.6 Problem Solving: Find a Rule 9.7 Graph and Analyze Relationships	Show What You Know (2/27) Mid Chapter Checkpoint (3/7) Chapter Review (3/15) Chapter Test (3/18)

March 19 through April 4—Geometry and Measurement

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 10: Convert Units of Measure		
MD 1	1. Compare, contrast, and convert customary units of length.	10.1 Customary Length	Show What You Know (3/15) Mid Chapter Checkpoint (3/25) Chapter Review (4/3)
MD 1	2. Compare, contrast, and convert customary units of capacity.	10.2 Customary Capacity	Chapter Test (4/4)
MD 1	3. Compare, contrast, and convert customary units of weight.	10.3 Weight	
MD 1	4. Convert measurement units to solve multistep problems.	10.4 Multistep Measurement Problems	
MD 1	5. Compare, contrast and convert metric units.	10.5 Metric Measures	
MD 1 *MP 1,7*	6. Solve problems about customary and metric conversions using the strategy "make a table"	10.6 Problem Solving: Customary and Metric Conversions	
	7. Convert units of time to solve elapsed time problems.	10.7 Elapsed Time	

April 5 to May 2—Geometry and Measurement

Power Standard	Learning Objectives	Lessons	Formative Assessment
	Chapter 11: Geometry and Volume		
G 3	1. Identify and classify polygons	11.1 Polygons	Show What You Know (4/3)
G 3, 4	2. Classify and draw triangles using their properties	11.2 Triangles	Mid Chapter Checkpoint (4/12) Chapter Review (5/1) Chapter Test (5/2)
G 4	3. Classify and compare quadrilaterals using their properties	11.3 Quadrangles	Benchmark Assessments (TBD)
G 3	4. Solve problems using the strategy "act it out"	11.4 Problem Solving: Properties of Two-Dimensional Figures	
MD 3, G 4	5. Identify, describe, and classify three-dimensional figures	11.5 Three-Dimensional Figures	
MD 3a	6. Understand unit cubes and how they can be used to build a solid figure.	11.6 Investigate: Unit Cubes and Solid Figures	
MD 3b, 4	7. Count unit cubes that fill a solid figure to find volume.	11.7 Investigate: Understand Volume	
MD 3b, 4	8. Estimate the volume of a rectangular prism.	11.8 Investigate: Estimate Volume	
MD 5a	9. Find the volume of rectangular prisms.	11.9 Volume of Rectangular Prisms	
MD 5b	10. Use a formula to find the volume of a rectangular prism.	11.10 Algebra: Apply Volume Formulas	

MD 5b	11. Use the strategy "make a table" to compare volumes.	11.11 Problem Solving: Compare Volumes 11.12 Find Volume of Composed Figures	
MD 5c	12. Find the volume of combined rectangular prisms.		
MP 4, 5, 6			

May 3 to June 7—Getting Ready for Grade Six

Power Standard	Learning Objectives	Lessons	Formative Assessment
NBT 3b (NS 7b)	1. Compare decimals, fractions and mixed numbers on a number line	GR 1 Compare Fractions and Decimals	End of Year Test (TBD)
NBT 3b (NS 7b)	2. Order decimals, fractions and mixed numbers on a number line	GR 2 Order Fractions and Decimals	Checkpoint 1 (5/13)
OA 4 (NS 4)	3. Factor numbers using a factor tree	GR 3 Factor Trees	Checkpoint 2 (5/21)
NF 7 (RP 3c)	4. Express real world quantities as percents and use them to solve problems	GR 4 Model Percent	Checkpoint 3 (5/28)
NF 6 (RP 3c)	5. Express decimals as percents and percents as decimals	GR 5 Relate Decimals and Percents	Checkpoint 4 (6/6)
NF 6 (RP 3c)	6. Convert between fractions, decimals and percents	GR 6 Fractions, Decimals and Percents	
NF 7c (NS 1)	7. Divide a fraction by a whole number.	GR 7 Divide Fractions by a Whole Number	
NF 1 (RP 1)	8. Express real world quantities as ratios	GR 8 Ratios	
NF 1 (RP 3a)	9. Determine if two ratios are equivalent.	GR 9 Equivalent Ratios	
NF 1 (RP 2)	10. Find rates and unit rates.	GR 10 Rates	
NBT 6 (RP 3b)	11. Solve problems involving distance, rate and time.	GR 11 Distance, Rate and Time	
G 1 (NS 5)	12. Understand positive and negative numbers, and use them to represent real world quantities.	GR 12 Understand Integers	

OA 2 (EE 2c)	13. Write and evaluate expressions.	GR 13 Algebra: Write and Evaluate Expressions	
NBT 3b (EE 8)	14. Understand inequalities and use them to solve problems.	GR 14 Algebra: Understand Inequalities	
G 1 (G 3)	15. Plot polygons on a coordinate grid.	GR 15 Polygons on a Coordinate Grid	
MD 3 (G 1)	16. Find the area of parallelograms.	GR 16 Area of a Parallelogram	
MD 2 (SP 5c)	17. Summarize a data set by using median and mode.	GR 17 Median and Mode	
MD 2 (SP 5c)	18. Find the average of a group of values	GR 18 Finding the Average	
MD 3 (SP 4)	19. Make a histogram to organize data	GR 19 Histograms	
MD 3 (SP 4)	20. Analyze data in a histogram	GR 20 Analyze Histograms	

Bethel Public Schools
Bethel High School
Precalculus 31 Curriculum

I. **Alignment to District Power Standards, CSDE Standards and/or Grade Level Expectations, and Common Core State Standards**

    a. **District Power Standards—Grade 9-12**
    b. **Common Core State Standards (CCSS)**

The Complex Number System
N.CN.3 Perform arithmetic operations with complex numbers
3 (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

N.CN.4, 5, 6 Represent complex numbers and their operations on the complex plane
4 (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
5 (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex

plane; use properties of this representation for computation. *For example,* $\left(-1+\sqrt{3}i\right)^2 = 8$ *because* $\left(-1+\sqrt{3}i\right)$ *has modulus*

2 *and argument* $120°$.
6 (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a segment as the average of the numbers at its endpoints.

Vector Quantities and Matrices
N.VM.1, 2, 3 Represent and model with vector quantities
1 (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., v, |v|, ||v||, *v*).

2 (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.

3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.

N.VM.4a, 4b, 4c, 5a, 5b Perform operations on vectors

4 (+) Add and subtract vectors.
   a. Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.
   b. Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.
   c. Understand vector subtraction $v - w$ as $v + (-w)$, where $-w$ is the additive inverse of w, with the same magnitude as w and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.

5 (+) Multiply a vector by a scalar.
   a. Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$.
   b. Compute the magnitude of a scalar multiple cv using $\|cv\| = |c|v$. Compute the direction of cv knowing that when $|c|v \neq 0$, the direction of cv is either along v (for c > 0) or against v (for c < 0).

   $2\pi - x$

N.VM.6, 7, 8, 9, 10, 11, 12 Perform operations on matrices and use matrices in applications

6 (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.

7 (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.

8 (+) Add, subtract, and multiply matrices of appropriate dimensions.

9 (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.

10 (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative

inverse.

11 (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector.
Work with matrices as transformations of vectors.

12 (+) Work with 2×2 matrices as a transformations of the plane, and interpret the absolute value of the determinant in terms of area.

Reasoning with Equations and Inequalities

A.REI.8, 9 Solve systems of equations

8 (+) Represent a system of linear equations as a single matrix equation in a vector variable.

9 (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).

Interpreting Functions

F.IF.7d Analyze functions using different representations; analyze logarithmic and trigonometric functions

7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

d (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.

Building Functions

F.BF.1c Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.

c (+) Compose functions. *For example, if $T(y)$ is the temperature in the atmosphere as a function of height, and h*(t) *is the height of a weather balloon as a function of time, then $T(h(t))$ is the temperature at the location of the weather balloon as a function of time.*

F.BF.4b, 4c, 4d, 5 Build new functions from existing functions

4 Find inverse functions.

b (+) Verify by composition that one function is the inverse of another.

c (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.

d (+) Produce an invertible function from a non-invertible function by restricting the domain.

5 (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.

Trigonometric Functions

F.TF.3, 4 Extend the domain of trigonometric functions using the unit circle

3 (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\frac{\pi}{3}, \frac{\pi}{4}$ and $\frac{\pi}{6}$, and use the unit

circle to express the values of sine, cosines, and tangent for $\pi - x$, $\pi + x$, and $2\pi - x$ in terms of their values for x, where x is any real number.

4 (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

F.TF.6, 7 Model periodic phenomena with trigonometric functions

6 (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.

7 (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.

F.TF.9 Prove and apply trigonometric identities

9 (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

Expressing Geometric Properties with Equations

G.GPE.3 Translate between the geometric description and the equation for a conic section

3 (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Geometric Measurement and Dimension

G.GMD.2 Explain volume formulas and use them to solve problems

2 (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.

Using Probability to Make Decisions

S.MD.1, 2, 3, 4 Calculate expected values to use them and solve problems

1 (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.

2 (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.

3 (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*

4 (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?*

S.MD.5a, 5b Use probability to evaluate outcomes of decisions

5 (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.
   a.   Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*
   b.   Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*

II. What are the most important things that <u>Precalculus 31 students</u> will learn this year? [Enumerate the enduring understandings by the strands, if applicable.]

Perform arithmetic operations with complex numbers
Represent complex numbers and their operations on the complex plane
Use complex numbers in polynomial identities and equations
Represent and model with vector quantities
Perform operations on vectors
Perform operations on matrices and use matrices in applications
Understanding solving equations as a process of reasoning and explain the reasoning
Solve equations and inequalities in one variable
Solve systems of equations
Represent and solve systems of inequalities graphically
Understand the concept of a function and use function notation
Interpret functions that arise in applications in terms of the context
Analyze functions using different representations
Build a function that models a relationship between two quantities
Build new function from existing functions
Extend the domain of trigonometric functions using the unit circle**
Model periodic phenomena with trigonometric functions*
Prove and apply trigonometric identities*

---

* These objectives are taught in Trigonometry 31 that is a requirement for all Precalculus 31 students to take concurrently with this course.

Translate between the geometric description and equation of a conic section

Use coordinates to prove simple geometric theorems algebraically

Explain volume formulas and use them to solve problems

Visualize relationships between two-dimensional and three-dimensional objects

Calculate expected values and use them to solve problems

Use probability to evaluate outcomes of decisions

III. <u>Pacing Guide:</u> In what order will the concepts and skills be sequenced over the course of the school year?

- **September**

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
N.RN.1 **N.RN.2** **N.CN.3** **N.CN.4** **N.CN.5** **N.CN.6**	**P.1-7 Review of Prerequisite Skills –** Real Numbers; Cartesian Coordinate System; Linear Equations and Inequalities; Lines in a Plane; Solving Equations Graphically, Numerically, and Algebraically; Complex Numbers; Solving Inequalities Algebraically an Graphically	End of Lesson Exercises	Test Chapter P
F.IF.7d	**1.1 Modeling and Equations Solving –** Use numerical, algebraic, and graphical models to solve problems and will be able to translate from one model to another.	Group Activity Worksheet 1.1 <u>Day 1:</u> #3-30 multiples of 3 <u>Day 2:</u> #33-60 multiples of 3	

F.IF.7d	**1.2 Functions and Their Properties –** Represent functions numerically, algebraically, and graphically, determine the domain and range for function, and analyze function characteristics such as extreme values, symmetry, asymptotes and end behavior.	Major Concepts 1.2 Group Activity 1.2 <u>Day 1:</u> #3-27 multiples of 3 <u>Day 2:</u> #30-45 multiples of 3 <u>Day 3:</u> #48-84 multiples of 3	Quiz 1.1-1.2
F.IF.7d	**1.3 Twelve Basic Functions –** Recognize graphs of twelve basic functions, determine domains of functions, and combine the functions in various ways to create new functions.	Major Concepts 1.3 Group Activity 1.3 <u>Day 1:</u> #1-27 odd <u>Day 2:</u> #30-66 multiples of 3 <u>Day 3:</u> #66 (in class)	
F.IF.7d	**1.6 Graphical Transformations – Graphically and algebraically represent translations, reflections, stretches, and shrinks of functions and parametric relations.**	Major Concepts 1.6 Group Activity 1.6 <u>Day 1:</u> #3-33 multiples of 3 <u>Day 2:</u> #36-64 multiples of 3, #59-64 all	Test 1.1-1.3, 1.6

- ## October/November

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
F.BF.1c **F.BF.4b** **F.BF.4c** **F.BF.4d** **F.BF.5**	**1.4 Building Functions from Functions** – To build new functions from basic functions by adding, subtracting, multiplying, dividing, and composing functions.	Major Concepts 1.4 Group Activity 1.4 <u>Day 1:</u> #3-15 multiples of 3, #16-20 all <u>Day 2:</u> #21-42 multiples of 3, #45-50 all	

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
F.BF.1c F.BF.4b F.BF.4c F.BF.4d F.BF.5	**1.5 Parametric Relations and Inverses** – Define functions and relations parametrically and find inverses of functions and relations.	Major Concepts 1.5 <u>Day 1:</u> #3-15 multiples of 3, #16-20 all <u>Day 2:</u> #21-42 multiples of 3, #45-50 all	Quiz 1.4-1.5
F.IF.7d	**1.7 Modeling with Functions** – Identify appropriate basic functions with which to model real world problems and produce specific functions to model data, formulas, graphs, and verbal descriptions.	<u>Day 1-2:</u> #3-51 multiples of 3	Quiz 1.7 Test 1.4-1.5, 1.7
F.IF.7d	**2.1 Linear and Quadratic Functions and Modeling** – Recognize and graph linear and quadratic functions, and use these functions to model situations and solve problems.	Major Concepts 2.1 Group Activity 2.1 <u>Day 1:</u> #1-11 odds <u>Day 2:</u> #15-50 multiples of 5 <u>Day 3:</u> #53, 54, 55, 61, 63, 65, 67, 68	
F.IF.7d	**2.2 Power Functions with Modeling** – Sketch power functions and model real world problems using these functions.	Major Concepts 2.2 Group Activity 2.2 <u>Day 1:</u> #1-33 multiples of 3 <u>Day 2:</u> #37, 38, 41-48 <u>Day 3:</u> #51, 52, 55, 66, 68, 69	Quiz 2.1-2.2

- **December/January**

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
F.IF.7d G.GPE.3	**2.3 Polynomial Functions of Higher Degree with Modeling** – Graph polynomial functions, predict end behavior, and find the real zeros using a graphic or an algebraic method.	Major Concepts 2.3 <u>Day 1:</u> #3, 6, 15-36 multiples of 3 <u>Day 2:</u> #9, 12, 39-54 multiples of 3, 58, 59, 66, 83	

Precalculus 31 Grade 9-12   Revised June 2012

Page 9

F.IF.7d	**2.4 Real Zeros of Polynomial Functions** – Divide polynomial functions using long division or synthetic division; apply the remainder theorem, factor theorem and rational zeros theorem; and find upper and lower bounds for zeros of polynomials.	Major Concepts 2.4 Group Activity 2.4 <u>Day 1:</u> #3-30 multiples of 3, 32, 39, 42, 47 <u>Day 2:</u> #33, 36, 51, 54, 57, 58, 60, 62, 69, 71	Quiz 2.3-2.4
F.IF.7d	**2.5 Complex Zeros and the Fundamental Theorem of Algebra** – Factor polynomials with real coefficients using factors with complex coefficients.	Major Concepts 2.5 <u>Day 1:</u> #3-30 multiples of 3 <u>Day 2:</u> #33, 36, 39, 42, 46, 51, 52, 62	
F.IF.7d	**2.6 Graphs of Rational Functions** – Describe the graphs of rational functions, identify horizontal and vertical asymptotes, and predict the end behavior of rational functions.	Major Concepts 2.6 Group Activity 2.6 <u>Day 1:</u> #3-36 multiples of 3 <u>Day 2:</u> #39-60 multiples of 3, 71, 72, 74	
F.IF.7d	**2.7 Solving Equations in One Variable** – Solve equations involving fractions using both algebraic and graphical techniques and identify extraneous solutions.	Major Concepts 2.7 Group Activity 2.7 <u>Day 1:</u> #1-30 odd, 51 <u>Day 2:</u> #31-44 odds, 53	
A.REI.8 A.REI.9	**2.8 Solving Inequalities in One Variable** – Solve inequalities involving polynomials and rational functions by using both algebraic and graphical techniques.	<u>Day 1:</u> #3-18 multiples of 3 <u>Day 2:</u> #18-48 multiples of 3, 55-58, 61, 64	Chapter 2 Test
F.IF.7d	**3.1 Exponential and Logistic Functions** – Evaluate exponential expressions and identify and graph exponential and logistic functions.	Group Activity 3.1 <u>Day 1:</u> #1-13 odds, 15-39 multiples of 3, 45, 48 <u>Day 2:</u> #41, 44, 49, 52. 53, 55, 65	

F.IF.7d	3.2 Exponential and Logistic Modeling – Use exponential growth, decay and regression to model real life problems.	Major Concepts 3.2 Day 1: #3-21 multiples of 3, 30, 33, 34 Day 2: #20, 24, 27, 40, 45, 47, 58	
F.IF.7d	3.3 Logarithmic functions and Their Graphs – Convert between logarithmic form and exponential form; evaluate common and natural logarithms, and graph common and natural logarithms.	Day 1: #3-36 multiples of 3 Day 2: #37-40, 43, 45, 49, 52, 53, 59, 60	
F.IF.7d	3.4 Properties of Logarithmic Functions – Apply the properties of logarithms to evaluate expressions, graph functions, and re-express data.	Day 1: #3-48 multiples of 3 Day 2: #51-54 all	
F.IF.7d	3.5 Equation Solving and Modeling – Apply the properties of logarithms to solve exponential and logarithmic equations algebraically and solve application problems using these equations.	Day 1: #3-48 multiples of 3 Day 2: #49, 51, 53, 55	Quiz 3.3-3.5 (Part 1 & 2)
F.IF.7d	3.6 Mathematics of Finance – Use exponential functions and equations to solve business and finance applications, relate it to compound interest and annuities.	Group Activity 3.6 Day 1: #1-12, 21-39 multiples of 3 Day 2: #13-19 odd, 45-48 all, 55, 58, 60, 68	3.6 Take Home Quiz Chapter 3 Test Cumulative Take Home Test
	End of Semester One		Midterm Exam

- **January/February**

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
A.REI.8 **A.REI.9**	**7.1 Solving Systems of Two Equations** **–** Solve systems of equations graphically and algebraically.	Group Activity 7.1 Major Concepts 7.1 <u>Day 1:</u> #1-2, 3-12 and 27-42 multiples of 3 <u>Day 2:</u> #14, 17, 21, 26, 44, 45, 50, 52, 54,	
N.VM.6 **N.VM.7** **N.VM.8** **N.VM.9** **N.VM.10** **N.VM.11** **N.VM.12**	**7.2 Matrix Algebra –** Find sums, differences, products, and inverses of matrices.	<u>Day 1:</u> #3-33 multiples of 3 <u>Day 2:</u> #36-72 multiples of 3	Quiz 7.1-7.2
N.VM.6 **N.VM.7** **N.VM.8** **N.VM.9** **N.VM.10** **N.VM.11** **N.VM.12**	**7.3 Multivariable Linear Systems and Row Operations – Solve systems of linear equations using Gaussian elimination, reduced row echelon form of a matrix, or an inverse matrix.**	<u>Day 1:</u> #3-42 multiples of 3 <u>Day 2:</u> #45-66 multiples of 3, #73-79 odds	Test 7.1-7.3
F.BF.4b **F.BF.4c** **F.BF.4d**	**7.4 Partial Fractions – Decompose rational expressions into partial fractions.**	<u>Day 1:</u> # 3-21 multiples of 3 <u>Day 2:</u> # 22-42 multiples of 3	
A.REI.8 **A.REI.9**	**7.5 Systems of Inequalities in Two Variables – Solve linear programming problems and systems of inequalities using graphical methods.**	<u>Day 1:</u> # 1-7, 9,12, 14, 16, 17, 20, 21 <u>Day 2:</u> # 23, 24, 35-39 odd	Quiz 7.4-7.5 (Parts 1 & 2)

- **March**

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
N.VM.1 N.VM.2 N.VM.3	**6.1 Vectors in the Plane –** Apply the arithmetic of vectors and use vectors to solve real world problems.	Major Concepts 6.1 <u>Day 1:</u> # 1-27 odd <u>Day 2:</u> # 29-35 odd, 41, 43, 47	
N.VM.4a N.VM.4b N.VM.4c N.VM.5a N.VM.5b	**6.2 Dot Product of Vectors –** Calculate dot product and projections of vectors.	<u>Day 1:</u> # 1-9, 10, 13,21, 23, 25, 45, 53	Quiz 6.1-6.2
F.IF.7d	**6.3 Parametric Equations and Motion – Define parametric equations, graph curves parametrically, and solve application problems using parametric equations.**	<u>Day 1:</u> # 1-4, 5,7,12,13,27,29,33 <u>Day 2:</u> # 28,37,38	
N.VM.1 N.VM.2 N.VM.3	**6.4 Polar Coordinates – Convert points and equations from polar to rectangular coordinates and vice versa.**	Major Concepts 6.4 <u>Day 1:</u> # 1,5,7,11,15,21,23,31-34	
N.VM.1 N.VM.2 N.VM.3	**6.5 Graphs of Polar Equations – Graph polar equations and determine the maximum r-value and the symmetry of the graph.**	Major Concepts 6.5 Group Activity 6.5 <u>Day 1:</u> # 1-8,12,15-30 multiples of 3 <u>Day 2:</u> # 9-12, 33-48 multiples of 3, 61-65	Test 6.1-6.5

- ### April

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
G.GPE.3	**8.1 Conic Sections and Parabolas –** Find equation, focus, and directrix of a parabola.	<u>Day 1:</u> # 1,5-19 odd, 31, 32 <u>Day 2:</u> # 21-54 multiples of 3, 59	
G.GPE.3	**8.2 Ellipses –** Find the equation, vertices, and foci of an ellipse.	<u>Day 1:</u> # 8-42 multiples of 3 <u>Day 2:</u> #19, 31,37,41,47	
G.GPE.3	**8.3 Hyperbolas –** Find the equation, vertices, and foci of a hyperbola.	<u>Day 1:</u> # 3-30 multiples of 3 <u>Day 2:</u> # 33-52 multiples of 3	Quiz 8.1-8.3
G.GPE.3	**8.4 Translation and Rotation of Axes –** Determine equation for translated and rotated axes for conic sections.	<u>Day 1:</u> # 3-30 multiples of 3	
N.VM.1 N.VM.2 N.VM.3	**8.6 Three-Dimensional Cartesian Coordinate System –** Draw three-dimensional figures and analyze vectors in space.	<u>Day 1:</u> # 1-15 odd <u>Day 2:</u> # 18-54 multiples of 3	Test 8.1-8.4, 8.6

- ### May/June

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
S.MD.1 S.MD.2 S.MD.3 S.MD.4	**9.1 Basic Combinatorics –** Use the multiplication principle of counting, permutations or combinations to count the number of ways that a task can be done.	<u>Day 1:</u> # 3,5,9,12,15,19,20,27,28 <u>Day 2:</u> # 4,6,7,11,14,16,17,21	

S.MD.5a **S.MD.5b**	**9.2 The Binomial Theorem –** Expand the power of a binomial using the Binomial theorem or Pascal's Triangle, and find the coefficients of a given term of a binomial expansion.	<u>Day 1:</u> # 1-25 odd	
S.MD.5a **S.MD.5b**	**9.3 Probability –** Identify a sample space and calculate probability or conditional probability in sample spaces with equally likely or unequally likely outcomes.	<u>Day 1:</u> #1-8 all, 11-16 all, 27, 29 <u>Day 2:</u> # 30-48 multiples of 3	Quiz 9.1-9.3
F.BF.2	**9.4 Sequences –** Express arithmetic and geometric sequences explicitly and recursively and find limits of converging sequences.	<u>Day 1:</u> # 1-20 all <u>Day 2:</u> # 21-36 multiples of 3, 43-48 all	Quiz 9.4
F.BF.2	**9.5 Series –** Use sigma notation and find finite sums of terms in arithmetic and geometric sequences, and find sums of convergent geometric series.	<u>Day 1:</u> # 3-24 multiples of 3,35,37 <u>Day 2:</u> # 25-32, 41-46	Test 9.1-9.5
F.BF.1a	**10.1 Limits and Motion: The Tangent Problem –** Calculate instantaneous velocities and derivatives using limits.	<u>Day 1:</u> # 3-27 multiples of 3 <u>Day 2:</u> # 30-54 multiples of 3	
F.BF.1a	**10.2 Limits and Motion: The Area Problem –** Calculate definite integrals using areas.	<u>Day 1:</u> # 1-19 odd, 47 <u>Day 2:</u> # 21-45 multiples of 3	
F.BF.1a	**10.3 More on Limits –** Use the properties of limits and evaluate one-sided limits, two-sided limits, and limits involving infinity.	<u>Day 1:</u> # 3-39 multiples of 3 <u>Day 2:</u> #42-72 multiples of 3	Test 10.1-10.3
	End of Second Semester		Final Exam

V. Assessments

 Assessments, worksheets, formative assessments and projects are all posted on the Bradshaw/McGowan Moodle site which is accessible to all precalculus teachers and administration.

VI. Resources

 Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Precalculus: Graphical, Numerical, Algebraic* (7th Ed). Boston, Mass.: Pearson
        Edison Wesley.

VII. Other

 Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Resource Manual* (7th ed.). Boston, Mass.: Pearson Edison Wesley.
 Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Tests and Quizzes* (7th ed.). Boston, Mass.: Pearson Edison Wesley.
 Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Student Practice Workbook* (7th ed.). Boston, Mass.: Pearson Edison Wesley.
 Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Test Generator* (7th ed.). Boston, Mass.: Pearson Edison Wesley.

Bethel Public Schools
Bethel High School
Precalculus 42 Curriculum

   I.   **Alignment to District Power Standards, CSDE Standards and/or Grade Level Expectations, and Common Core State Standards**

   a.   **District Power Standards—Grade 11-12**
   b.   **Common Core State Standards (CCSS)**

The Complex Number System
N.CN.3 Perform arithmetic operations with complex numbers
   3 (+) Find the conjugate of a complex number; use conjugates to find moduli and
        quotients of complex numbers.
N.CN.4, 5, 6 Represent complex numbers and their operations on the complex plane
3 (+) Find the conjugate of a complex number; use conjugates to find moduli and quotients of complex numbers.

N.CN.4, 5, 6 Represent complex numbers and their operations on the complex plane
4 (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary
        numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.
5 (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex

   plane; use properties of this representation for computation. *For example,* $\left(-1+\sqrt{3}i\right)^{2}=8$ *because* $\left(-1+\sqrt{3}i\right)$ *has modulus*

   2 *and argument* $120°$.
6 (+) Calculate the distance between numbers in the complex plane as the modulus of the difference, and the midpoint of a
        segment as the average of the numbers at its endpoints.

Vector Quantities and Matrices

N.VM.1, 2, 3 Represent and model with vector quantities

1 (+) Recognize vector quantities as having both magnitude and direction. Represent vector quantities by directed line segments, and use appropriate symbols for vectors and their magnitudes (e.g., v, |v|, ||v||, v).

2 (+) Find the components of a vector by subtracting the coordinates of an initial point from the coordinates of a terminal point.

3 (+) Solve problems involving velocity and other quantities that can be represented by vectors.

N.VM.4a, 4b, 4c, 5a, 5b Perform operations on vectors

4 (+) Add and subtract vectors.

    a.   Add vectors end-to-end, component-wise, and by the parallelogram rule. Understand that the magnitude of a sum of two vectors is typically not the sum of the magnitudes.

    b.   Given two vectors in magnitude and direction form, determine the magnitude and direction of their sum.

    c.   Understand vector subtraction $v - w$ as $v + (-w)$, where $-w$ is the additive inverse of w, with the same magnitude as w and pointing in the opposite direction. Represent vector subtraction graphically by connecting the tips in the appropriate order, and perform vector subtraction component-wise.

5 (+) Multiply a vector by a scalar.

    a.   Represent scalar multiplication graphically by scaling vectors and possibly reversing their direction; perform scalar multiplication component-wise, e.g., as $c(v_x, v_y) = (cv_x, cv_y)$.

    b.   Compute the magnitude of a scalar multiple cv using $\|cv\| = |c|v$. Compute the direction of cv knowing that when $|c|v \neq 0$, the direction of cv is either along v (for $c > 0$) or against v (for $c < 0$).

N.VM.6, 7, 8, 9, 10, 11, 12 Perform operations on matrices and use matrices in applications

6 (+) Use matrices to represent and manipulate data, e.g., to represent payoffs or incidence relationships in a network.

7 (+) Multiply matrices by scalars to produce new matrices, e.g., as when all of the payoffs in a game are doubled.

8 (+) Add, subtract, and multiply matrices of appropriate dimensions.

9 (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.

10 (+) Understand that the zero and identity matrices play a role in matrix addition and multiplication similar to the role of 0 and 1 in the real numbers. The determinant of a square matrix is nonzero if and only if the matrix has a multiplicative inverse.

11 (+) Multiply a vector (regarded as a matrix with one column) by a matrix of suitable dimensions to produce another vector. Work with matrices as transformations of vectors.

12 (+) Work with 2×2 matrices as a transformations of the plane, and interpret the absolute value of the determinant in terms of area.

Reasoning with Equations and Inequalities

A.REI.8, 9 Solve systems of equations

8 (+) Represent a system of linear equations as a single matrix equation in a vector variable.

9 (+) Find the inverse of a matrix if it exists and use it to solve systems of linear equations (using technology for matrices of dimension 3×3 or greater).

Interpreting Functions

F.IF.7d Analyze functions using different representations; analyze logarithmic and trigonometric functions

7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

    d (+) Graph rational functions, identifying zeros and asymptotes when suitable factorizations are available, and showing end behavior.

Building Functions

F.BF.1c Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.

c (+) Compose functions. *For example, if $T(y)$ is the temperature in the atmosphere as a function of height, and h(t) is the height of a weather balloon as a function of time, then $T(h(t))$ is the temperature at the location of the weather balloon as a function of time.*

F.BF.4b, 4c, 4d, 5 Build new functions from existing functions

4 Find inverse functions.

    b (+) Verify by composition that one function is the inverse of another.

    c (+) Read values of an inverse function from a graph or a table, given that the function has an inverse.

    d (+) Produce an invertible function from a non-invertible function by restricting the domain.

5 (+) Understand the inverse relationship between exponents and logarithms and use this relationship to solve problems involving logarithms and exponents.

Trigonometric Functions

F.TF.3, 4 Extend the domain of trigonometric functions using the unit circle

3 (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for $\frac{\pi}{3}, \frac{\pi}{4}$ and $\frac{\pi}{6}$, and use the unit circle to express the values of sine, cosines, and tangent for $\pi - x$, $\pi + x$, and $2\pi - x$ in terms of their values for *x*, where *x* is any real number.

4 (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

F.TF.6, 7 Model periodic phenomena with trigonometric functions

6 (+) Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.

7 (+) Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.

F.TF.9 Prove and apply trigonometric identities

9 (+) Prove the addition and subtraction formulas for sine, cosine, and tangent and use them to solve problems.

Expressing Geometric Properties with Equations

G.GPE.3 Translate between the geometric description and the equation for a conic section

3 (+) Derive the equations of ellipses and hyperbolas given the foci, using the fact that the sum or difference of distances from the foci is constant.

Geometric Measurement and Dimension

G.GMD.2 Explain volume formulas and use them to solve problems

2 (+) Give an informal argument using Cavalieri's principle for the formulas for the volume of a sphere and other solid figures.

Using Probability to Make Decisions

S.MD.1, 2, 3, 4 Calculate expected values to use them and solve problems

1 (+) Define a random variable for a quantity of interest by assigning a numerical value to each event in a sample space; graph the corresponding probability distribution using the same graphical displays as for data distributions.

2 (+) Calculate the expected value of a random variable; interpret it as the mean of the probability distribution.

3 (+) Develop a probability distribution for a random variable defined for a sample space in which theoretical probabilities can be calculated; find the expected value. *For example, find the theoretical probability distribution for the number of correct answers obtained by guessing on all five questions of a multiple-choice test where each question has four choices, and find the expected grade under various grading schemes.*

4 (+) Develop a probability distribution for a random variable defined for a sample space in which probabilities are assigned empirically; find the expected value. *For example, find a current data distribution on the number of TV sets per household in the United States, and calculate the expected number of sets per household. How many TV sets would you expect to find in 100 randomly selected households?*

S.MD.5a, 5b Use probability to evaluate outcomes of decisions

5 (+) Weigh the possible outcomes of a decision by assigning probabilities to payoff values and finding expected values.

a. Find the expected payoff for a game of chance. *For example, find the expected winnings from a state lottery ticket or a game at a fast-food restaurant.*
b. Evaluate and compare strategies on the basis of expected values. *For example, compare a high-deductible versus a low-deductible automobile insurance policy using various, but reasonable, chances of having a minor or a major accident.*

II. **What are the most important things that <u>Precalculus 42 students</u> will learn this year?**

Perform arithmetic operations with complex numbers
Represent complex numbers and their operations on the complex plane
Use complex numbers in polynomial identities and equations
Represent and model with vector quantities
Perform operations on vectors
Perform operations on matrices and use matrices in applications
Understanding solving equations as a process of reasoning and explain the reasoning
Solve equations and inequalities in one variable
Solve systems of equations
Represent and solve systems of inequalities graphically
Understand the concept of a function and use function notation
Interpret functions that arise in applications in terms of the context
Analyze functions using different representations
Build a function that models a relationship between two quantities
Build new function from existing functions

Extend the domain of trigonometric functions using the unit circle***
Model periodic phenomena with trigonometric functions*
Prove and apply trigonometric identities*
Translate between the geometric description and equation of a conic section
Use coordinates to prove simple geometric theorems algebraically
Explain volume formulas and use them to solve problems
Visualize relationships between two-dimensional and three-dimensional objects
Calculate expected values and use them to solve problems
Use probability to evaluate outcomes of decisions

---

* These objectives are taught in Trigonometry 42 that is a requirement for all Precalculus 42 students to take concurrently with this course.

III. <u>Pacing Guide:</u> In what order will the concepts and skills be sequenced over the course of the school year?

- **September**

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
N.RN.1 **N.RN.2** **N.CN.3** **N.CN.4** **N.CN.5** **N.CN.6**	**P.1-7 Review of Prerequisite Skills –** Real Numbers; Cartesian Coordinate System; Linear Equations and Inequalities; Lines in a Plane; Solving Equations Graphically, Numerically, and Algebraically; Complex Numbers; Solving Inequalities Algebraically an Graphically		Test Chapter P
F.IF.7d	**1.1 Modeling and Equations Solving –** Use numerical, algebraic, and graphical models to solve problems and will be able to translate from one model to another.	Group Activity Worksheet 1.1 Quick review 1.1 <u>Day 1:</u> #3-30 multiples of 3	
F.IF.7d	**1.2 Functions and Their Properties –** Represent functions numerically, algebraically, and graphically, determine the domain and range for function, and analyze function characteristics such as extreme values, symmetry, asymptotes and end behavior.	Major Concepts 1.2 Group Activity 1.2 Quick review 1.2 <u>Day 1:</u> #3-27 multiples of 3 <u>Day 2:</u> #30-45 multiples of 3	Quiz 1.1-1.2

F.IF.7d	**1.3 Twelve Basic Functions –** Recognize graphs of twelve basic functions, determine domains of functions, and combine the functions in various ways to create new functions.	Major Concepts 1.3 Group Activity 1.3 Quick review 1.3 <u>Day 1:</u> #1-27 odd <u>Day 2:</u> #30-66 multiples of 3 <u>Day 3:</u> #66 (in class)	
F.IF.7d	**1.6 Graphical Transformations – Graphically and algebraically represent translations, reflections, stretches, and shrinks of functions and parametric relations.**	Major Concepts 1.6 Group Activity 1.6 Quick review 1.6 <u>Day 1:</u> #3-33 multiples of 3 <u>Day 2:</u> #36-64 multiples of 3	Test 1.1-1.3, 1.6

- **October/November**

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
F.BF.1c F.BF.4b F.BF.4c F.BF.4d F.BF.5	**1.4 Building Functions from Functions** – To build new functions from basic functions by adding, subtracting, multiplying, dividing, and composing functions.	Major Concepts 1.4 Group Activity 1.4 Quick review 1.4 <u>Day 1:</u> #3-15 multiples of 3, #16-20 all <u>Day 2:</u> #21-42 multiples of 3	
F.BF.1c F.BF.4b F.BF.4c F.BF.4d F.BF.5	**1.5 Parametric Relations and Inverses** – Define functions and relations parametrically and find inverses of functions and relations.	Major Concepts 1.5 Quick review 1.5 <u>Day 1:</u> #3-15 multiples of 3, #16-20 all <u>Day 2:</u> #21-42 multiples of 3	Quiz 1.4-1.5

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
F.IF.7d	**1.7 Modeling with Functions –** Identify appropriate basic functions with which to model real world problems and produce specific functions to model data, formulas, graphs, and verbal descriptions.	Quick review 1.7 <u>Day 1-2:</u> #3-51 multiples of 3	Quiz 1.7 Test 1.4-1.5, 1.7
F.IF.7d	**2.1 Linear and Quadratic Functions and Modeling –** Recognize and graph linear and quadratic functions, and use these functions to model situations and solve problems.	Major Concepts 2.1 Group Activity 2.1 Quick review 2.1 <u>Day 1:</u> #1-11 odds <u>Day 2:</u> #15-50 multiples of 5	
F.IF.7d	**2.2 Power Functions with Modeling –** Sketch power functions and model real world problems using these functions.	Major Concepts 2.2 Group Activity 2.2 Quick review 2.2 <u>Day 1:</u> #1-33 multiples of 3 <u>Day 2:</u> #37, 38, 41-48	Quiz 2.1-2.2

- ## December/January

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
F.IF.7d G.GPE.3	**2.3 Polynomial Functions of Higher Degree with Modeling –** Graph polynomial functions, predict end behavior, and find the real zeros using a graphic or an algebraic method.	Major Concepts 2.3 Quick review 2.3 <u>Day 1:</u> #3, 6, 15-36 multiples of 3 <u>Day 2:</u> #9, 12, 39-54 multiples of 3, 58, 59, 66, 83	

F.IF.7d	2.4 Real Zeros of Polynomial Functions – Divide polynomial functions using long division or synthetic division; apply the remainder theorem, factor theorem and rational zeros theorem; and find upper and lower bounds for zeros of polynomials.	Major Concepts 2.4 Group Activity 2.4 Quick review 2.4 <u>Day 1:</u> #3-30 multiples of 3, 32, 39, 42, 47 <u>Day 2:</u> #33, 36, 51, 54, 57	Quiz 2.3-2.4
F.IF.7d	2.5 Complex Zeros and the Fundamental Theorem of Algebra – Factor polynomials with real coefficients using factors with complex coefficients.	Major Concepts 2.5 Quick review 2.5 <u>Day 1:</u> #3-30 multiples of 3 <u>Day 2:</u> #33, 36, 39, 42, 46, 51	
F.IF.7d	2.6 Graphs of Rational Functions – Describe the graphs of rational functions, identify horizontal and vertical asymptotes, and predict the end behavior of rational functions.	Major Concepts 2.6 Group Activity 2.6 Quick review 2.6 <u>Day 1:</u> #3-36 multiples of 3 <u>Day 2:</u> #39-60 multiples of 3, 71, 72, 74	
F.IF.7d	2.7 Solving Equations in One Variable – Solve equations involving fractions using both algebraic and graphical techniques and identify extraneous solutions.	Major Concepts 2.7 Group Activity 2.7 Quick review 2.7 <u>Day 1:</u> #1-30 odd, 51 <u>Day 2:</u> #31-44 odds, 53	
A.REI.8 A.REI.9	2.8 Solving Inequalities in One Variable – Solve inequalities involving polynomials and rational functions by using both algebraic and graphical techniques.	Quick review 2.8 <u>Day 1:</u> #3-18 multiples of 3 <u>Day 2:</u> #18-48 multiples of 3, 55-58, 61, 64	Chapter 2 Test

F.IF.7d	**3.1 Exponential and Logistic Functions** – Evaluate exponential expressions and identify and graph exponential and logistic functions.	Group Activity 3.1 Quick review 3.1 <u>Day 1:</u> #1-13 odds, 15-39 multiples of 3, 45, 48 <u>Day 2:</u> #41, 44, 49, 52, 53, 55	
F.IF.7d	**3.2 Exponential and Logistic Modeling** – Use exponential growth, decay and regression to model real life problems.	Major Concepts 3.2 Quick review 3.2 <u>Day 1:</u> #3-21 multiples of 3, 30, 33, 34 <u>Day 2:</u> #20, 24, 27, 40, 45, 47, 58	
F.IF.7d	**3.3 Logarithmic functions and Their Graphs** – Convert between logarithmic and exponential forms, evaluate common and natural logarithms, and graph common and natural logarithms.	Quick review 3.3 <u>Day 1:</u> #3-36 multiples of 3 <u>Day 2:</u> #37-40, 43, 45	
F.IF.7d	**3.4 Properties of Logarithmic Functions** – Apply the properties of logarithms to evaluate expressions, graph functions, and re-express data.	Quick review 3.4 <u>Day 1:</u> #3-48 multiples of 3 <u>Day 2:</u> #51-54 all	
F.IF.7d	**3.5 Equation Solving and Modeling** – Apply the properties of logarithms to solve exponential and logarithmic equations algebraically and solve application problems using these equations.	Quick review 3.5 <u>Day 1:</u> #3-48 multiples of 3 <u>Day 2:</u> #49, 51, 53, 55	Quiz 3.3-3.5 (Part 1 & 2)
F.IF.7d	**3.6 Mathematics of Finance** – Use exponential functions and equations to solve business and finance applications, relate it to compound interest and annuities.	Group Activity 3.6 Quick review 3.6 <u>Day 1:</u> #1-12, 21-39 multiples of 3 <u>Day 2:</u> #13-19 odd, 45-48 <u>Day 3:</u> # 55, 58, 60, 68	3.6 Take Home Quiz Chapter 3 Test Cumulative Take Home Test Midterm Exam

- **January/February**

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
A.REI.8 A.REI.9	**7.1 Solving Systems of Two Equations** – Solve systems of equations graphically and algebraically.	Group Activity 7.1 Major Concepts 7.1 Quick review 7.1 <u>Day 1:</u> #1-2, 3-12 <u>Day 2:</u> #27-42 multiples of 3	
N.VM.6 N.VM.7 N.VM.8 N.VM.9 N.VM.10 N.VM.11 N.VM.12	**7.2 Matrix Algebra** – Find sums, differences, products, and inverses of matrices.	Quick review 7.2 <u>Day 1:</u> #3-33 multiples of 3 <u>Day 2:</u> #36-72 multiples of 3	Quiz 7.1-7.2
N.VM.6 N.VM.7 N.VM.8 N.VM.9 N.VM.10 N.VM.11 N.VM.12	**7.3 Multivariable Linear Systems and Row Operations – Solve systems of linear equations using Gaussian elimination, reduced row echelon form of a matrix, or an inverse matrix.**	Quick review 7.3 <u>Day 1:</u> #3-42 multiples of 3 <u>Day 2:</u> #45-66 multiples of 3, #73-79 odds	Test 7.1-7.3
F.BF.4b F.BF.4c F.BF.4d	**7.4 Partial Fractions – Decompose rational expressions into partial fractions.**	Quick review 7.4 <u>Day 1:</u> # 3-21 multiples of 3 <u>Day 2:</u> # 22-42 multiples of 3	
A.REI.8 A.REI.9	**7.5 Systems of Inequalities in Two Variables – Solve linear programming problems and systems of inequalities**	Quick review 7.5 <u>Day 1:</u> # 1-7, 9,12, 14, 16, 17, 20, 21 <u>Day 2:</u> # 23, 24, 35-39 odd	Quiz 7.4-7.5 (Parts 1 & 2)

	using graphical methods.		

- ## March

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
N.VM.1 **N.VM.2** **N.VM.3**	**6.1 Vectors in the Plane –** Apply the arithmetic of vectors and use vectors to solve real world problems.	Major Concepts 6.1 Quick review 6.1 <u>Day 1:</u> # 1-27 odd <u>Day 2:</u> # 29-35 odd, 41, 43, 47	
N.VM.4a **N.VM.4b** **N.VM.4c** **N.VM.5a** **N.VM.5b**	**6.2 Dot Product of Vectors – Calculate dot product and projections of vectors.**	Quick review 6.2 <u>Day 1:</u> # 1-9, 10, 13 <u>Day 2:</u> # 21, 23, 25	Quiz 6.1-6.2
F.IF.7d	**6.3 Parametric Equations and Motion – Define parametric equations, graph curves parametrically, and solve application problems using parametric equations.**	Quick review 6.3 <u>Day 1:</u> # 1-4, 5,7,12,13 <u>Day 2:</u> # 27,29,33	
N.VM.1 **N.VM.2** **N.VM.3**	**6.4 Polar Coordinates – Convert points and equations from polar to rectangular coordinates and vice versa.**	Quick review 6.4 Major Concepts 6.4 <u>Day 1:</u> # 1,5,7,11,15,21,23	

• April

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
G.GPE.3	**8.1 Conic Sections and Parabolas –** Find equation, focus, and directrix of a parabola.	Quick review 8.1 Day 1: # 1,5-19 odd, 31, 32 Day 2: # 21-54 multiples of 3, 59	
G.GPE.3	**8.2 Ellipses –** Find the equation, vertices, and foci of an ellipse.	Quick review 8.2 Day 1: # 8-42 multiples of 3 Day 2: #19, 31,37,41,47	
G.GPE.3	**8.3 Hyperbolas –** Find the equation, vertices, and foci of a hyperbola.	Quick review 8.3 Day 1: # 3-30 multiples of 3 Day 2: # 33-52 multiples of 3	Quiz 8.1-8.3
N.VM.1 N.VM.2 N.VM.3	**8.6 Three-Dimensional Cartesian Coordinate System –** Draw three-dimensional figures and analyze vectors in space.	Quick review 8.6 Day 1: # 1-15 odd Day 2: # 18-54 multiples of 3	Test 8.1-8.4, 8.6

• May/June

CCSS	Essential Questions/Units of Study	Activities/Skills	Assessments
S.MD.1 S.MD.2 S.MD.3 S.MD.4	**9.1 Basic Combinatorics –** Use the multiplication principle of counting, permutations or combinations to count the number of ways that a task can be done.	Quick review 9.1 Day 1: # 3,5,9,12,15,19,20 Day 2: # 4,6,7,11,14,16	

S.MD.5a S.MD.5b	**9.2 The Binomial Theorem –** Expand the power of a binomial using the Binomial theorem or Pascal's Triangle, and find the coefficients of a given term of a binomial expansion.	Quick review 9.2 <u>Day 1:</u> # 1-25 odd	
S.MD.5a S.MD.5b	**9.3 Probability –** Identify a sample space and calculate probability or conditional probability in sample spaces with equally likely or unequally likely outcomes.	Quick review 9.3 <u>Day 1:</u> #1-8 all, 11-16 all <u>Day 2:</u> # 30-48 multiples of 3	Quiz 9.1-9.3
F.BF.2	**9.4 Sequences –** Express arithmetic and geometric sequences explicitly and recursively and find limits of converging sequences.	Quick review 9.4 <u>Day 1:</u> # 1-20 all	Quiz 9.4
F.BF.2	**9.5 Series –** Use sigma notation and find finite sums of terms in arithmetic and geometric sequences, and find sums of convergent geometric series.	Quick review 9.5 <u>Day 1:</u> # 3-24 multiples of 3	Test 9.1-9.5 Final Exam

V. Assessments

Assessments, worksheets, formative assessments and projects are all posted on the Bradshaw/McGowan Moodle site which is accessible to all precalculus teachers and administration.

VI. Resources

Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Precalculus: Graphical, Numerical, Algebraic* (7th Ed). Boston, Mass.: Pearson Edison Wesley.

VII. Other

Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Resource Manual* (7th ed.). Boston, Mass.: Pearson Edison Wesley.
Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Tests and Quizzes* (7th ed.). Boston, Mass.: Pearson Edison Wesley.
Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Student Practice Workbook* (7th ed.). Boston, Mass.: Pearson Edison Wesley.
Demana, F., Waits, B., Foley, G., & Kennedy, D. (2007). *Test Generator* (7th ed.). Boston, Mass.: Pearson Edison Wesley

Bethel Public Schools
Algebra 1 12
9-12 Level 2

I. <u>**Alignment to District Power Standards, CSDE Standards , Grade Level Expectations, and Common Core State Standards**</u>

  a. **District Power Standards**

  b. **Connecticut Curriculum Design Unit Planning Organizer Algebra I (draft 2012)**

Unit 1: Patterns

Understand the concept of a function and use function notation
Build a function that models a relationship between two quantities

Mathematical Practices Emphasized in this unit:

4. Model with mathematics
8. Look for and express regularity in repeated reasoning.

Priority and Supporting **CCSS**

F-IF 3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the
integers…

F-BF 1. Write a function that describes a relationship between two quantities.
    a. Determine an explicit expression, a recursive process, or steps for calculation from a context.

**F-BF 2. Write arithmetic and geometric sequences…recursively and [arithmetic sequences] with an explicit
formula, use them to model situations, and translate between the two forms.**

Essential Questions: What is a sequence? How can patterns be represented? What are the advantages and disadvantages of a
recursive rule compared to an explicit rule?

Unit 2: Linear Equations and Inequalities

Reason quantitatively and use units to solve problems.
Interpret the structure of expressions

Create equations that describe numbers or relationships
Understand solving equations as a process of reasoning and explain the reasoning
Solve equations and inequalities in one variable

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

6. Attend to precision.

7. Look for and make use of structure

Priority and Supporting **CCSS**

N-Q 1.   Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

N-Q 2.   Define appropriate quantities for the purpose of descriptive modeling.

N-Q 3.   Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

A-SSE 1. Interpret expressions that represent a quantity in terms of its context.

a. Interpret parts of an expression, such as terms, factors, and coefficients.

b. Interpret complicated expressions by viewing one or more of their parts as a single entity...

A-CED 1.(part) Create equations and inequalities in one variable and use them to solve problems.

Include equations arising from linear ... functions

A-CED 4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*

A-REI 1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

A-REI 3.   Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Essential Questions: What is an equation? What does equality mean? What is an inequality? How can we use linear equations

and linear inequalities to solve real world problems? What is a solution set for a linear equation or linear inequality? How can models and technology aid in the solving of linear equations and linear inequalities?

Unit 3: Functions

Create equations that describe numbers or relationships
Represent and solve equations and inequalities graphically
Understand the concept of a function and use function notation
Interpret functions that arise in applications in terms of the context
Analyze functions using different representations

Mathematical Practices Emphasized in this unit:

4. Model with mathematics.
5. Use appropriate tools strategically

Priority and Supporting CCSS

A-CED 2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales

A-REI 10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

F-IF 1.   Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.

F-IF 2.   Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F-IF 4.   For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative....*

F-IF 5.   Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it

describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.**

F-IF 7b.   Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

F-IF 9.   Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions). „,

Essential Questions: What is a function? What are the different ways that functions may be represented? How can functions be used to model real world situations, make predictions, and solve problems?

Unit 4: Linear Functions

Interpret functions that arise in applications in terms of the context
Analyze functions using different representations
Construct and compare linear and exponential models and solve problems
Interpret expressions for functions in terms of the situation they model

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.

Priority and Supporting CCSS

F-IF 6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

F-IF 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
   a.   Graph linear ...functions and show intercepts..

F-IF 8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

F-LE 1. Distinguish between situations that can be modeled with linear functions [and with exponential functions].
   a. Prove that linear functions grow by equal differences over equal intervals... over equal intervals.
   b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another....

F-LE 2. Construct linear ... functions, including arithmetic ... sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

F-LE 5. Interpret the parameters in a linear ... function in terms of a context.

Essential Questions: What is a linear function? What are the different ways that linear functions may be represented? What is the significance of a linear function's slope and y-intercept? How may linear functions model real world situations? How may linear functions help us analyze real world situations and solve practical problems?

Unit 5: Scatter Plots and Trend Lines

Analyze functions using different representations
Summarize, represent, and interpret data on a single count or measurement variable
Summarize, represent, and interpret data on two categorical and quantitative variables
Interpret linear models

Mathematical Practices Emphasized in this unit:

3. Construct viable arguments and critique the reasoning of others.

4. Model with mathematics.

5. Use appropriate tools strategically.

Priority and Supporting CCSS

F-IF 7b. Graph ... piecewise-defined functions, including step functions and absolute value functions.

S-ID 1.   Represent data with plots on the real number line (dot plots, histograms, and box plots).

S-ID 2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

S-ID 3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

S-ID 6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data...

c. Fit a linear function for a scatter plot that suggests a linear association

S-ID 7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

S-ID 8. Compute (using technology) and interpret the correlation coefficient of a linear fit.

S-ID 9. Distinguish between correlation and causation.

Essential Questions: How do we make predictions and informed decisions based on current numerical information? What are the advantages and disadvantages of analyzing data by hand versus by using technology? What is the potential impact of making a decision from data that contains one or more outliers?

Unit 6: Systems of Linear Equations

Create equations that describe numbers or relationships

Solve systems of equations

Represent and solve equations and inequalities graphically

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

5. Use appropriate tools strategically.

Priority and Supporting CCSS

A-CED 3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context...

A-REI 5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

A-REI 6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

A-REI 11. Explain why the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear ...functions.

Essential Questions: What does the number of solutions (none, one or infinite) of a system of linear equations represent? What are the advantages and disadvantages of solving a system of linear equations graphically versus algebraically?

Unit 7: An Introduction to Exponential Functions

Extend the properties of exponents to rational exponents.
Interpret the structure of expressions
Write expressions in equivalent forms to solve problems
Analyze functions using different representations
Build a function that models a relationship between two quantities
Construct and compare linear and exponential models and solve problems
Interpret expressions for functions in terms of the situation they model

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

4. Model with mathematics.

6. Attend to precision.

Priority and Supporting **CCSS**

N-RN 1.   Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.*

N-RN 2.   Rewrite expressions involving radicals and rational exponents using the properties of exponents.

A-SSE 1b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*

A-SSE 3c. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15^t can be rewritten as $[1.15^{(1/12)}]^{(12t)} \approx 1.012^{(12t)}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.

F-IF 7.   Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
e. Graph exponential … functions, showing intercepts and end behavior…

F-IF 8b.   Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{(t/10)}$, and classify them as representing exponential functions.

F-BF 2. Write … geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

F-LE 1. Distinguish between situations that can be modeled with linear functions and with exponential functions.

   a. Prove … that exponential functions grow by equal factors over equal intervals….

   c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F-LE 2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

F-LE 3.   Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly …

F-LE 5. Interpret the parameters in a … exponential function in terms of a context.

Essential Questions: What characterizes exponential growth and decay? What are real world models of exponential growth and decay? What are the limitations of exponential growth models? How can one differentiate an exponential model from a linear model given a real world data set?

Unit 8: Quadratic Functions and Equations

Use properties of rational and irrational numbers.
Write expressions in equivalent forms to solve problems
Perform arithmetic operations on polynomials
Solve equations and inequalities in one variable
Interpret functions that arise in applications in terms of the context
Analyze functions using different representations

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

2. Reason abstractly and quantitatively.

Priority and Supporting **CCSS**

N-RN 3.   Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an

---

irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

A-SSE 3   a. Factor a quadratic expression to reveal the zeros of the function it defines.

  b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

A-APR 1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

A-CED 1.   Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from ...quadratic functions ...*

A-CED 2.   Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A-REI 4.   a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.

  b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation.

F-IF 4.   For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries...

F-IF 7   a. Graph ... quadratic functions and show intercepts, maxima, and minima.

F-IF 8   a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

F-BF 3.   Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology...

Essential Questions: What features distinguish the graph of a quadratic function from other graphs? How can an understanding of polynomials help in understanding quadratic functions and equations? What are the

advantages and disadvantages of different forms of the quadratic function and different methods for solving quadratic equations

c. Grade Level Expectations
N/A

d. Common Core State Standards for Algebra I

A-SSE Seeing Structure in Expressions
Interpret the structure of expressions
1. Interpret expressions that represent a quantity in terms of its context.
   a. Interpret parts of an expression, such as terms, factors, and coefficients.
   b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)$n as the product of P and a factor not depending on P.*
2. Use the structure of an expression to identify ways to rewrite it.
Write expressions in equivalent forms to solve problems
3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented By the expression.
   a. Factor a quadratic expression to reveal the zeros of the function it defines.
   b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
   c. Use the properties of exponents to transform expressions for exponential functions.

A-APR Arithmetic with Polynomials and Rational Expressions
Perform arithmetic operations on polynomials
1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

A-CED Creating Equations
Create equations that describe numbers or relationships

1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

A-REI Reasoning with Equations and Inequalities
Understand solving equations as a process of reasoning and explain the reasoning
1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method. (introduced in Algebra I and mastered in Geometry)
Solve equations and inequalities in one variable
3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
4. Solve quadratic equations in one variable.
    a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.
    b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a \pm bi$ for real numbers a and b. (begun in Algebra I, completed in Algebra II)
Solve systems of equations
5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.
Represent and solve equations and inequalities graphically
10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). (Only systems of linear equations are dealt with in Algebra I)

11. Explain why the *x*-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. (Only systems of linear equations are dealt with in Algebra I)
12. Graph the solutions to a linear inequality in two variables as a half plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

F-IF Interpreting Functions
   Understand the concept of a function and use function notation
   1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If *f* is a function and *x* is an element of its domain, then $f(x)$ denotes the output of *f* corresponding to the input *x*. The graph of *f* is the graph of the equation $y = f(x)$.
   2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
   3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.
   Interpret functions that arise in applications in terms of the context
   4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; …*
   (Linear, Exponential and Absolute Value functions are addressed in Algebra I)
   5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
   6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.
   Analyze functions using different representations
   7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
        a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
        b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value

functions.

(c and d in Algebra II and Precalculus)

e. Graph exponential … functions, showing intercepts and end behavior, …

8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. (begun in Algebra I, completed in Algebra II)

b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify* $\left(5^{1/3}\right)^{3} = 5^{(1/3)3}$ *percent rate of change in functions such as* $y = (1.02)^{t}$, $y = (0.97)^{t}$, $y = (1.01)^{12t}$, $y = (1.2)^{t/10}$, *and classify them as representing exponential growth or decay.*

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

F-BF Building Functions

Build a function that models a relationship between two quantities

1. Write a function that describes a relationship between two quantities.

a. Determine an explicit expression, a recursive process, or steps for calculation from a context.

b. Combine standard function types using arithmetic operations.

2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

Build new functions from existing functions

3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. (Linear, exponential, quadratic, and absolute value equations in Algebra I)

F-LE Linear and Exponential Models

Construct and compare linear and exponential models and solve problems

1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
    a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
    b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
    c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. (Linear in algebra I)
Interpret expressions for functions in terms of the situation they model
5. Interpret the parameters in a linear or exponential function in terms of a context.

N-RN The Real Number System
    Extend the properties of exponents to rational exponents.
1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define*

$$5^{\frac{1}{3}} \text{ to be the cube root of } 5 \text{ because we want } \left(5^{\frac{1}{3}}\right)^3 = 5^{\left(\frac{1}{3}\right)3} \text{ to hold, so } \left(5^{\frac{1}{3}}\right)^3 \text{ must equal } 5.$$

2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.
    Use properties of rational and irrational numbers.
4.   Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

N-Q Quantities
    Reason quantitatively and use units to solve problems.
1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
2. Define appropriate quantities for the purpose of descriptive modeling.

3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

S-ID Interpreting Categorical and Quantitative Data

Summarize, represent, and interpret data on a single count or measurement variable
1. Represent data with plots on the real number line (dot plots, histograms, and box plots).
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Summarize, represent, and interpret data on two categorical and quantitative variables
6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
   a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*
   b. Informally assess the fit of a function by plotting and analyzing residuals.
   c. Fit a linear function for a scatter plot that suggests a linear association.

Interpret linear models
7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.
8. Compute (using technology) and interpret the correlation coefficient of a linear fit.
9. Distinguish between correlation and causation.

II. What are the most important things students will learn this year?

1. Algebra is a systematic method for identifying, describing, extending, analyzing and generalizing patterns.

2. Numbers, symbolic notation and arithmetic operations are used to model, transform, simplify and solve problems efficiently.

3. Information may be represented by physical models, diagrams, data tables, graphs and symbolic expressions. Algebra facilitates correlation among the different representations, which may give different insights into the solution of a problem.

4. Relationships and functions can be described and classified. The classifications can be used to derive models that have practical real-world applications.

5. Algebra provides a way to explore and understand the effects of parameter changes on any function and its various representations.

6. Algebra is a process of conjecturing about the relationships among quantities and measures. It provides a way to describe correlations, summarize data sets, estimate and make predictions, including extrapolation and interpolation of data.

7. Algebra provides the underlying structure to make connections among all branches of mathematics, including measurement, geometry, calculus and statistics.

8. Innovations in technology allow users to explore and deepen their understanding of new and long-standing mathematical concepts and applications of algebra.

Taken from proposed Algebra I Curriculum
Connecticut State Department of Education

III. <u>Pacing Guide:</u> In what order will the concepts and skills be sequenced over the course of the school year?

- **September/October**

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.** **6. Attend to precision.** **7. Look for and make use of structure.**	**Unit 1A: LINEAR EQUATIONS** <mark>(5 weeks)</mark> Reason quantitatively and use units to solve problems. Interpret the structure of expressions. Create equations that describe numbers or relationships. Understand solving equations as a process of reasoning and explain the reasoning. Solve equations in one variable. **Essential Questions** What is an equation? What does equality mean? How can we use linear equations to solve real world problems? What is a solution set for a linear equation? How can models and technology aid in the solving of linear equations?	**Concepts** Order of operations Expression vs. equation Inequality Associative property Commutative property Distributive property Inverse operation **Skills** Model (with linear equations) Solve (linear equations) Simplify (expression) Use (algebraic properties) Select (appropriate units, degree of precision) **Text Chapter 1**	**Pre-course test** **Intervention Prescribed by Holt**
A.SSE.1	1. Translate between words and algebra; evaluate algebraic expressions.	Text section 1.1 Exploration Guided Practice Connecting Algebra to Geometry p. 14 "Prices and Inflation activity"	Holt Performance Assessment **Intervention:** Teacher's Ed. p. 3 Reading Strategies 1.1, Holt Example Videos
A.REI.1 A.REI.3 A.CED.1	2. Write and solve problems with one-step equations.	Section 1.2 Exploration Guided Practice Connecting Algebra to Geometry p. 23 Section 1.3: Multi-step test prep p. 21 Multi-step test prep p. 29	1.2/1.3 lesson quiz **Intervention:** Interactive Tutorial Holt Example Videos Reading Strategies 1.2/1.3

CCSS		Activities/Skills	Assessments
A.REI.1 A.REI.3 A.CED.1	3. Write and solve problems with 2-step & multi-step equations.	1.4 Exploration 1.4 technology lab p. 31 Problem Solving practice	1.4 Lesson quiz **Intervention:** Reading Strategies 1.4 Holt Example Videos
A.REI.1 A.REI.3 A.CED.1	4. Write and solve problems with equations containing variables on both sides.	Technology Lab p. 31 Guided Practice Multi-step test prep p. 44 **Equation BINGO game**	1.5 Lesson quiz **CAPT Formative Assessment:** **Formulas & Equations** **Intervention:** Reading Strategies 1.5 Holt Example Videos Khan Academy videos
A.REI.1 A.REI.3 A.CED.1	5. Solve an equation for a variable.	Guided Practice Problem Solving practice Technology Lab p. 47-48	Ready To Go On worksheet Quiz 1 .1-1.6 p. 61 **Intervention:** Reteach "Ready To Go On" Intervention in Teacher's Ed. p. 61
A.REI.3 A.CED.1 N.Q.1	6. Solve problems via rates, ratios and proportions.	1.8 Exploration Guided Practice CAPT released items 1.9 Reading Strategies Multi-step test prep p. 73	1.7 Lesson Quiz **CAPT FA: Proportional Reasoning** **Intervention:** Holt Lesson Videos Reteach
N.Q.2 N.Q.3	7. Define and use appropriate measures of precision and accuracy.	1.8 Exploration Reading Strategies Guided Practice Problem Solving **Chapter 1 Review pp. 84-87** **Real world connections p. 94** **Holt Chapter 1 Project**	Ready To Go On worksheet Quiz sections 1.8-1.10 **Reflection Questions** **Chapter 1 TEST** **Intervention:** Ready to go on intervention in TE p.83 **Chapter 1 Extra Practice**

- **October/November (to end of 1st quarter)**

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments

Emphasized Mathematical Practices	Unit 1B: LINEAR INEQUALITIES (3weeks)	Concepts	Pre-chapter 2 assessment
1. Make sense of problems and persevere in solving them. **6. Attend to precision.** **7. Look for and make use of structure.**	Reason quantitatively and use units to solve problems. Interpret the structure of expressions. Create inequalities that describe numbers or relationships. Understand solving inequalities as a process of reasoning and explain the reasoning. Solve inequalities in one variable. **Essential Questions** What is an inequality? How can we use linear inequalities to solve real world problems? What is a solution set for a linear inequality? How can models and technology aid in the solving linear inequalities?	Order of operations Expression vs. equation Inequality Associative property Commutative property Distributive property Inverse operation **Skills** Model (with linear inequalities) Solve (linear inequalities) Simplify (expression) Use (algebraic properties) **Text Chapter 2**	Reading & writing math p. 99 Are you ready p. 87 **Are you ready interventions in TE p. 87**
A.REI.3	1. Graph & write inequalities.	2.1 Exploration Guided Practice Problem Solving practice	2.1 Lesson Quiz **Intervention:** Reading Strategies 2.1 Holt Interactivity
A.REI.3 A.CED.1	2. Write and solve problems with one-step inequalities.	2.2 /2.3 exploration Guided Practice Multi-step test prep pp. 110,116	Multi-step test prep p. 118 Ready to go on quiz 2.1-2.3 p. 119 **Intervention:** Reteach Holt Lesson videos
A.REI.3 A.CED.1	**3.** Write and solve problems with 2-step and multi-step inequalities.	Guided Practice Multi-step test prep p. 124	Section 2.4 Alternate assessment in TE p.125 **Intervention:** Reteach Reading Strategies 2.4
A.REI.3 A.CED.1	4. Write and solve problems with inequalities containing variables on both sides.	Calculator Exploration Guided Practice	2.5 Lesson Quiz **Intervention:** Reading Strategies 2.5 Reteach

			Holt Lesson videos
A.REI.3	5. Write & solve compound inequalities.	Calculator Exploration Guided Practice Reteach Holt Ch2 Performance Assessment **Chapter 2 review p. 150-151**	Ready to go on quiz p. 149 Holt Ch2 Performance Assessment **Reflection Questions Chapter 2 TEST** **Intervention:** Chapter 2 Extra Practice Ready to go on interventions p. 149
Emphasized Mathematical Practices **4. Model with mathematics.** **5. Use appropriate tools strategically.**	**Unit 2: Functions (2 weeks)** Create equations that describe numbers or relationships. Represent and solve equations and inequalities graphically. Understand the concept of a function and use function notation. Interpret functions that arise in applications in terms of the context. Analyze functions using different representations. **Essential Questions** What is a function? What are the different ways that functions may be represented? How can functions be used to model real world situations, make predictions, and solve problems?	**Concepts** Independent variable Dependent variable Ordered pair Mapping Diagram Table Graph Equation for a function Function notation Domain Range Vertical Line test **Skills** Determine (whether or not a relation is a function) Determine (range and domain of a function) Model (a real world situation with a function) Evaluate (a function) Represent a function (with table, graph, equation, mapping diagram)	Pre-chapter assessment **Reading and writing math p. 163** **Are you ready p. 161** **Are you ready interventions in TE p. 161**

		Text Chapter 3.1-3.4	
F.IF.4 N.Q.2	1. Graph relationships via continuous and discrete graphs.	3.1 Exploration Guided practice Multi-step test prep p. 168	3.1 Lesson Quiz **Intervention** Reteach
F.IF.1 F.IF.5	2. Identify functions and find the domain and range. Use the vertical line test and explain why it works**.**	Section 3.2 Exploration Guided Practice Problem Solving practice Algebra Lab p. 177	Intervention: Reteach
F.IF.1 F.IF.2 F.IF.5 A.CED.3 F.BF.1 F.LE.2	3. Identify independent and dependent variables. Write an equation in function notation and evaluate a function for given input values.	Section 3.3 exploration Guided Practice Problem Solving practice Multi-step test prep p. 184	3.3 Lesson Quiz Holt Chapter 3 Performance Assessment **Intervention:** Holt Interactivity Reteach
F.IF.1 F.IF.2 F.IF.5 F.IF.7 A.REI.10	4. Graph functions given limited and unlimited domains. Understand the connections among function rules, tables and graphs.	Section 3.4 technology Lab Holt Chapter 3 Performance Task	Multistep test prep p. 194 Ready to go on quiz p. 195 **Intervention:** Success for all learners 3.4 Ready to go on interventions in Teacher's Ed p. 195
F.IF.7B	5. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	Chapter 4 Extension p. 310 Teacher generated **Chapter 3 Review p. 214-216** **Real world connections pp. 224-225** **Holt Chapter 3 Project**	Teacher-generated performance assessment **Reflection Questions** **Holt Chapter 3 Project** **Intervention:** Teacher-generated reteach Chapter 3 Extra Practice
	END OF QUARTER 1		**Cumulative test**

- # November/December

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.** **2. Reason abstractly and quantitatively.**	**Unit 3 : LINEAR FUNCTIONS** <mark>(5weeks)</mark> Interpret functions that arise in applications in terms of the context. Analyze functions using different representations. Construct and compare linear and exponential models and solve problems. Interpret expressions for functions in terms of the situation they model. **Essential Questions** What is a linear function? What are the different ways that linear functions may be represented? What is the significance of a linear function's slope and y-intercept? How may linear functions model real world situations? How may linear functions help us analyze real world situations and solve practical problems?	**Concepts** Rate of change Constant additive change Slope x-intercept y-intercept slope-intercept form point-slope form standard form velocity **Skills** Determine (whether or not a relation is a function) Determine (range and domain of a function) Model (a real world situation with a function) Evaluate (a function) Represent a function (with table, graph, equation, mapping diagram) **Text Chapter 4.1-4.6**	Pre-chapter assessment **Reading & writing math p. 163** **Are you ready p. 161** **Are you ready interventions in TE p. 161**
A.REI.10 F.IF.5 F.IF.7 A.CED.2 F.LE.2	1. Identify Linear functions. Write and use the standard form of a linear function. Graph a linear function, state the domain and range.	4.1 Exploration Guided practice Problem Solving practice	4.1 Lesson quiz **Intervention:** Reading Strategies Holt Example Videos

F.IF.7 A.CED.2 A.CED.3 F.IF.2s F.IF.4 F.IF.5	2. Find and interpret x- and y-intercepts. Graph lines via the x-and y-intercept.	4.2 Exploration Guided practice Problem Solving practice	4.2 Lesson Quiz **Intervention:** Holt Example Videos Success for every learner 4.2
F.IF.6	3. Find the rate of change and slope. Relate slope as a constant rate of change.	Guided practice Multi-step test prep p. 250 **Charlie Brown's parachute jump and** **"Bike Tour" activities** Algebra lab pp. 252-253	4.3 lesson Quiz **Intervention:** Holt Interactivity 4.3 alternate assessment in TE p. 251
F.IF.6	4. Find slope from 2 points, tables and graphs by using the slope formula.	4.4 exploration Guided practice Multi-step test prep p. 266	Ready to go on quiz 4.1-4.4 p.267 **Hiking Performance Assessment** **CAPT Formative Assessment: Slope** **and rate of change** **Intervention:** Ready to go on interventions in Teacher's ed. p. 267 Holt Example Videos Khan Academy videos
A.CED.2 F.LE.2 A.CED.3 F.IF.6 F.IF.7 F.BF.1	5. Write and graph linear functions via the slope-intercept form.	4.6 Exploration Guided practice Multi-step test prep p. 273	4.6 lesson quiz **Intervention:** Holt Interactivity Reading Strategies 4.6 Holt lesson videos
A.CED.2 F.LE.2 A.CED.3 F.IF.7 F.BF.1	6. Write and graph linear functions via the point-slope form. Write a linear equation and find the intercepts given 2 points.	Exploration 4-7 Technology lab Guided practice Multi-step test prep p. 281	4.7 Lesson Quiz **Intervention:** Success for every learner 4.7 Alternate assessment TE p. 282

A.CED.2 F.LE.2 A.CED.3 F.IF.7 F.BF.1	7. Write a linear function in different but equivalent forms.	TEACHER GENERATED	Lesson quiz **Intervention:** Reteach Quiz re-take
G.GPE.5 F.IF.7	8. Find and interpret the slopes of parallel and perpendicular lines.	4.9 Exploration Guided practice Multi-step test prep p. 298	4.9 Lesson quiz **Intervention:** Interactivity Holt example videos
F.BF.3	9. Describe how changing the slope and y-intercept affects the graph of a linear function.	Reading Strategies Guided practice Reteach 4-10 4-10 Technology Lab **Chapter 4 Review pp. 314-315** **Chapter 4 Project**	Ready to go on quiz 4.6,4.7,4.9,4.10 p. 309 **Intervention:** Holt lesson videos Success for every learner 4.10 Ready to go on interventions in Teacher's Ed. p. 309 **Reflection Questions** **UNIT 4 TEST** **Performance Task** **Intervention:** Chapter 4 Extra Practice
Emphasized Mathematical Practices **3. Construct viable arguments and critique the reasoning of others.**	**Unit 4: SCATTER PLOTS & TREND LINES** **(2 weeks)** Analyze functions using different representations. Summarize, represent, and interpret data on a single count or measurement variable. Summarize, represent, and interpret data on two categorical and quantitative variables. Interpret linear models.	**Concepts** Outlier Scatter plot Trend line Line of best fit Correlation Correlation coefficient Causation Interpolation	

4. Model with mathematics. 5. Use appropriate tools strategically.	**Essential Questions** How do we make predictions and informed decisions based on current numerical information? What are the advantages and disadvantages of analyzing data by hand versus by using technology? What is the potential impact of making a decision from data that contains one or more outliers?	Extrapolation Piecewise linear function **Skills** Fit (trend line to scatter plot) Use technology to find the line of best fit & correlation coefficient) Interpret (correlation) Predict (using interpolation, extrapolation) Identify (outliers) Evaluate (piecewise function) **Text Chapters 3.5, 4.7-4.8**	
S.ID.6 NQ.1	1. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related. Interpret a trend lines.	3.5 Exploration 3.5 technology Lab Guided practice 3.5 Data Analysis Activity p. 205	3.5 Lesson Quiz CAPT Formative Assessment: Linear Functions **Interventions:** Holt Ch. 3 Interactive Tutorial
A.CED.2 F.LE.2 A.CED.3 F.IF.7 F.BF.1	2. Fit a function to the data; use functions fitted to data to solve problems in the context of the data.	Text p. 284 4.7 Data Analysis Activity	4.7 Data Analysis Activity **Intervention:** Alternate assessment
S.ID.6 S.ID.6B S.ID.7 S.ID.8 S.ID.9	3. Find the line of best fit from given data. Compute (using technology) and interpret the correlation coefficient of a linear fit. Distinguish between correlation and causation.	Text p. 288 4.8 exploration Guided practice **Holt Chapter 4 Project**	Ch. 4 Performance Assessment Reflection Questions **Intervention:** Chapter 4.8: Extra Practice Application extra practice

- **January**

	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them. 5. Use appropriate tools strategically.**	*Unit 5: SYSTEMS OF LINEAR EQUATIONS* ==(3 weeks)== Create equations that describe numbers or relationships. Solve systems of equations. Represent and solve equations and inequalities graphically. **Essential Questions** What does the number of solutions (none, one or infinite) of a system of linear equations represent? What are the advantages and disadvantages of solving a system of linear equations or inequalities graphically versus algebraically?	**Concepts** Systems of linear equations or inequalities Solution to a system of linear equations or inequalities Graphing method Substitution method Elimination method Addition property of equality Multiplication property of equality Transitive property of equality **Skills** Solve (systems using graphs) Solve (systems using algebraic methods) Model (with systems of linear equations& inequalities) Interpret (solution of systems of linear equations & inequalities) **Text Chapter 5**	Pre-chapter 5 assessment Reading and writing math p. 327 Are you ready p. 325 **Intervention: Are you ready interventions in Teacher's Ed. p. 325**
A.REI.6 A.REI.11 A.CED.2 A.CED.3	1. Identify solutions of systems of two linear equations. Solve a system of two linear equations by graphing.	Guided Practice Multi-step test prep p. 332 Holt Ch. 5 Performance assessment	5.1 Lesson quiz **Intervention:** Holt interactivity Holt lesson videos
A.REI.6	**2.** Solve a system of equations using the	5.2 Exploration	5.2 Lesson quiz

A.CED.3	Substitution Method.	Guided Practice	
			Intervention: Success for every learner 5.2 Holt video Khan academy
A.REI.5 A.REI.6 A.CED.3	3. Solve a system of equations using the Elimination Method.	Exploration Guided Practice	5.3 Lesson quiz **Intervention:** Success for every learner 5.3 Holt video Khan academy
A.REI.6 A.CED.2 A.CED.3	4. Choose the best method for solving a system of equations.	Create a graphic organizer of solution methods p. 346	Alternate assessment activity in TE p. 349 CAPT Formative Assessment: Systems of Equations **Intervention:** Alternate assessment activity Teacher's Ed. p. 349
A.REI.6 A.CED.2 A.CED.3	5. Solve and classify special systems.	Guided Practice Alternative assessment Teacher's Ed. p. 357	5.4 Lesson quiz Ready to go on p. 359 **Intervention:** Reading strategies Ready to go on interventions in TE p. 359
A.REI.12 A.CED.3	Graph and solve linear inequalities.	5.5 Exploration Guided practice **Chapter review pp. 376-379** **Real-world connections pp. 386-387**	5.5 Lesson quiz Reading Strategies **Unit 5 Reflection questions** **CHAPTER 5 TEST** **Intervention:** Extra Practice
End of quarter 2			**MIDTERM EXAM**

Algebra I 12 Grades 9-12   Revised June 2012

Page 27

- **February/March**

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them. 4. Model with mathematics. 6. Attend to precision. 8. Look for and express regularity in repeated reasoning.**	**Unit 6 : PATTERNS & EXPONENTIAL FUNCTIONS (5 weeks)** Understand the concept of a function and use function notation. Build a function that models a relationship between two quantities. Extend the properties of exponents to rational exponents. Interpret the structure of expressions. Write expressions in equivalent forms to solve problems. Analyze functions using different representations. Build a function that models a relationship between two quantities. Construct and compare linear and exponential models and solve problems. Interpret expressions for functions in terms of the situation they model. **Essential Questions** What is a sequence? How can patterns be represented? What are the advantages and disadvantages of a recursive rule compared to an explicit rule? What characterizes exponential growth and decay? What are real world models of exponential	**Concepts** Recursive rule Explicit rule Arithmetic sequence Geometric sequence Exponential Function Exponential Growth Exponential Decay Growth Factor Half life Compound Interest Asymptote Laws of Exponents **Skills** Find (specific term) Write (recursive rule) Write (explicit rule) Draw (next in sequence) Predict (nth term) **Text Chapters 3.6, 6.1-6.2, 9.1-9.5**	

	growth and decay? What are the limitations of exponential growth models? How can one differentiate an exponential model from a linear model given a real world data set?		
F.IF.3 F.BF.2 F.LE.2	1. Recognize, extend and apply arithmetic sequences.	Pre-unit introduction Focus on problem-solving TE p. CC61 Section 3.6 exploration Guided practice Multi-step test prep p. 210 Problem-solving practice	3.6 Ready to go on **Intervention:** Interventions in TE Reading strategies 3.6 Holt lesson videos
F.IF.3 F.BF.2 F.LE.2	2. Recognize, extend and apply geometric sequences.	9.1 exploration Guided practice Multi-step test prep p. 622 Problem-solving practice	9.1 Ready to go on p. 633 **CAPT FA: Patterns & sequences** **Intervention:** interventions in TE p. 633 Reading strategies 9.1 Holt lesson videos
	CH 6 and 9 Pre-chapter assessment	**CH 6 and 9 Pre-chapter assessment** Selected problems **Reading & writing math p. 391**	Are you ready p. 389 #1-17, Are your ready p. 615 # 1-25 **Intervention:** Are you ready interventions in TE p. 389, TE p. 615
N.RN.1	3. Evaluate and simplify expressions containing zero and negative exponents.	6.1 exploration Guided practice	6.1 lesson quiz **Intervention:** Holt lesson videos
N.RN.1	4. Evaluate and simplify expressions containing rational exponents.	Guided practice Multi-step test prep p. 402 Ch. 6 Performance assessment	6.2 lesson quiz Multi-step test prep p. 404

			Intervention: Holt interactivity Khan academy Chapter 6.1-6.2 Extra Practice
FIF.7e F.LE.1 F.IF.4 F.IF.8 A.REI.10	5. Evaluate and identify exponential functions. Graph an exponential function by creating a table of values	9.2 exploration Guided practice Multi-step test prep p. 629 Connected Math:" Cooling off coffee"	9.2 lesson quiz 9.2 Ready to go on p. 633 **Intervention:** Reteach Holt lesson videos 9.2 Ready to Go On Interventions in TE p. 633
F.LE.2	6. Solve problems involving exponential growth and decay.	9.3 exploration 9.3 Algebra Lab p. 634 Connected Math: "Studying snake & lizard populations, medicine, cooling water"	9.3 lesson quiz Multi-step test prep p. 641 Alternative assessment TE p. 642 **Intervention:** Reading Strategies 9.3 Holt lesson videos Holt interactivity
F.IF.3 F.BF.2 F.LE.2	7. Identify and extend patterns using recursion.	Guided practice pp. 644-647	Lesson quiz **Intervention:** Reteach
F.LE.1 F.LEE.2 A.CED.2 F.IF.4 F.IF.7 F.BF.1	8. Compare and contrast linear, quadratic and exponential functions graphically.	Guided practice Multi-step test prep p. 654	9.4 lesson quiz **CAPT F.A.: Exponential Functions** **Intervention:** Reading strategies Holt lesson videos
F.IF.6 F.IF.9 F.LE.3	9. Compare linear and nonlinear rates of change and functions. Estimate and compare rates of change.	9.4 extension activities 9.5 exploration guided practice **Chapter 6.1/6.2 review pp. 442-443** **Chapter 9 review pp. 670-673**	9.5 lesson quiz Ready to go on quiz p. 669 Multi-step test prep p. 668

		Chapter 9 project	**Intervention:** Reteach Holt lesson videos Ready to go on interventions TE p. 669 **Reflection Questions** **Chapter 9 test** **Intervention:** Chapter 9 Extra Practice Application extra practice
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.** **2. Reason abstractly and quantitatively.**	**Unit 7: POLYNOMIALS & FACTORING** **(5 weeks)** Use properties of rational and irrational numbers. Perform arithmetic operations on polynomials. Interpret functions that arise in applications in terms of the context. Analyze functions using different representations. **Essential Questions** How can an understanding of polynomials help in understanding quadratic functions and equations?	**Concepts** Monomial Binomial Trinomial Polynomial Factored form Greatest Common Factor Perfect square trinomial Difference of two squares **Skills** Solve (problems arising from quadratic models) Expand (product of two binomials) Factor (quadratic trinomial) Factor(special products) Factor(polynomial) **Text Chapters 6.3-6.6, 7.1-7.6**	
A.SSE.1a	1. Write and evaluate polynomials.	Reading & writing math p. 391 Guided practice	CH 6 Pre-chapter assessment Selected problems Are you ready p. 389 #18-32

			Intervention: Are you ready interventions in TE p. 389 6.3 lesson quiz
A.APR.1	2. Add and subtract polynomials.	Guided practice	6.4 lesson quiz
	3 A. Multiply monomials.	Guided practice	Lesson quiz Intervention: Are you ready skills 7&8
A.APR.1	3 B. Multiply polynomials. Solve polynomial problems.	Guided practice Multi-step test prep p. 428, 439, 440	6.5/6.6 Lesson quiz Ready to go on quiz p. 441 Polynomials quiz Intervention: Holt interactivity Ready to go on interventions TE p. 441
A.APR.1 N.RN.3	4. Identify sets and the operation under which they are closed.	Extension activities p. 431-432	Student-generated summary Intervention: reteach
	CH 7 Pre-chapter assessment	**Reading & writing math p. 455**	**Are your ready p. 453 # 1-21** **Are you ready interventions TE p. 453**
A.SSE.2	5. Find the GCF of monomials. Factor polynomials via the greatest common factor.	Guided practice 7.2 exploration Multi-step test prep p. 468	7.1/7.2 lesson quiz Intervention: 7.1/7.2 reading strategies Reteach Holt lesson videos Khan academy
A.SSE.2	6. Factor quadratic trinomials where a = 1.	7.3 exploration Guided practice	7.3 lesson quiz Ready to go on quiz p. 489 #1-26

Algebra I 12 Grades 9-12   Revised June 2012

Page 32

		Multi-test prep p. 477 Multi-test prep p. 485 7.4 Technology Lab p. 487 Multi-test prep p. 488	**Intervention:** 7.3 reading strategies Holt interactivity Ready to go on interventions TE p. 489 Khan academy
A.SSE.2	7. Factor special products. Choose an appropriate method for factoring.	7.5 exploration Guided practice Multi-test prep p. 495 Reaching all learners activity TE p. 499 **Chapter 6.3/6.6 review pp. 443-445** **Chapter 7 review pp. 507-509** **Test tackler p. 512-513** **Chapter 6/7 Project (Activity 2 for each)**	7.5 lesson quiz Ready to go on quiz p. 505 Multi-step test prep p. 504 **Intervention:** 7.5 Reading strategies Holt interactivity Ready to go on interventions TE p. 505 Khan academy **Reflection Questions, Unit test** **Intervention:** Chapter 6.3-6.6/Ch. 7 Extra Practice
	End of Quarter 3		

- **April/May**

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices	**Unit 8 : QUADRATIC FUNCTIONS & EQUATIONS (6 weeks)** Use properties of rational and irrational	**Concepts** Quadratic Function Quadratic Equation	

	numbers. Write expressions in equivalent forms to solve problems. Solve equations and inequalities in one variable. Interpret functions that arise in applications in terms of the context. Analyze functions using different representations. **Essential Questions** What features distinguish the graph of a quadratic function from other graphs? How can an understanding of polynomials help in understanding quadratic functions and equations? What are the advantages and disadvantages of different forms of the quadratic function and different methods for solving quadratic equations?	Quadratic Formula Parabola Factored form Vertex form Standard form Square Root Property Zero Product Property Completing the Square Vertex Line of Symmetry First and Second Differences **Skills** Graph (quadratic functions) Find (line of symmetry, vertex) Solve (quadratic equation) Model (with quadratic functions) Solve (problems arising from quadratic models) Expand (product of two binomials) Factor (quadratic trinomial) Use (quadratic formula) **Text Chapter 8**	
1. Make sense of problems and persevere in solving them. **2. Reason abstractly and quantitatively.**			
F.IF.7 A.REI.10	1. Identify quadratic functions, including whether they have a maximum or minimum. Graph quadratic functions from a table of values and find the domain and range of the function.	8.1 exploration Reaching all learners TE p. 523 Guided practice Multi-step test prep p. 528	8.1 lesson quiz **Intervention:** 8.1 reading strategies Holt lesson videos Success for every learner
F.IF.7	2. Find the zero's, axis of symmetry and vertex	8.2 Algebra Lab p. 530	8.2 lesson quiz

F.IF.8 F.IF.4	of a parabola.	Guided practice Multi-step test prep p. 537	**Intervention:** 8.2 Reteach Holt lesson videos Success for every learner
F.IF.7 F.IF.4 F.IF.8	3. Graph a quadratic function given in standard form. Interpret and solve a quadratic function in context.	8.3 exploration Reaching all learners activity TE p. 539 Multi-step test prep p. 542	8.3 lesson quiz **Intervention:** 8.3 Reteach Holt lesson videos Success for every learner
F.BF.3 F.IF.7 F.IF.5	4. Graph and transform quadratic functions.	8.4 exploration Guided practice 8.4 Technology Lab p. 544 Multi-step test prep p. 550	8.4 lesson quiz Ready to go on quiz p. 553 Multi-step test prep p. 552 **Intervention:** Holt interactivity Ready to go on interventions in TE p. 553
A.REI.11 A.REI.4 F.IF.7 F.IF.4	5. Solve quadratic equations by graphing.	8.5 exploration Guided practice 8.5 Technology Lab p. 560-561 Multi-step test prep p. 558	8.5 lesson quiz **Intervention:** 8.5 Reteach Holt lesson videos Success for every learner
A.REI.4b A.SSE.3	6. Solve quadratic equations by factoring.	8.6 exploration Guided practice Multi-step test prep p. 566	8.6 lesson quiz **Intervention:** 8.6 Reading Strategies Holt lesson videos Success for every learner
A.REI.4b A.CED.3 A.CED.1 F.BF.1	7. Solve quadratic equations by using square roots.	Are you ready skill 6: Squares & square roots 8.7 exploration Guided practice	8.7 lesson quiz **Intervention:** 8.7 Reading Strategies Holt lesson videos

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
		Multi-step test prep p. 572	Success for every learner
A.REI.4a A.CED.1	8. Solve quadratic equations by completing the square.	8.8 exploration Guided practice Multi-step test prep p. 580	8.8 lesson quiz **Intervention:** 8.8 Reading Strategies Holt lesson videos Success for every learner
A.REI.4b	9. Solve quadratic equations by using the quadratic formula. Use the discriminant to find the number of solutions of a quadratic equation.	8.9 Reading strategies Think & discuss p. 587 Multi-step test prep p. 580 8.8 exploration **Chapter 8.1-8.9 review pp. 604-607** **Test tackler p. 512-513** **Chapter 8 Performance assessment**	8.9 lesson quiz Ready to go on quiz p. 599 Multi-step test prep p. 598 **Intervention:** Holt lesson videos Ready to go on intervention in TE p. 599 Holt interactivity **Reflection Questions** **Unit 8 test** **Intervention:** Chapter 8.1-8.9 Extra Practice

- **May/June**

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices	**Unit 9 : DATA ANALYSIS <mark>(4 weeks)</mark>** **Essential Questions**	**Concepts** Measures of central tendency (mean, median, mode)	

3. Construct viable arguments and critique the reasoning of others. 4. Model with mathematics. 5. Use appropriate tools strategically.	How do we make predictions and informed decisions based on current numerical information? What are the advantages and disadvantages of analyzing data by hand versus by using technology?	Measures of spread (range, interquartile range, standard deviation) Histogram Box plot **Skills** *Calculate (mean, median, mode, interquartile range)* Use technology to find standard deviation, Interpret (correlation) Predict (using interpolation, extrapolation) **Text Chapter 10.1-10.4**	
	CH 10 Pre-chapter assessment	**Reading and writing math p. 683**	**Are you ready p. 681 Intervention Are you ready interventions TE p. 681**
S.ID.1	1A. Organize data using tables and graphs. Choose or create an appropriate data display.	10.1 exploration Reaching all learners activity TE p. 687 Guided practice Problem-solving practice Multi-step test prep p. 693	10.1 lesson quiz
S.ID.1	1B. Interpret and create bar and circle graphs. Choose the appropriate data display.	Connecting Algebra to Data Analysis pp. 684-685 Guided practice	Close/Assess, TE p. 685 **Intervention:** Reteach
S.ID.1	2. Create stem-and-leaf plots. Create frequency tables and histograms.	10.2 exploration Think and discuss p. 697 Guided practice Problem-solving practice Multi-step test prep p. 700	10.2 lesson quiz **Intervention:** 10.2 reading strategies
S.ID.2	3. Describe the central tendency of a data set. Create and interpret box-and-whisker plots.	10.3 exploration Guided practice	10.3 lesson quiz **CAPT F.A.: Statistics**

Algebra I 12 Grades 9-12   Revised June 2012

	Use technology to create data graphs.	Problem-solving practice Multi-step test prep p. 708 10.3 Technology Lab pp. 714-715	**Intervention:** 10.3 reteach 10.3 reading strategies
S.ID.3	4. Create a dot plot. Use a dot plot to describe the shape of a data distribution.	10.3 Extension, pp. 710-713 Guided practice	Teacher-generated quiz **Intervention:** Reteach teacher generated
S.ID.6	5. Recognize misleading graphs and statistics.	10.4 exploration Guided practice Multi-step test prep p. 719 **Chapter 10.1-10.4 review pp. 752-754** **Chapter 10 Project, Activity 1**	Alternative Assessment TE p. 721 Multi-step test prep p. 724 Ready to go on quiz p. 525 **Intervention:** 10.4 reteach 10.4 reading strategies Holt interactivity Ready to go on interventions TE p. 525 **Reflection Questions** **Chapter 10 Project, Activity 1** **Intervention:** Chapter 10.1-10.4 Extra Practice
End of quarter 4			**FINAL EXAM**

IV. Learning Activities   -- What instructional activities will help students grasp the concepts and instructional outcomes expected in each unit?

> Sample signature activities used by the team and indicated within the pacing guide are enclosed with this document.
> Others are on Ms. dos Santos' Moodle site accessible by any of the teachers teaching Algebra I and administration.

V. Assessments --How will students' understanding of the concepts and skills taught in this course be assessed in each unit?

Sample signature activities used by the team and indicated within the pacing guide are enclosed with this document. Others are on Ms. dos Santos' Moodle site accessible by any of the teachers teaching Algebra I and administration.

VI. **Resources**

Common Core State Standards and Common Core Mathematical Practices Standards
Holt Algebra I Common Core Edition ©2012 text and supplementary materials, ©2012 supplementary materials
"Green Globs" computer program
CAPT released items
Connecticut Curriculum Design Unit Planning Organizer Algebra I (draft 2012)

Bethel Public Schools
Algebra 1 13
9-12 Level 3

I. <u>**Alignment to District Power Standards, CSDE Standards , Grade Level Expectations, and Common Core State Standards**</u>

   a. **District Power Standards**

   b. **Connecticut Curriculum Design Unit Planning Organizer Algebra I (draft 2012)**

Unit 1: Patterns

Understand the concept of a function and use function notation

Build a function that models a relationship between two quantities

Mathematical Practices Emphasized in this unit:

4. Model with mathematics

8. Look for and express regularity in repeated reasoning.

Priority and Supporting **CCSS**

F-IF 3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the
integers…

F-BF 1. Write a function that describes a relationship between two quantities.

a. Determine an explicit expression, a recursive process, or steps for calculation from a context.

**F-BF 2. Write arithmetic and geometric sequences…recursively and [arithmetic sequences] with an explicit
formula, use them to model situations, and translate between the two forms.**

Essential Questions: What is a sequence? How can patterns be represented? What are the advantages and disadvantages of a
recursive rule compared to an explicit rule?

Unit 2: Linear Equations and Inequalities

Reason quantitatively and use units to solve problems.

Interpret the structure of expressions

Create equations that describe numbers or relationships

Understand solving equations as a process of reasoning and explain the reasoning

Solve equations and inequalities in one variable

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

6. Attend to precision.

7. Look for and make use of structure

Priority and Supporting **CCSS**

N-Q 1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.

N-Q 2. Define appropriate quantities for the purpose of descriptive modeling.

N-Q 3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

A-SSE 1. Interpret expressions that represent a quantity in terms of its context.

a. Interpret parts of an expression, such as terms, factors, and coefficients.

b. Interpret complicated expressions by viewing one or more of their parts as a single entity...

A-CED 1.(part) Create equations and inequalities in one variable and use them to solve problems.

Include equations arising from linear ... functions

A-CED 4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations. *For example, rearrange Ohm's law V = IR to highlight resistance R.*

A-REI 1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.

A-REI 3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.

Essential Questions: What is an equation? What does equality mean? What is an inequality? How can we use linear equations

and linear inequalities to solve real world problems? What is a solution set for a linear equation or linear inequality? How can models and technology aid in the solving of linear equations and linear inequalities?

Unit 3: Functions

Create equations that describe numbers or relationships
Represent and solve equations and inequalities graphically
Understand the concept of a function and use function notation
Interpret functions that arise in applications in terms of the context
Analyze functions using different representations

Mathematical Practices Emphasized in this unit:

4. Model with mathematics.

5. Use appropriate tools strategically

Priority and Supporting **CCSS**

A-CED 2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales

A-REI 10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line).

F-IF 1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.

F-IF 2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.

F-IF 4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative....*

F-IF 5.   Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes. *For example, if the function h(n) gives the number of person-hours it takes to assemble n engines in a factory, then the positive integers would be an appropriate domain for the function.**

F-IF 7b.   Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.

F-IF 9.   Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

Essential Questions: What is a function? What are the different ways that functions may be represented? How can functions be used to model real world situations, make predictions, and solve problems?

Unit 4: Linear Functions

Interpret functions that arise in applications in terms of the context
Analyze functions using different representations
Construct and compare linear and exponential models and solve problems
Interpret expressions for functions in terms of the situation they model

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.

Priority and Supporting CCSS

F-IF 6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

F-IF 7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
   a.   Graph linear ...functions and show intercepts..

F-IF 8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.

F-LE 1. Distinguish between situations that can be modeled with linear functions [and with exponential functions].

      a. Prove that linear functions grow by equal differences over equal intervals... over equal intervals.

      b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another....

F-LE 2. Construct linear ... functions, including arithmetic ... sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

F-LE 5. Interpret the parameters in a linear ... function in terms of a context.

Essential Questions: What is a linear function? What are the different ways that linear functions may be represented? What is the significance of a linear function's slope and y-intercept? How may linear functions model real world situations? How may linear functions help us analyze real world situations and solve practical problems?

Unit 5: Scatter Plots and Trend Lines

      Analyze functions using different representations

      Summarize, represent, and interpret data on a single count or measurement variable

      Summarize, represent, and interpret data on two categorical and quantitative variables

      Interpret linear models

Mathematical Practices Emphasized in this unit:

      3. Construct viable arguments and critique the reasoning of others.

      4. Model with mathematics.

      5. Use appropriate tools strategically.

Priority and Supporting **CCSS**

      F-IF 7b. Graph ... piecewise-defined functions, including step functions and absolute value functions.

      S-ID 1.   Represent data with plots on the real number line (dot plots, histograms, and box plots).

      S-ID 2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.

      S-ID 3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

S-ID 6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.

a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data...

c. Fit a linear function for a scatter plot that suggests a linear association

S-ID 7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

S-ID 8. Compute (using technology) and interpret the correlation coefficient of a linear fit.

S-ID 9. Distinguish between correlation and causation.

Essential Questions: How do we make predictions and informed decisions based on current numerical information? What are the advantages and disadvantages of analyzing data by hand versus by using technology? What is the potential impact of making a decision from data that contains one or more outliers?

Unit 6: Systems of Linear Equations

Create equations that describe numbers or relationships

Solve systems of equations

Represent and solve equations and inequalities graphically

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

5. Use appropriate tools strategically.

Priority and Supporting **CCSS**

A-CED 3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context...

A-REI 5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.

A-REI 6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

A-REI 11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$

intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear ...functions.

Essential Questions: What does the number of solutions (none, one or infinite) of a system of linear equations represent? What are the advantages and disadvantages of solving a system of linear equations graphically versus algebraically?

Unit 7: An Introduction to Exponential Functions

Extend the properties of exponents to rational exponents.
Interpret the structure of expressions
Write expressions in equivalent forms to solve problems
Analyze functions using different representations
Build a function that models a relationship between two quantities
Construct and compare linear and exponential models and solve problems
Interpret expressions for functions in terms of the situation they model

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

4. Model with mathematics.

6. Attend to precision.

Priority and Supporting **CCSS**

N-RN 1.   Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define $5^{1/3}$ to be the cube root of 5 because we want $(5^{1/3})^3 = 5^{(1/3)3}$ to hold, so $(5^{1/3})^3$ must equal 5.*

N-RN 2.   Rewrite expressions involving radicals and rational exponents using the properties of exponents.

A-SSE 1b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)^n$ as the product of P and a factor not depending on P.*

A-SSE 3c. Use the properties of exponents to transform expressions for exponential functions. For example the expression 1.15^t can be rewritten as $[1.15^{(1/12)}]^{(12t)} \approx 1.012^{(12t)}$ to reveal the approximate equivalent monthly interest rate if the annual rate is 15%.

F-IF 7.   Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
e. Graph exponential ... functions, showing intercepts and end behavior...

F-IF 8b.   Use the properties of exponents to interpret expressions for exponential functions. For example, identify percent rate of change in functions such as $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{(t/10)}$, and classify them as representing exponential functions.

F-BF 2. Write ... geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.

F-LE 1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
a. Prove ... that exponential functions grow by equal factors over equal intervals....
c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.

F-LE 2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).

F-LE 3.   Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly ...

F-LE 5. Interpret the parameters in a ... exponential function in terms of a context.

Essential Questions: What characterizes exponential growth and decay? What are real world models of exponential growth and decay? What are the limitations of exponential growth models? How can one differentiate an exponential model from a linear model given a real world data set?

Unit 8: Quadratic Functions and Equations

Use properties of rational and irrational numbers.
Write expressions in equivalent forms to solve problems
Perform arithmetic operations on polynomials
Solve equations and inequalities in one variable
Interpret functions that arise in applications in terms of the context
Analyze functions using different representations

Mathematical Practices Emphasized in this unit:

1. Make sense of problems and persevere in solving them.

2. Reason abstractly and quantitatively.

Priority and Supporting **CCSS**

N-RN 3.   Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

A-SSE 3   a. Factor a quadratic expression to reveal the zeros of the function it defines.

b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.

A-APR 1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

A-CED 1.   Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from ...quadratic functions ...*

A-CED 2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.

A-REI 4.   a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x - p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.

b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation.

F-IF 4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; relative maximums and minimums; symmetries...

F-IF 7 a. Graph ... quadratic functions and show intercepts, maxima, and minima.

F-IF 8 a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context.

F-BF 3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $kf(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology...

Essential Questions: What features distinguish the graph of a quadratic function from other graphs? How can an understanding of polynomials help in understanding quadratic functions and equations? What are advantages and disadvantages of different forms of the quadratic function and different methods for solving quadratic equations?

c. Grade Level Expectations

N/A

d. Common Core State Standards for Algebra I

A-SSE Seeing Structure in Expressions

Interpret the structure of expressions

1. Interpret expressions that represent a quantity in terms of its context.

    a. Interpret parts of an expression, such as terms, factors, and coefficients.

    b. Interpret complicated expressions by viewing one or more of their parts as a single entity. *For example, interpret $P(1+r)$n as the product of P and a factor not depending on P.*

2. Use the structure of an expression to identify ways to rewrite it.

Write expressions in equivalent forms to solve problems

3. Choose and produce an equivalent form of an expression to reveal and explain properties of the quantity represented

By the expression.
     a. Factor a quadratic expression to reveal the zeros of the function it defines.
     b. Complete the square in a quadratic expression to reveal the maximum or minimum value of the function it defines.
     c. Use the properties of exponents to transform expressions for exponential functions.

A-APR Arithmetic with Polynomials and Rational Expressions
Perform arithmetic operations on polynomials
1. Understand that polynomials form a system analogous to the integers, namely, they are closed under the operations of addition, subtraction, and multiplication; add, subtract, and multiply polynomials.

A-CED Creating Equations
Create equations that describe numbers or relationships
1. Create equations and inequalities in one variable and use them to solve problems. *Include equations arising from linear and quadratic functions, and simple rational and exponential functions.*
2. Create equations in two or more variables to represent relationships between quantities; graph equations on coordinate axes with labels and scales.
3. Represent constraints by equations or inequalities, and by systems of equations and/or inequalities, and interpret solutions as viable or nonviable options in a modeling context.
4. Rearrange formulas to highlight a quantity of interest, using the same reasoning as in solving equations.

A-REI Reasoning with Equations and Inequalities
Understand solving equations as a process of reasoning and explain the reasoning
1. Explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method. (introduced in Algebra I and mastered in Geometry)

Solve equations and inequalities in one variable
3. Solve linear equations and inequalities in one variable, including equations with coefficients represented by letters.
4. Solve quadratic equations in one variable.

a. Use the method of completing the square to transform any quadratic equation in x into an equation of the form $(x – p)^2 = q$ that has the same solutions. Derive the quadratic formula from this form.

b. Solve quadratic equations by inspection (e.g., for $x^2 = 49$), taking square roots, completing the square, the quadratic formula and factoring, as appropriate to the initial form of the equation. Recognize when the quadratic formula gives complex solutions and write them as $a ± bi$ for real numbers a and b. (begun in Algebra I, completed in Algebra II)

Solve systems of equations
5. Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions.
6. Solve systems of linear equations exactly and approximately (e.g., with graphs), focusing on pairs of linear equations in two variables.

Represent and solve equations and inequalities graphically
10. Understand that the graph of an equation in two variables is the set of all its solutions plotted in the coordinate plane, often forming a curve (which could be a line). (Only systems of linear equations are dealt with in Algebra I)
11. Explain why the x-coordinates of the points where the graphs of the equations $y = f(x)$ and $y = g(x)$ intersect are the solutions of the equation $f(x) = g(x)$; find the solutions approximately, e.g., using technology to graph the functions, make tables of values, or find successive approximations. Include cases where $f(x)$ and/or $g(x)$ are linear, polynomial, rational, absolute value, exponential, and logarithmic functions. (Only systems of linear equations are dealt with in Algebra I)
12. Graph the solutions to a linear inequality in two variables as a half plane (excluding the boundary in the case of a strict inequality), and graph the solution set to a system of linear inequalities in two variables as the intersection of the corresponding half-planes.

F-IF Interpreting Functions
Understand the concept of a function and use function notation
1. Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If f is a function and x is an element of its domain, then $f(x)$ denotes the output of f corresponding to the input x. The graph of f is the graph of the equation $y = f(x)$.

2. Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
3. Recognize that sequences are functions, sometimes defined recursively, whose domain is a subset of the integers.

Interpret functions that arise in applications in terms of the context
4. For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship. *Key features include: intercepts; intervals where the function is increasing, decreasing, positive, or negative; …*
   (Linear, Exponential and Absolute Value functions are addressed in Algebra I)
5. Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
6. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. Estimate the rate of change from a graph.

Analyze functions using different representations
7. Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.
   a. Graph linear and quadratic functions and show intercepts, maxima, and minima.
   b. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.
   (c and d in Algebra II and Precalculus)
   e. Graph exponential … functions, showing intercepts and end behavior, …
8. Write a function defined by an expression in different but equivalent forms to reveal and explain different properties of the function.
   a. Use the process of factoring and completing the square in a quadratic function to show zeros, extreme values, and symmetry of the graph, and interpret these in terms of a context. (begun in Algebra I, completed in Algebra II)
   b. Use the properties of exponents to interpret expressions for exponential functions. *For example, identify*
   $\left(5^{\frac{1}{3}}\right)^3 = 5^{\left(\frac{1}{3}\right)3}$ *percent rate of change in functions such as* $y = (1.02)^t$, $y = (0.97)^t$, $y = (1.01)^{12t}$, $y = (1.2)^{\frac{t}{10}}$, *and classify them as representing exponential growth or decay.*

9. Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

F-BF Building Functions
Build a function that models a relationship between two quantities
1. Write a function that describes a relationship between two quantities.
 a. Determine an explicit expression, a recursive process, or steps for calculation from a context.
 b. Combine standard function types using arithmetic operations.
2. Write arithmetic and geometric sequences both recursively and with an explicit formula, use them to model situations, and translate between the two forms.
Build new functions from existing functions
3. Identify the effect on the graph of replacing $f(x)$ by $f(x) + k$, $k\,f(x)$, $f(kx)$, and $f(x + k)$ for specific values of k (both positive and negative); find the value of k given the graphs. Experiment with cases and illustrate an explanation of the effects on the graph using technology. (Linear, exponential, quadratic, and absolute value equations in Algebra I)

F-LE Linear and Exponential Models
Construct and compare linear and exponential models and solve problems
1. Distinguish between situations that can be modeled with linear functions and with exponential functions.
 a. Prove that linear functions grow by equal differences over equal intervals, and that exponential functions grow by equal factors over equal intervals.
 b. Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.
 c. Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.
2. Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs (include reading these from a table).
3. Observe using graphs and tables that a quantity increasing exponentially eventually exceeds a quantity increasing linearly, quadratically, or (more generally) as a polynomial function. (Linear in algebra I)
Interpret expressions for functions in terms of the situation they model
5. Interpret the parameters in a linear or exponential function in terms of a context.

N-RN The Real Number System
Extend the properties of exponents to rational exponents.
1. Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents to those values, allowing for a notation for radicals in terms of rational exponents. *For example, we define*

$5^{\frac{1}{3}}$ *to be the cube root of* 5 *because we want* $\left(5^{\frac{1}{3}}\right)^3 = 5^{\left(\frac{1}{3}\right)3}$ *to hold, so* $\left(5^{\frac{1}{3}}\right)^3$ *must equal* 5.

2. Rewrite expressions involving radicals and rational exponents using the properties of exponents.
Use properties of rational and irrational numbers.
4. Explain why the sum or product of two rational numbers is rational; that the sum of a rational number and an irrational number is irrational; and that the product of a nonzero rational number and an irrational number is irrational.

N-Q Quantities
Reason quantitatively and use units to solve problems.
1. Use units as a way to understand problems and to guide the solution of multi-step problems; choose and interpret units consistently in formulas; choose and interpret the scale and the origin in graphs and data displays.
2. Define appropriate quantities for the purpose of descriptive modeling.
3. Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

S-ID Interpreting Categorical and Quantitative Data
Summarize, represent, and interpret data on a single count or measurement variable
1. Represent data with plots on the real number line (dot plots, histograms, and box plots).
2. Use statistics appropriate to the shape of the data distribution to compare center (median, mean) and spread (interquartile range, standard deviation) of two or more different data sets.
3. Interpret differences in shape, center, and spread in the context of the data sets, accounting for possible effects of extreme data points (outliers).

Summarize, represent, and interpret data on two categorical and quantitative variables

---

6. Represent data on two quantitative variables on a scatter plot, and describe how the variables are related.
   a. Fit a function to the data; use functions fitted to data to solve problems in the context of the data. *Use given functions or choose a function suggested by the context. Emphasize linear, quadratic, and exponential models.*
   b. Informally assess the fit of a function by plotting and analyzing residuals.
   c. Fit a linear function for a scatter plot that suggests a linear association.

Interpret linear models
7. Interpret the slope (rate of change) and the intercept (constant term) of a linear model in the context of the data.

8. Compute (using technology) and interpret the correlation coefficient of a linear fit.

9. Distinguish between correlation and causation.

II. What are the most important things students will learn this year?

1. Algebra is a systematic method for identifying, describing, extending, analyzing and generalizing patterns.

2. Numbers, symbolic notation and arithmetic operations are used to model, transform, simplify and solve problems efficiently.

3. Information may be represented by physical models, diagrams, data tables, graphs and symbolic expressions. Algebra facilitates correlation among the different representations, which may give different insights into the solution of a problem.

4. Relationships and functions can be described and classified. The classifications can be used to derive models that have practical real-world applications.

5. Algebra provides a way to explore and understand the effects of parameter changes on any function and its various representations.

6. Algebra is a process of conjecturing about the relationships among quantities and measures. It provides a way to describe correlations, summarize data sets, estimate and make predictions, including extrapolation and interpolation of data.

7. Algebra provides the underlying structure to make connections among all branches of mathematics, including measurement, geometry, calculus and statistics.

8. Innovations in technology allow users to explore and deepen their understanding of new and long-standing mathematical concepts and applications of algebra.

Taken from proposed Algebra I Curriculum
Connecticut State Department of Education

III. Pacing Guide: **In what order will the concepts and skills be sequenced over the course of the school year?**

- ## September/October

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.** **6. Attend to precision.** **7. Look for and make use of structure.**	**Unit 1: LINEAR EQUATIONS** (6 weeks) Reason quantitatively and use units to solve problems. Interpret the structure of expressions. Create equations that describe numbers or relationships. Understand solving equations as a process of reasoning and explain the reasoning. Solve equations in one variable. **Essential Questions** What is an equation? What does equality mean? How can we use linear equations to solve real world problems? What is a solution set for a linear equation? How can models and technology aid in the solving of linear equations?	**Concepts** Order of operations Expression vs. equation Inequality Associative property Commutative property Distributive property Inverse operation **Skills** Model (with linear equations) Solve (linear equations) Simplify (expression) Use (algebraic properties) Select (appropriate units, degree of precision) **Text Chapter 1**	**Pre-course test** **Intervention Prescribed by Holt**
A.SSE.1	1. Translate between words and algebra; evaluate algebraic expressions.	Text section 1.1 Exploration Guided Practice Connecting Algebra to Geometry p. 14 "Prices and Inflation activity"	Holt Performance Assessment **Intervention:** Teacher's Ed. p. 3 Reading Strategies 1.1, Holt Example Videos
A.REI.1 A.REI.3	2. Write and solve problems with one-step equations.	Section 1.2 Exploration Guided Practice	1.2/1.3 lesson quiz

A.CED.1		Connecting Algebra to Geometry p. 23 Section 1.3: Multi-step test prep p. 21 Multi-step test prep p. 29	**Intervention:** Interactive Tutorial Holt Example Videos Reading Strategies 1.2/1.3
A.REI.1 A.REI.3 A.CED.1	3. Write and solve problems with 2-step & multi-step equations.	1.4 Exploration 1.4 technology lab p. 31 Problem Solving practice	1.4 Lesson quiz **Intervention:** Reading Strategies 1.4 Holt Example Videos
A.REI.1 A.REI.3 A.CED.1	4. Write and solve problems with equations containing variables on both sides.	Technology Lab p. 31 Guided Practice Multi-step test prep p. 44 **Equation BINGO game**	1.5 Lesson quiz **CAPT Formative Assessment:** **Formulas & Equations** **Intervention:** Reading Strategies 1.5 Holt Example Videos Khan Academy videos
A.REI.1 A.REI.3 A.CED.1	5. Solve an equation for a variable.	Guided Practice Problem Solving practice Technology Lab p. 47-48	Ready To Go On worksheet Quiz 1 .1-1.6 p. 61 **Intervention:** Reteach "Ready To Go On" Intervention in Teacher's Ed. p. 61
A.REI.3 A.CED.1 N.Q.1	6. Solve problems via rates, ratios and proportions.	1.8 Exploration Guided Practice CAPT released items 1.9 Reading Strategies Multi-step test prep p. 73	1.7 Lesson Quiz **CAPT FA: Proportional Reasoning** **Intervention:** Holt Lesson Videos Reteach
N.Q.2 N.Q.3	7. Define and use appropriate measures of precision and accuracy.	1.8 Exploration Reading Strategies Guided Practice Problem Solving **Chapter 1 Review pp. 84-87** **Real world connections p. 94** **Holt Chapter 1 Project**	Ready To Go On worksheet Quiz sections 1.8-1.10 **Reflection Questions** **Chapter 1 TEST** **Intervention:** Ready to go on intervention in TE p.83 **Chapter 1 Extra Practice**

- ## October/November (to end of 1ˢᵗ quarter)

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **4. Model with mathematics. 5. Use appropriate tools strategically.**	**Unit 2: Functions <mark>(3 weeks)</mark>** Create equations that describe numbers or relationships. Represent and solve equations and inequalities graphically. Understand the concept of a function and use function notation. Interpret functions that arise in applications in terms of the context. Analyze functions using different representations. **Essential Questions** What is a function? What are the different ways that functions may be represented? How can functions be used to model real world situations, make predictions, and solve problems?	**Concepts** Independent variable Dependent variable Ordered pair Mapping Diagram Table Graph Equation for a function Function notation Domain Range Vertical Line test **Skills** Determine (whether or not a relation is a function) Determine (range and domain of a function) Model (a real world situation with a function) Evaluate (a function) Represent a function (with table, graph, equation, mapping diagram) **Text Chapter 3.1-3.4**	Pre-chapter assessment **Reading & writing math p. 163 Are you ready p. 161** **Are you ready interventions in TE p. 161**
F.IF.4 N.Q.2	1. Graph relationships via continuous and discrete graphs.	3.1 Exploration Guided practice Multi-step test prep p. 168	3.1 Lesson Quiz **Intervention** Reteach

F.IF.1 F.IF.5	2. Identify functions and find the domain and range. Use the vertical line test and explain why it works**.**	Section 3.2 Exploration Guided Practice Problem Solving practice Algebra Lab p. 177	Intervention: Reteach
F.IF.1 F.IF.2 F.IF.5 A.CED.3 F.BF.1 F.LE.2	3. Identify independent and dependent variables. Write an equation in function notation and evaluate a function for given input values.	Section 3.3 exploration Guided Practice Problem Solving practice Multi-step test prep p. 184	3.3 Lesson Quiz Holt Chapter 3 Performance Assessment **Intervention:** Holt Interactivity Reteach
F.IF.1 F.IF.2 F.IF.5 F.IF.7 A.REI.10	4. Graph functions given limited and unlimited domains. Understand the connections among function rules, tables and graphs.	Section 3.4 technology Lab Holt Chapter 3 Performance Task	Multistep test prep p. 194 Ready to go on quiz p. 195 **Intervention:** Success for all learners 3.4 Ready to go on interventions in Teacher's Ed p. 195
F.IF.7B	5. Graph square root, cube root, and piecewise-defined functions, including step functions and absolute value functions.	Chapter 4 Extension p. 310 Teacher generated **Chapter 3 Review p. 214-216** **Real world connections pp. 224-225** **Holt Chapter 3 Project**	Teacher-generated performance assessment **Reflection Questions** **Holt Chapter 3 Project** **Intervention:** Teacher-generated reteach Chapter 3 Extra Practice
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.**	**Unit 3A : LINEAR FUNCTIONS** (1week) Interpret functions that arise in applications in terms of the context. Analyze functions using different. representations Construct and compare linear and exponential	**Concepts** Rate of change Constant additive change Slope x-intercept y-intercept slope-intercept form	

2. Reason abstractly and quantitatively.	models and solve problems Interpret expressions for functions in terms of the situation they model **Essential Questions** What is a linear function? What are the different ways that linear functions may be represented? What is the significance of a linear function's slope and y-intercept? How may linear functions model real world situations? How may linear functions help us analyze real world situations and solve practical problems?	point-slope form standard form velocity **Skills** Interpret (slope as rate of change) Determine (whether function is linear) Find (equation of a line) Rearrange (equation of a line into a different form) Model (linear function) Graph (linear function) Find (slopes of parallel and perpendicular lines) Interpret (parameters of linear function) **Text 4.1-4.2**	
	Pre-chapter 4 assessment	Reading & writing math p. 229	Are you ready p. 237 **Intervention:** Are you ready interventions TE p. 237
A.REI.10 F.IF.5 F.IF.7 A.CED.2 F.LE.2	1. Identify Linear functions Write and use the standard form of a linear function. Graph a linear function, state the domain & range.	4.1 Exploration Guided practice Problem Solving practice	4.1 Lesson quiz **Intervention** Reading Strategies Holt Example Videos
F.IF.7 A.CED.2 A.CED.3 F.IF.2s F.IF.4 F.IF.5	2. Find and interpret x- and y-intercepts. Graph lines via the x-and y-intercept.	4.2 Exploration Guided practice Problem Solving practice	4.2 Lesson Quiz **Intervention** Holt Example Videos Success for every learner
	END OF QUARTER 1		**Cumulative test**

- ## November/December

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.** **2. Reason abstractly and quantitatively.**	**Unit 3B : LINEAR FUNCTIONS (cont.)** **(5weeks)** Interpret functions that arise in applications in terms of the context. Analyze functions using different representations. Construct and compare linear and exponential models and solve problems. Interpret expressions for functions in terms of the situation they model. **Essential Questions** What is a linear function? What are the different ways that linear functions may be represented? What is the significance of a linear function's slope and y-intercept? How may linear functions model real world situations? How may linear functions help us analyze real world situations and solve practical problems?	**Concepts** Rate of change Constant additive change Slope x-intercept y-intercept slope-intercept form point-slope form standard form velocity **Skills** Determine (whether or not a relation is a function) Determine (range and domain of a function) Model (a real world situation with a function) Evaluate (a function) Represent a function (with table, graph, equation, mapping diagram) **Text Chapter 4.1-4.6**	
F.IF.6	3. Find the rate of change and slope. Relate slope as a constant rate of change.	Guided practice Multi-step test prep p. 250 **"Bike Tour" activity** Algebra lab pp. 252-253	4.3 lesson Quiz **Intervention:** Holt Interactivity 4.3 alternate assessment in TE p. 251

F.IF.6	4. Find slope from 2 points, tables and graphs by using the slope formula.	4.4 exploration Guided practice Multi-step test prep p. 266	Ready to go on quiz 4.1-4.4 p.267 **CAPT Formative Assessment: Slope and rate of change** **Intervention:** Ready to go on interventions in Teacher's ed. p. 267 Holt Example Videos Khan Academy videos
A.CED.2 F.LE.2 A.CED.3 F.IF.6 F.IF.7 F.BF.1	5. Write and graph linear functions via the slope-intercept form.	4.6 Exploration Guided practice Multi-step test prep p. 273	4.6 lesson quiz **Intervention:** Holt Interactivity Reading Strategies 4.6 Holt lesson videos
A.CED.2 F.LE.2 A.CED.3 F.IF.7 F.BF.1	6. Write and graph linear functions via the point-slope form. Write a linear equation and find the intercepts given 2 points.	Exploration 4-7 Technology lab Guided practice Multi-step test prep p. 281	4.7 Lesson Quiz **Intervention:** Success for every learner 4.7 Alternate assessment TE p. 282
A.CED.2 F.LE.2 A.CED.3 F.IF.7 F.BF.1	7. Write a linear function in different but equivalent forms.	TEACHER GENERATED	Lesson quiz **Intervention:** Reteach Quiz re-take
F.BF.3	8. Describe how changing the slope and y-intercept affects the graph of a linear function.	Reading Strategies Guided practice Reteach 4-10 4-10 Technology Lab **Chapter 4 Review pp. 314-315** **Chapter 4 Project**	Ready to go on quiz 4.6,4.7,4.9,4.10 p. 309 **Intervention:** Holt lesson videos Success for every learner 4.10 Ready to go on interventions in Teacher's Ed. p. 309

Algebra I 13 Grades 9-12

		Reflection Questions **UNIT 4 TEST** **Performance Task** **Intervention:** Chapter 4 Extra Practice
Emphasized Mathematical Practices **3. Construct viable arguments and critique the reasoning of others.** **4. Model with mathematics.** **5. Use appropriate tools strategically.**	**Unit 4: SCATTER PLOTS & TREND LINES** <mark>**(2 weeks)**</mark> Analyze functions using different representations. Summarize, represent, and interpret data on a single count or measurement variable. Summarize, represent, and interpret data on two categorical and quantitative variables. Interpret linear models. **Essential Questions** How do we make predictions and informed decisions based on current numerical information? What are the advantages and disadvantages of analyzing data by hand versus by using technology? What is the potential impact of making a decision from data that contains one or more outliers?	**Concepts** Outlier Scatter plot Trend line Line of best fit Correlation Correlation coefficient Causation Interpolation Extrapolation Piecewise linear function **Skills** Fit (trend line to scatter plot) Use technology to find the line of best fit and correlation coefficient) Interpret (correlation) Predict (using interpolation, extrapolation) Identify (outliers) Evaluate (piecewise function) **Text Chapters 3.5, 4.7-4.8**	
S.ID.6 NQ.1	1. Represent data on two quantitative variables on a scatter plot, and describe how	3.5 Exploration 3.5 technology Lab	3.5 Lesson Quiz CAPT Formative Assessment: Linear

	the variables are related. Interpret a trend lines.	Guided practice 3.5 Data Analysis Activity p. 205	Functions **Interventions:** Holt Ch. 3 Interactive Tutorial
A.CED.2 F.LE.2 A.CED.3 F.IF.7 F.BF.1	2. Fit a function to the data; use functions fitted to data to solve problems in the context of the data.	Text p. 284 4.7 Data Analysis Activity	4.7 Data Analysis Activity **Intervention:** Alternate assessment
S.ID.6 S.ID.6B S.ID.7 S.ID.8 S.ID.9	3. Find the line of best fit from given data. Compute (using technology) and interpret the correlation coefficient of a linear fit.	Text p. 288 4.8 exploration Guided practice **Holt Chapter 4 Project**	Ch. 4 Performance Assessment Reflection Questions Performance Task **Intervention:** Chapter 4.8: Extra Practice Application extra practice

- **January**

	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.** **5. Use appropriate**	*Unit 5: SYSTEMS OF LINEAR EQUATIONS* *(3 weeks)* Create equations that describe numbers or relationships. Solve systems of equations. Represent and solve equations and inequalities graphically. **Essential Questions** What does the number of solutions (none, one	**Concepts** Systems of linear equations Solution to a system of linear equations Graphing method Substitution method Elimination method Addition property of equality Multiplication property of equality Transitive property of equality	Pre-chapter 5 assessment Reading & writing math p. 327 Are you ready p. 325 **Intervention:** Are you ready interventions in Teacher's Ed. p. 325

	or infinite) of a system of linear equations represent? What are the advantages and disadvantages of solving a system of linear equations graphically versus algebraically?	**Skills** Solve (systems using graphs) Solve (systems using algebraic methods) Model (with systems of linear equations) Interpret (solution of systems of linear equations) **Text Chapter 5**	
tools strategically.			
	Pre-chapter 5 assessment	**Reading and writing math p. 327**	**Are you ready p. 325** **Intervention** Are you ready interventions TE p. 325
A.REI.6 A.REI.11 A.CED.2 A.CED.3	1. Identify solutions of systems of two linear equations. Solve a system of two linear equations by graphing.	Guided Practice Multi-step test prep p. 332 Holt Ch. 5 Performance assessment	5.1 Lesson quiz **Intervention:** Holt interactivity Holt lesson videos
A.REI.6 A.CED.3	**2.** Solve a system of equations using the Substitution Method.	5.2 Exploration Guided Practice	5.2 Lesson quiz **Intervention:** Success for every learner 5.2 Holt video Khan academy
A.REI.5 A.REI.6 A.CED.3	3. Solve a system of equations using the Elimination Method.	Exploration Guided Practice	5.3 Lesson quiz **Intervention:** Success for every learner 5.3 Holt video Khan academy
A.REI.6 A.CED.2	4. Choose the best method for solving a system of equations.	Create a graphic organizer of solution methods p. 346	Alternate assessment activity TE p. 349

| A.CED.3 | | Chapter review pp. 376-379
Real-world connections pp. 386-387 | CAPT Formative Assessment: Systems of Equations

Intervention: Alternate assessment activity Teacher's Ed. p. 349

Unit 5 Reflection questions
CHAPTER 5 TEST
Intervention: Chapter 5:
 Extra Practice |
| **End of quarter 2** | | | **MIDTERM EXAM** |

- **February/March**

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.** **4. Model with mathematics.** **6. Attend to precision.** **8. Look for and express regularity in repeated**	**Unit 6 : PATTERNS and EXPONENTIAL FUNCTIONS** (5 weeks) Understand the concept of a function and use function notation. Build a function that models a relationship between two quantities. Extend the properties of exponents to rational exponents. Interpret the structure of expressions. Write expressions in equivalent forms to solve problems. Analyze functions using different representations. Build a function that models a relationship between two quantities.	**Concepts** Recursive rule Explicit rule Arithmetic sequence Geometric sequence Exponential Function Exponential Growth Exponential Decay Growth Factor Half life Compound Interest Asymptote Laws of Exponents **Skills** Find (specific term)	

reasoning.	Construct and compare linear and exponential models and solve problems. Interpret expressions for functions in terms of the situation they model. **Essential Questions** What is a sequence? How can patterns be represented? What are the advantages and disadvantages of a recursive rule compared to an explicit rule? What characterizes exponential growth and decay? What are real world models of exponential growth and decay? What are the limitations of exponential growth models? How can one differentiate an exponential model from a linear model given a real world data set?	Write (recursive rule) Write (explicit rule) Draw (next in sequence) Predict (nth term) **Text Chapters 3.6, 6.1-6.2, 9.1-9.5**	
	Pre-unit introduction	**Focus on problem-solving TE p. CC61**	
F.IF.3 F.BF.2 F.LE.2	1. Recognize, extend and apply arithmetic sequences.	Section 3.6 exploration Guided practice Multi-step test prep p. 210 Problem-solving practice	3.6 Ready To Go On **Intervention:** Ready to Go On Interventions in TE Reading strategies 3.6 Holt lesson videos
F.IF.3 F.BF.2 F.LE.2	2. Recognize, extend and apply geometric sequences.	9.1 exploration Guided practice Multi-step test prep p. 622 Problem-solving practice	9.1 Ready to go on p. 633 **CAPT FA: Patterns & sequences** **Intervention:** interventions in TE p. 633

			Reading strategies 9.1 Holt lesson videos
	CH 6 & 9 Pre-chapter assessment Selected problems	**Reading & writing math p. 391**	Are you ready? p. 389 #1-17, Are your ready? p. 615 # 1-25 **Intervention:** Are you ready interventions in TE p. 389, TE p. 615
N.RN.1	3. Evaluate and simplify expressions containing zero and negative exponents.	6.1 exploration Guided practice	6.1 lesson quiz **Intervention:** Holt lesson videos
FIF.7e F.LE.1 F.IF.4 F.IF.8 A.REI.10	4. Evaluate and identify exponential functions. Graph an exponential function by creating a table of values	9.2 exploration Guided practice Multi-step test prep p. 629 Connected Math:" Cooling off coffee"	9.2 lesson quiz 9.2 Ready to go on p. 633 **Intervention:** Reteach Holt lesson videos 9.2 Ready to Go On Interventions in TE p. 633
F.LE.2	5. Solve problems involving exponential growth and decay.	9.3 exploration 9.3 Algebra Lab p. 634 Connected Math: "Studying snake & lizard populations, medicine, cooling water"	9.3 lesson quiz Multi-step test prep p. 641 Alternative assessment TE p. 642 **Intervention:** Reading Strategies 9.3 Holt lesson videos Holt interactivity
F.LE.1 F.LEE.2 A.CED.2 F.IF.4 F.IF.7 F.BF.1	6. Compare and contrast linear, quadratic and exponential functions graphically.	Guided practice Multi-step test prep p. 654	9.4 lesson quiz **CAPT F.A.: Exponential Functions** **Intervention:** Reading strategies Holt lesson videos
F.IF.6	7. Compare linear and nonlinear rates of	9.4 extension activities	9.5 lesson quiz

F.IF.9 F.LE.3	change and functions. Estimate and compare rates of change.	9.5 exploration guided practice **Chapter 6.1/6.2 review pp. 442-443** **Chapter 9 review pp. 670-673** **Chapter 9 project**	Ready to go on quiz p. 669 Multi-step test prep p. 668 **Intervention:** Reteach Holt lesson videos Ready to go on interventions TE p. 669 **Reflection Questions** **Chapter 9 test** **Intervention:** Chapter 9 Extra Practice Application extra practice
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them**. **2. Reason abstractly and quantitatively.**	**Unit 7A: POLYNOMIALS** <mark>**(4 weeks)**</mark> Use properties of rational and irrational numbers. Perform arithmetic operations on polynomials. Interpret functions that arise in applications in terms of the context. Analyze functions using different representations. **Essential Questions** How can an understanding of polynomials help in understanding quadratic functions and equations?	**Concepts** Monomial Binomial Trinomial Polynomial **Skills** Solve (problems arising from quadratic models) Expand (product of two binomials) **Text Chapters 6.3-6.6**	
	CH 6 Pre-chapter assessment Selected problems	**Reading and writing math p. 391**	**Are you ready p. 389 #18-32** **Intervention:** Are you ready interventions TE p. 389

A.SSE.1a	1. Write and evaluate polynomials.	Guided practice	6.3 lesson quiz **Intervention:** Are you ready interventions in TE p. 389
A.APR.1	2. Add and subtract polynomials.	Guided practice	6.4 lesson quiz
A.APR.1	3 A. Multiply monomials.	Guided practice	Lesson quiz **Intervention:** Are you ready skills 7 and 8
A.APR.1	3 B. Multiply polynomials. Solve polynomial problems.	Guided practice Multi-step test prep p. 428, 439, 440 **Chapter 6.3/6.6 review pp. 443-445** **Test tackler p. 512-513** **Chapter 6 Project (Activity 2)**	6.5/6.6 Lesson quiz Ready to go on quiz p. 441 Polynomials quiz **Intervention:** Holt interactivity Ready to go on interventions TE p. 441 **Reflection Questions** **Unit 7a Test** **Intervention:** Chapter 6.3-6.6 Extra Practice
Emphasized Mathematical Practices **1. Make sense of problems and persevere in**	**Unit 7B: FACTORING** <mark>**(4 weeks)**</mark> Use properties of rational and irrational numbers. Perform arithmetic operations on polynomials Interpret functions that arise in applications in terms of the context	**Concepts** Monomial Binomial Trinomial Factored form Greatest Common Factor	

solving them. **2. Reason abstractly and quantitatively.**	Analyze functions using different representations Essential Questions How can an understanding of polynomials help in understanding quadratic functions and equations?	Perfect square trinomial Difference of two squares **Skills** Solve (problems arising from quadratic models) Factor (quadratic trinomial) Factor(special products) Factor(polynomial) **Text Chapter 7.1-7.5**	
	CH 7 Pre-chapter assessment	**Reading & writing math p. 455**	**Are your ready p. 453 # 1-21** **Are you ready interventions TE p. 453**
A.SSE.2	5. Find the GCF of monomials. Factor polynomials via the greatest common factor.	Guided practice 7.2 exploration Multi-step test prep p. 468	7.1/7.2 lesson quiz **Intervention:** 7.1/7.2 reading strategies Reteach Holt lesson videos Khan academy
A.SSE.2	6. Factor quadratic trinomials where a = 1.	7.3 exploration Guided practice Multi-test prep p. 477 Multi-test prep p. 485 7.4 Technology Lab p. 487 Multi-test prep p. 488	7.3 lesson quiz Ready to go on quiz p. 489 #1-26 **Intervention:** 7.3 reading strategies Holt interactivity Ready to go on interventions in TE p. 489 Khan academy
A.SSE.2	7. Factor special products. Choose an appropriate method for factoring.	7.5 exploration Guided practice Multi-test prep p. 495	7.5 lesson quiz Ready to go on quiz p. 505 Multi-step test prep p. 504

		Reaching all learners activity TE p. 499 **Chapter 7 review pp. 507-509** **Test tackler p. 512-513** **Chapter 7 Project (Activity 2 for each)**	**Intervention:** 7.5 Reading strategies Holt interactivity Ready to go on interventions TE p. 505 Khan academy **Reflection Questions, Unit test** **Intervention:** Chapter Ch. 7 Extra Practice
	<mark>End of Quarter 3</mark>		

- **April/May**

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them. 2. Reason abstractly and quantitatively.**	**Unit 8 : INTRODUCTION TO QUADRATIC FUNCTIONS & EQUATIONS** <mark>**(4 weeks)**</mark> Use properties of rational and irrational numbers. Write expressions in equivalent forms to solve problems. Solve equations and inequalities in one variable. Interpret functions that arise in applications in terms of the context. Analyze functions using different representations.	**Concepts** Quadratic Function Quadratic Equation Quadratic Formula Parabola Factored form Vertex form Standard form Square Root Property Zero Product Property Completing the Square Vertex	

	Essential Questions What features distinguish the graph of a quadratic function from other graphs? How can an understanding of polynomials help in understanding quadratic functions and equations? What are the advantages and disadvantages of different forms of the quadratic function and different methods for solving quadratic equations?	Line of Symmetry First and Second Differences **Skills** Graph (quadratic functions) Find (line of symmetry, vertex) Solve (quadratic equation) Model (with quadratic functions) Solve (problems arising from quadratic models) Expand (product of two binomials) Factor (quadratic trinomial) Use (quadratic formula) **Text Chapter 8.1-8.3, 8.5-8.6,8.9**	
F.IF.7 A.REI.10	1. Identify quadratic functions, including whether they have a maximum or minimum. Graph quadratic functions from a table of values and find the domain and range of the function.	8.1 exploration Reaching all learners TE p. 523 Guided practice Multi-step test prep p. 528	8.1 lesson quiz **Intervention:** 8.1 reading strategies Holt lesson videos Success for every learner
F.IF.7 F.IF.8 F.IF.4	2. Find the zero's, axis of symmetry and vertex of a parabola.	8.2 Algebra Lab p. 530 Guided practice Multi-step test prep p. 537	8.2 lesson quiz **Intervention:** 8.2 Reteach Holt lesson videos Success for every learner
F.IF.7 F.IF.4 F.IF.8	3. Graph a quadratic function given in standard form. Interpret and solve a quadratic function in context.	8.3 exploration Reaching all learners activity TE p. 539 Multi-step test prep p. 542	8.3 lesson quiz **Intervention:** 8.3 Reteach Holt lesson videos Success for every learner

A.REI.11 A.REI.4 F.IF.7 F.IF.4	4. Solve quadratic equations by graphing.	8.5 exploration Guided practice 8.5 Technology Lab p. 560-561 Multi-step test prep p. 558	8.5 lesson quiz **Intervention:** 8.5 Reteach Holt lesson videos Success for every learner
A.REI.4b A.SSE.3	5. Solve quadratic equations by factoring.	8.6 exploration Guided practice Multi-step test prep p. 566	8.6 lesson quiz **Intervention:** 8.6 Reading Strategies Holt lesson videos Success for every learner
A.REI.4b	6. Solve quadratic equations by using the quadratic formula. Use the discriminant to find the number of solutions of a quadratic equation.	8.9 Reading strategies Think & discuss p. 587 Multi-step test prep p. 580 8.8 exploration **Chapter 8.1-8.9 review pp. 604-607** **Select problems** **Test tackler p. 512-513** **Chapter 8 Performance assessment**	8.9 lesson quiz Ready to go on quiz p. 599 Multi-step test prep p. 598 **Intervention:** Holt lesson videos Ready to go on intervention in TE p. 599 Holt interactivity **Reflection Questions** **Unit 8 test** **Intervention:** Chapter 8.1-8.9 Extra Practice select problems
Emphasized Mathematical Practices **1. Make sense of problems and persevere in solving them.**	**Unit 9: LINEAR INEQUALITIES** <mark>(3weeks)</mark> Reason quantitatively and use units to solve problems. Interpret the structure of expressions. Create inequalities that describe numbers or relationships. Understand solving inequalities as a process of reasoning and explain the reasoning.	**Concepts** Order of operations Expression vs. equation Inequality Associative property Commutative property Distributive property Inverse operation	

6. Attend to precision. 7. Look for and make use of structure.	Solve inequalities in one variable. **Essential Questions** What is an inequality? How can we use linear inequalities to solve real world problems? What is a solution set for a linear inequality? How can models and technology aid in the solving linear inequalities?	**Skills** Model (with linear inequalities) Solve (linear inequalities) Simplify (expression) Use (algebraic properties) **Text Chapter 2**	
	Pre-chapter 2 assessment	**Reading and writing math p. 99**	**Are you ready p. 87** **Intervention:** Are you ready interventions in TE p. 87
A.REI.3	1. Graph and write inequalities.	2.1 Exploration Guided Practice Problem Solving practice	2.1 Lesson Quiz **Intervention:** Reading Strategies 2.1 Holt Interactivity
A.REI.3 A.CED.1	2. Write and solve problems with one-step inequalities.	2.2 /2.3 exploration Guided Practice Multi-step test prep pp. 110,116	Multi-step test prep p. 118 Ready to go on quiz 2.1-2.3 p. 119 **Intervention:** Reteach Holt Lesson videos
A.REI.3 A.CED.1	**3.** Write and solve problems with 2-step and multi-step inequalities.	Guided Practice Multi-step test prep p. 124	Section 2.4 Alternate assessment in TE p.125 **Intervention:** Reteach Reading Strategies 2.4
A.REI.3 A.CED.1	4. Write and solve problems with inequalities containing variables on both sides.	Calculator Exploration Guided Practice	2.5 Lesson Quiz **Intervention:** Reading Strategies 2.5 Reteach

			Holt Lesson videos
A.REI.3	5. Write & solve compound inequalities.	Calculator Exploration Guided Practice Reteach Holt Ch2 Performance Assessment **Chapter 2 review p. 150-151** **Chapter 2 Project**	Ready to go on quiz p. 149 Holt Ch2 Performance Assessment **Intervention**: Ready to go on interventions p. 149 **Reflection Questions Chapter 2 TEST** **Intervention:** Chapter 2 Extra Practice

- ## May/June

CCSS	Concepts/Essential Questions	Activities/Skills	Assessments
Emphasized Mathematical Practices **3. Construct viable arguments and critique the reasoning of others.** **4. Model with mathematics.** **5. Use appropriate tools**	**Unit 10 : DATA ANALYSIS (2 weeks)** **Essential Questions** How do we make predictions and informed decisions based on current numerical information? What are the advantages and disadvantages of analyzing data by hand versus by using technology?	**Concepts** Measures of central tendency (mean, median, mode) Measures of spread (range, interquartile range, standard deviation) Histogram Box plot **Skills** *Calculate (mean, median, mode, interquartile range)* Use technology to find standard deviation, Interpret (correlation) Predict (using interpolation, extrapolation)	

strategically.		Text Chapter 10.1-10.4	
	CH 10 Pre-chapter assessment	**Reading & writing math p. 683**	**Are you ready p. 681 Intervention Are you ready interventions TE p. 681**
S.ID.1	1A. Organize data using tables and graphs. Choose or create an appropriate data display.	10.1 exploration Reaching all learners activity TE p. 687 Guided practice Problem-solving practice Multi-step test prep p. 693	10.1 lesson quiz
S.ID.1	1B. Interpret and create bar and circle graphs. Choose the appropriate data display.	Connecting Algebra to Data Analysis pp. 684-685 Guided practice	Close/Assess, TE p. 685 **Intervention:** Reteach teacher generated
S.ID.1	2. Create stem-and-leaf plots. Create frequency tables and histograms.	10.2 exploration Think & discuss p. 697 Guided practice Problem-solving practice Multi-step test prep p. 700	10.2 lesson quiz **Intervention:** 10.2 reading strategies
S.ID.2	3. Describe the central tendency of a data set. Create and interpret box-and-whisker plots. Use technology to create data graphs**.**	10.3 exploration Guided practice Problem-solving practice Multi-step test prep p. 708 10.3 Technology Lab pp. 714-715	10.3 lesson quiz **CAPT F.A.: Statistics** **Intervention:** 10.3 reteach 10.3 reading strategies
S.ID.6	4. Recognize misleading graphs and statistics.	10.4 exploration Guided practice Multi-step test prep p. 719 **Chapter 10.1-10.4 review pp. 752-754**	Alternative Assessment TE p. 721 Multi-step test prep p. 724 Ready to go on quiz p. 525 **Intervention:** 10.4 reteach 10.4 reading strategies Holt interactivity

		Chapter 10 Project, Activity 1	Ready to go on interventions TE p. 525
			Reflection Questions **Chapter 10 Project, Activity 1** **Intervention:** Chapter 10.1-10.4 Extra Practice
End of quarter 4			**FINAL EXAM**

IV. <u>Learning Activities</u> -- What instructional activities will help students grasp the concepts and instructional outcomes expected in each unit?

Sample signature activities used by the team and indicated within the pacing guide are enclosed with this document.
Others are on Ms. dos Santos' Moodle site accessible by any of the teachers teaching Algebra I and administration.

V. <u>Assessments</u> --How will students' understanding of the concepts and skills taught in this course be assessed in each unit?

Sample signature activities used by the team and indicated within the pacing guide are enclosed with this document.
Others are on Ms. dos Santos' Moodle site accessible by any of the teachers teaching Algebra I and administration.

VI. <u>Resources</u>

Common Core State Standards and Common Core Mathematical Practices Standards
Holt Algebra I Common Core Edition ©2012 text and supplementary materials, ©2012 supplementary materials
"Green Globs" computer program
CAPT released items
Connecticut Curriculum Design Unit Planning Organizer Algebra I (draft 2012)

Bethel Public Schools
French 21 Curriculum 2012

I. Alignment to ACTFL and College and Career Readiness Standards

Goals: At the end of French 21, we expect students to demonstrate the following skills:

Communication: (ACTFL standards 1.1, 1.2, 1.3) (Novice-High ACTFL Proficiency level)
  A. Speaking:
   - To participate in short simple conversations of 3-5 minutes in length dealing with familiar topics primarily in the present and more haltingly in the past
   - To make statements by using primarily short memorized phrases or simple sentences but occasionally expanding these through recombination of their elements and showing some signs of spontaneity
   - To ask questions involving learned materials
   - To demonstrate some accuracy in pronunciation and intonation when presenting familiar material
   - To demonstrate confidence and willingness to take risks while speaking in French
  B. Listening:
   - To understand short simple phrases and some sentence-length statements, simple questions, and high-frequency commands within highly predictable and familiar contexts
  C. Writing:
   - To produce limited practical writing such as short messages and paragraphs, postcard, and notes by recombining some learned vocabulary and structures using correct accents, punctuation, and spelling
  D. Reading:
   - To read messages, phrases, instructions, and beginning level stories where the vocabulary and grammatical structures are familiar

Culture: (ACTFL standards 2.1, 2.2, 3.1, 3.2, 4.2, 5.1, 5.2)
   - To demonstrate a broader and deeper understanding of France and other French-speaking countries and cultures through the study of the geography, regional characteristics, and customs of these countries and peoples. The study of these cultures includes participation in cultural activities, short presentations on these cultures, and exposure to authentic materials.

Linguistic Awareness:
- To show increasing meta-linguistic awareness of the nature of language and its grammatical structures through the inherent comparison of English and French and exposure to a greater variety of grammatical structures and constructs (ACTFL standard 4.1)

STANDARDS FOR FOREIGN LANGUAGE LEARNING

COMMUNICATION: Communicate in Languages Other Than English

Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.

Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.

Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.

CULTURES: Gain Knowledge and Understanding of Other Cultures

Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.

Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.

CONNECTIONS: Connect with Other Disciplines and Acquire Information

Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language.

Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.

COMPARISONS: Develop Insight into the Nature of Lang uage and Culture

> **Standard 4.1:** Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.
> **Standard 4.2:** Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

COMMUNITIES: Participate in Multilingual Communities at Home & Around the World

> **Standard 5.1:** Students use the language both within and beyond the school setting.
> **Standard 5.2:** Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

College and Career Readiness Anchor Standards for Reading

Key Ideas and Details
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas
7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the

authors take.

Range of Reading and Level of Text Complexity
10. Read and comprehend complex literary and informational texts independently and proficiently.

College and Career Readiness Anchor Standards for Writing

Text Types and Purposes
1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

Comprehension and Collaboration
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

College and Career Readiness Anchor Standards for Language

Conventions of Standard English
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

II. What are the most important things that will be covered in French 21:

1. Review and expansion of basic topics from French 1B or French 12, such as basic greetings and introductions, the present tense (with the addition of many verbs), interrogatives, the near future, subject pronouns (stressed and unstressed), demonstrative and interrogative adjectives, possessive adjectives, definite / indefinite articles, and imperatives
2. Basic information about self and others including professions
3. Extensive family vocabulary
4. Self-description and adjectives, both regular and irregular
5. Expressions with *être*, *avoir*, and *faire*
6. Review of near future and introduction of recent past
7. Narration of past events, both habitual and definite
8. Expressions of time, quantity, and frequency
9. Weekend and leisure activities
10. Foods, shopping for food, menus, and restaurant protocol vocabulary
11. Hobbies, entertainment, and pastimes
12. Writing a letter/postcard/e-mail
13. Sports, health, fitness, and personal hygiene
14. Expression of opinion, advice, and preferences
15. Daily routines and chores
16. Parts of the body
17. House and residence vocabulary
18. Clothing and accessories, shopping for clothing, description of clothing, style, and preferences
19. Comparatives and superlatives
20. Grammatical structures:
    Conjugation of *passé composé* with *avoir* and *être* (regular and irregular verbs) in the affirmative, interrogative, and negative; verbs conjugated with *être;* contrastive uses of definite, indefinite and partitive articles; direct and indirect object pronouns and their position in affirmative, negative, imperative and infinitive constructions; double object pronouns; verbs with indirect object pronouns; *savoir/connaitre*; reflexive verbs and pronouns in the indicative, imperative, interrogative, and with infinitives; uses of *en* and *y*; relative pronouns *qui* and *que*; the imperfect tense; contrast between the imperfect and preterite; adverbs with *ment*, interrogative pronoun *lequel/laquelle*; demonstrative pronoun *celui/celle*
22. Cultural units include the study of French-speaking countries in Europe and outside of Europe
23. Cultural Video series: Discovering French program and *Les Correspondantes*
24. Additional readings, two novels: Blain Ray, *Le voyage de sa vie, Le voyage perdu*

III. Pacing Guide:

August/September/October (MP #1)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Formative/Summ.)	STANDARDS
Preliminary Unit (8 days) **Essential Question:** *How does French language, structure, and communication differ from English?* **Accelerated Review** • Present tense (Regular Verbs) • Present tense (Irregular Verbs • Adjectives • Interrogative forms of verb • Imperative **Unit 1:** *Qui suis-je?* ((14 days) **Essential Questions:** *How do you describe the diversity of the French people? How do the French describe themselves and others?* **Lesson 1:** • People of France • Presenting oneself, friends, family • Professions **Lesson 2:** • Expressions with *être* • *La personalité*, les adjectives • *Le copain ideal* **Lesson 3:** • Expressions with *avoir* & *faire* • The inverted questions	 • Correctly use the present tense • Use adjectives to describe • Ask basic questions • Correctly use the imperative • Gain awareness about diversity in France • Introduce oneself/others • Use correctly the verb *être* • Describe looks/personality • Describe the ideal friend • Use correctly *avoir* and *faire*	 • -er verbs (regular) • -ir verbs (regular) • -re verbs (regular) • Activity with major irregular verbs • Activity 3, pg. 33 **Pre-AP: Writing Prompts** • Describe your town • Describe your family • Activity 3, page 45 • Activity 4, page 47 • Activity 5, page 47 • Activity 7, page 59	**Pre-AP:** **Baseline Testing** Quiz, Regular verbs Quiz, Irregular verbs **Preliminary Unit Test** **Pre-AP Written/Oral** *Create a poster with visuals and writings. Orally present to class. How do you imagine your ideal friend?* • Quiz: Verbs *avoir* & *faire* • Quiz on use of	**ACTFL:** 1.1, 1.2, 1.3 **CCR:** **R** 1, 3, **SL** 3 **L**3, **W**3 **ACTFL:** 3.1, 4.1 **CCR:** **L** 1, 2, **ACTFL:** 1.1, 1.2 **CCR:** **W** 3, **L** 1, 2, 3 **R** 1 **ACTFL:** 1.3, 1.1, 3.1 **CCR:** **SL**4, **L**2, **W**2 **ACTFL:** 1.2, 4.1 **CCR:**

Lesson 4: • Salutations (American vs. French) • Verb *aller* and *le futur proche* • Verb *venir* and *le passé récent* Video Scenes 1-4 Cultural Topic: *Le monde francophone* Reader: *Voyage de sa vie (*Chapters 1-4)	• Express need/feelings • Use inverted questions • Gain awareness about cultural differences • Use correctly *le futur proche* • Use correctly *le passé recent* Listening/Comprehension skills Learn about France and its diversity Reading/Comprehension skills	• Activity 8, page 60 • Activity 1, 2, page 67 • Activity 4, page 67 • Activity 7, page 69 Answer comprehension questions on video Answer comprehension questions on reading	inverted questions • Quiz on verb *aller* • Quiz on verb *venir* Quiz: Chapters 1-4 **Unit 1 Test**	**L**1, **L**2 **ACTFL:** 1.1, 1.3 **CCR:** **SL**1, **SL**2 **ACTFL:** 1.1
Unit 2: *Le week-end, enfin* (8 days+) **Essential Question for Unit 2:** *What do French teens do on weekends as compared to the American teens? What are their leisure activities compared to ours?*		**Pre-AP Oral** *Compare and contrast the francophone world with ours.*		**CCR:** W5 **ACTFL:** 2.1, 4.2 **CCR:** SL4
Lesson 5 • Cultural Topic: Week-end in France • Week-end activities at home (city) • Week-end activities in the country **Lesson 6** • *Passé Composé* with *avoir* • Sequence of events in the past • *Forme négative/interrogative* • Verbs *prendre* and *mettre*	• Talk about the "French" week-end • Talk about leisure activities • Describe a day in the countryside Cultural awareness: Teens and family • Talk about past time events • Use correctly *le passé composé* • Use correctly *prendre* & *mettre*	**Pre-AP: Discussion** *Start discussion based on Note Culturelle, page 107* Activity 4, page 107 **Pre-AP: Discussion** *French Teens vs. USA Teens* • Activity 4, page 112 • Activity 8, page 114 • Activity 11, page 115	Quiz on *passé composé* Another quiz on *passé composé* Quiz on verbs *prendre, mettre*	**ACTFL:** 2.1, 2.2 **CCR:** SL4 **ACTFL:**1.2 **CCR:** L3

November/December/January (MP #2)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Formative/Summ.)	STANDARDS
Unit 2 (Continued): (+ 6 days) **Lesson 7** • *Passe Compose* with *être* • Time expression (Vocabulary) **Lesson 8** • Verb *aller* in *passé composé* • Verbs partir, sortir in *p. composé* • More verbs conjugated with *être*	• Express information about past events • Enrich vocabulary expressing time • Use correctly *p. composé* with avoir • Differentiate between verbs conjugated with *avoir* vs. *être*	• Activity 2, page 122 • Activity 3, page 123 • Act. 7 and 8, pg 126 • Activity 1, page 132 • Activity 3, page 134	Quiz: *P. Composé* w/*avoir* Quiz: *P. Composé* w/*être*	**ACTFL:** 3.1, 3.2 **CCR:** **L** 1, 3 **ACTFL:** 3.1, 3.2 **CCR:** **L** 1, 3,
Video Scenes: 5-8	• Listening/Comprehension skills	• Answer Comprehension Questions on video	**Unit 2 Test**	**ACTFL:** 1.2, 4.2 **CCR:** **SL**1, 2
Unit 3: Bon appétit! (14 days) **Essential Question for Unit 3** *What are the favorite food and drinks of the French? Why do they like these foods? How does food shopping in France compare/contrast with the U.S.?*				
Lesson 9 • The meals, setting the table • Restaurant and ordering food • Food shopping vocabulary	• Talk about food/drinks • Know how to order food • Enrich vocabulary on food • Be able to shop for food	• Mini-dialogues: Order • Mini-dialogues: Shopping for food	Quiz: Food vocabulary	**ACTFL:** 1.3 **CCR:** **SL**1
Cultural Topic: French Cuisine	Learn about regional food	• Prepare food based on given recipe		**ACTFL:** 3.1, 3.2 **CCR:** **L**4
Lesson 10 • At the superstore • Verbs *vouloir, pouvoir, devoir* • *L'article partitif*	• Learn about shopping in France • Use correctly these verbs • Know how to talk about quantity	• Activity 5, page 169 • Activity 7, page 170	Quiz: Verbs *vouloir/pouvoir/devoir*	
Lesson 11 • More verbs: *boire, acheter, préférer* • Articles: Definite/Indefinite/Partitive	• Use correctly stem changing verbs • Know when to use each article			**ACTFL** 3.1 **CCR:** **L**1, 2

Lesson 12 • Quantity Expressions • The adjective *tout, toute* • The expression *il faut* +infinitive	• Express about quantity • Express about obligation	• Activity 3, page 189 • Act. 7 and 8, page 190		**ACTFL:** 1.2 **CCR:** **SL**1, 4
Video scenes: 9-12 Reading: Voyage de sa vie (Chapter 5 to the end)	Listening/Comprehension Skills Reading/Comprehension Skills	Answer comprehension questions on video Answer comprehension questions on reading	**Unit 3 Test**	**ACTFL:** 1.2, 2.1, 4.2 **CCR:** **SL**4
Unit 4: Hobbies and Entertainment (10 days +) **Essential Question for Unit 4** *What do the French like to do in their free time? Compare this to your preferences.*				
Lesson 13 • The world of French movies/actors • Entertainment/Movie Vocabulary • *Le cinema français* • Invitation to the movies Movie: *La gloire de mon père*	• Enrich entertainment vocabulary • Talk about movies • Talk about French movies world • Extend and accept invitation Listening/Comprehension skills	**Pre-AP: Oral** *Who is your favorite actor/actress? Why do you like him/her?* • Activity 5, page 212 • Practice from pg. 213 • Answer questions about movie	**Pre-AP Project** *Present to the class your favorite French and American Actor* **Pre-AP: Written Activity** *Write about two characters in the movie* **TEST ON *P. COMPOSE***	**ACTFL:** 2.1, 2.2, 3.1 **CCR:** **L**1, **L**2 **ACTFL:** 1.3 **CCR:** **W**2
Lesson 14 • Object Pronouns • Object Pronouns after imperative Video scenes: 13-14 Reading: *Le courier du coeur*	• Use correctly the object pronouns Listening/Comprehension skills Reading/Comprehension skills	• Act. 1&3, page 219 Answer comprehension questions on video Answer comprehension questions on text	**Pre-AP: Written Activity** *Write a letter to your pen pal.* **MID-TERM EXAM**	**ACTFL:** 1.1, 1.2, 2.1, 4.1 **CCR:** **SL**1, **L**1, **W**2

January/February/March (MP #3)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Formative/Summ.)	STANDARDS
Unit 4 (Continued): (+ 6 days) **Lesson 15** • *Connaître* and *savoir* • Object pronouns: *le, la, les* **Lesson 16** • Verbs *savoir, dire, lire, écrire* • More on object pronouns Reader: *Voyage Perdu* (Chapter1-4) Video scenes: 15-16 Culture: *Le monde francophone hors de l'Europe* DVD: *Les Correspondantes*	• Use correctly these two verbs • Use correctly these pronouns • Use correctly these verbs Improve reading/comprehension Listening/comprehension skills Gain awareness of similarities/differences within francophone world	**Pre-AP: Discussion** *Compare and contrast CD stores here and there.* • Activity 3, page 239 • Activity5, page 241 Answer questions on reading Answer comprehension questions on video • Point out differences between the language in France and Canada.	Quiz on verbs *connaître* & *savoir* Quiz on these verbs Quiz: Chapters 1-4 Questions) **Unit 4 Test**	**ACTFL:** 4.1 **CCR:** **SL**2 **ACTFL:** 4.1 **CCR:** **L**1 **ACTFL:** 4.1 **CCR:** **SL**1 **ACTFL:** 4.1 **CCR:** **L**1
Unit 5: Vive le sport (14 days) **Essential Question for Unit 5** *What sports do the French enjoy? How does that compare to our preferences?* **Lesson 17** • *Le sport en France* (Culture) • Sports vocabulary • Time expressions • Body parts and health **Lesson 18** • Expressions of frequency	• Talk about sport in target language • Consolidate body parts vocab • Talk about health issues • Talk about things and frequency	• Activity 4, *Jacques...*, pg. 277 • Activity 7, page 278 • Activity 3, page 283	Quiz on sports vocabulary	**ACTFL:** 1.2 **CCR:** **L**1

		Activity 9, page 286	Quiz on use of *en* and *y*	**ACTFL:** 4.1
• Expressing opinions in French • Verb *croire* • Use of *en* and *y*	• Correctly use verb *croire* • Correctly use *en* and *y*			**CCR:** L1
Lesson 19 • Reflexive verbs and the daily routine • Personal care	• Talk about daily activities • Use correctly the reflexive verbs • Talk about personal care	• Activity 9, page 297 • Activity 1, page 297		
Lesson 20 • Imperative of reflexive verbs • Past tense of reflexive verbs • Infinitive of reflexive verbs Video scenes: 17-20	• Know how to use reflexive verbs in different situations and tenses. Listening/comprehension skills	*La gymnastique du matin,* page 307 Answer comprehension questions on video	**Unit 5 Test**	**ACTFL:** 4.1 **CCR:** SL2
Unit 6: Chez nous (10 days +) **Essential Question for Unit 6** *How do you describe French houses?* *How do they compare to ours?*				
Lesson 21 • Residence and house vocabulary • *Les petites annonces* **Lesson 22** • Verb *vivre* • Relative pronouns: *qui* & *que*	• Tell where and how you live • Be able to find an apartment • Know how to form more complex sentences	**Pre-AP:** **Writing Prompts** • *Write about your house* • *Write about your room* • Activity 4, page 332 • Activity 6, page 333	**Project:** *Prepare poster and present to class* *This is my house and my room*	**ACTFL:** 1.3 **CCR:** SL4
Lesson 23: • Formation of the *imparfait* • Use of the *imparfait* • More frequency expressions Video scenes: 21-23	• Talk about things in the past • Talk about habitual & progressive events in the past Listening/comprehension skills	**Pre-AP: Written Activity** *Quand j'étais petit....* Answer comprehension questions on video	Quiz on imparfait **Test on Imparfait**	**ACTFL:** 4.1 **CCR:** L1

April/May/June (MP #4)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Lesson 24 • More practice with the *imparfait* • *L'imparfait* vs. *le passé compose* Reader: *Au voleur,* pages 356-357 **Movie:** *Le Château de ma mere*	• Gain better understanding of the use of the imperfect tense • Use the imperfect for description in the past • Use correctly *le passé compose* and *l'imparfait* in the same context • Reading comprehension skills • Listening/Comprehension skills	• *L'accident*, page 351 • Activity 2, page 352 • Identify tenses • Explain why the particular tenses are used	Quiz: *Imparfait* vs. *Passe compose* **Unit 6 Test** **Pre-AP: Writing** Write about the main idea of the movie	**ACTFL:** 4.1 **CCR:** **L**1 **ACTFL:** 3.2, 2.1 **CCR:** **W**1
Unit 7: *La mode* (16 days) **Essential Question for Unit 7** *Where do the French buy their clothes and how do they dress? How does that compare to the U.S.?*				
Lesson 25 • Clothing Vocabulary • Description of clothes • Buying clothes, places to shop **Lesson 26** • Numbers (*cardinal/ordinal)* • Adjectives w/irregular changes • Adverbs ending in –*ment*	• Talk about teens and clothing • Learn about buying clothes in France • Talk about differences and similarities between teens and clothing there and here • Use correctly the adjectives	• Activity 4, page 375 • Activity 7, page 376 • Mini-Dialogues • Store keeper/buyer, page 378 • Activity 3, page 383 • Activity 4, page 384	Quiz on clothing vocab	**ACTFL** 4.1, 2.1 **CCR:** **SL**1 **ACTFL** 4.2 **CCR:** **SL**1, **W**1

13

		• Activity 4, page 387		
Lesson 27 • Comparison using adjectives and adverbs • Superlatives **Lesson 28** • Interrogative pronouns • Use of demonstratives: *celui…* Reader: Voyage perdu (Part 2) Video scenes: 23-28	• Express comparisons • Use correctly the superlative of the adjectives • Express one's preferences Reading/Comprehension skills Listening/comprehension skills	• Speaking Activity: • *Les tailles,* pg. 390 (Teacher's) • Answer questions about images on pages 396-397 • Activities 3,4, page 402 • Answer comprehension questions about the video series	Quiz on comparisons **Unit 7 Test**	**ACTFL:** 1.2 **CCR:** **W**2 **ACTFL:** 2.2, 1.2 **CCR:** **W**2
Conclusive Special Unit (8 days) *What are the most important things we learned in this course?* • Me, my family and the others • My room, my house, my town • Food, here and there • Teens here and there • Sport and leisure, here /there • Verbs, present irregular • *Le passé composé* • *L'imparfait*	• Talk about self and others • Talk about where you live • Talk about food and drinks • Talk about teens preferences • Talk about sport and health • Use correctly important verbs • Use correctly *le passé composé* • Use correctly *l'imparfait*		**FINAL EXAM**	**ACTFL:** 1.3 **CCR:** **SL**2 **ACTFL:** 1.1, 2.2, 4.1 **CCR:** **SL**1, **R**2, **W**1, 2

IV. Assessments:

MARKING PERIOD #1

QUIZZES:

- Quiz: Regular verbs in present
- Quiz: The irregular verbs in present
- Quiz on the use of inverted questions
- Quiz on Chapters 1-4 from reader
- Quiz on *passé composé* with *avoir*

TESTS:

- Pre AP Baseline Test
- Test on Preliminary Unit
- Test on Unit 1
- Project (Pre-AP) *Mon ami idéal*

MARKING PERIOD #2

QUIZZES:

- Quiz on *passé compose* with *être*
- Quiz on food vocabulary
- Another quiz on verbs: *vouloir, pouvoir, devoir*
- Quiz on *passé composé* with *avoir* and *être*
- Quiz on Interrogative/Demonstrative Pronouns

TESTS:

- Test on Unit 2
- Test on Unit 3
- Project (Pre-AP) Present to class your favorite French actor
- Test on *Passé Composé*
- Mid-Term Exam

MARKING PERIOD #3

QUIZZES:

- Quiz on the use of verbs *connaître* and *savoir*

- Quiz on verbs: *dire, lire, écrire*

- Quiz on Chapters 1-4 (*Voyage Perdu)*

- Quiz on the use of *en* and *y*

- Quiz on the use of *imparfait*

TESTS:

- Test on Unit 4

- Test on Unit 5

- Pre-AP Project: Prepare poster: *My house, my town*

MARKING PERIOD #4

QUIZZES:

- Quiz: *L'imparfait* vs. *Le passé compose*

- Quiz on clothing vocabulary

- Quiz on the use of adjectives and comparison

- Pre-AP Writing: Write (In Class) about the main idea of the movie

TESTS

- Test on Unit 6

- Test on Unit 7

- FINAL EXAM

DATA COLLECTION:

- Pre-AP Baseline Test
- Test on Unit 1
- Test on Unit 2
- Test on Unit 5
- Test on Unit 7
- Test on *Imparfait*

- Test on Unit 3
- Test on Unit 4
- Mid-Term Exam
- Test on Unit 6
- Test on *Passe Compose*
- MID-TERM & FINAL EXAM

V. <u>Resources</u>

Text: *Discovering French Nouveau, Blanc* (Level 2)   (Chapters: Reprise through 7)
Supplementary Materials:

All supplementary materials from *Discovering French Nouveau, Rouge*
- Audio CD series   - Resource Package
- Integrated video series   - Testing and Assessment kit
- Workbooks   - Overhead visuals

Movies:
- *La Gloire de mon père*
- *Le château de ma mère*

Readers:
- *Le Voyage de ma vie*
- *Le Voyage perdu*

Online Resources :
- www.classzone.com
- www.tv

Bethel Public Schools
French 22 Curriculum 2012

I. Alignment to ACTFL and College and Career Readiness Standards

Goals: At the end of French 22, we expect students to demonstrate the following skills:

Communication: (ACTFL standards 1.1, 1.2, 1.3) (Novice-Mid ACTFL Proficiency level)
   A. Speaking:
   - To participate in short simple conversations of 2-4 minutes in length dealing with familiar topics primarily in the present and more haltingly in the past
   - To make statements by using primarily short memorized phrases or simple sentences through recombination of their elements and showing some signs of spontaneity
   - To ask questions involving learned materials
   - To demonstrate some accuracy in pronunciation and intonation when presenting familiar material
   - To demonstrate confidence and willingness to take risks while speaking in French
   B. Listening:
   - To understand short simple phrases and some sentence-length statements, simple questions, and high-frequency commands within highly predictable and familiar contexts
   C. Writing:
   - To produce limited practical writing such as short messages and paragraphs, postcard, and notes by recombining some learned vocabulary and structures using correct accents, punctuation, and spelling
   D. Reading:
   - To read messages, phrases, instructions, and beginning level stories where the vocabulary and grammatical structures are familiar

Culture: (ACTFL standards 2.1, 2.2, 3.1, 3.2, 4.2, 5.1, 5.2)
   - To demonstrate a broader and deeper understanding of France and other French-speaking countries and cultures through the study of the geography, regional characteristics, and customs of these countries and peoples. The study of these cultures includes participation in cultural activities, short presentations on these cultures, and exposure to authentic materials.

Linguistic Awareness::
- To show increasing meta-linguistic awareness of the nature of language and its grammatical structures through the inherent comparison of English and French and exposure to a greater variety of grammatical structures and constructs (ACTFL standard 4.1)

STANDARDS FOR FOREIGN LANGUAGE LEARNING

COMMUNICATION: Communicate in Languages Other Than English

Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.

Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.

Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.

CULTURES: Gain Knowledge and Understanding of Other Cultures

Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.

Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.

CONNECTIONS: Connect with Other Disciplines and Acquire Information

Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language.

Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.

COMPARISONS: Develop Insight into the Nature of Language and Culture

> **Standard 4.1:** Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.
> **Standard 4.2:** Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

COMMUNITIES: Participate in Multilingual Communities at Home & Around the World

> **Standard 5.1:** Students use the language both within and beyond the school setting.
> **Standard 5.2:** Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

College and Career Readiness Anchor Standards for Reading

Key Ideas and Details
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas
7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the

authors take.

Range of Reading and Level of Text Complexity
10. Read and comprehend complex literary and informational texts independently and proficiently.

College and Career Readiness Anchor Standards for Writing

Text Types and Purposes
1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

Comprehension and Collaboration
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

College and Career Readiness Anchor Standards for Language

Conventions of Standard English
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.

6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

II. What are the most important things that will be covered in French 22:

1. Review and expansion of basic topics from French 1B or French 12, such as basic greetings and introductions, the present tense (with the addition of many verbs), interrogatives, the near future, subject pronouns (stressed and unstressed), demonstrative and interrogative adjectives, possessive adjectives, definite / indefinite articles, and imperatives
2. Basic information about self and others including professions
3. Extensive family vocabulary
4. Self-description and adjectives, both regular and irregular
5. Expressions with *être*, *avoir*, and *faire*
6. Review of near future and introduction of recent past
7. Narration of past events, both habitual and definite
8. Expressions of time, quantity, and frequency
9. Weekend and leisure activities
10. Foods, shopping for food, menus, and restaurant protocol vocabulary
11. Hobbies, entertainment, and pastimes
12. Writing a letter/postcard/e-mail
13. Sports, health, fitness, and personal hygiene
14. Expression of opinion, advice, and preferences
15. Daily routines and chores
16. Parts of the body
17. House and residence vocabulary
18. Clothing and accessories, shopping for clothing, description of clothing, style, and preferences
19. Comparatives and superlatives
20. Grammatical structures:
    Conjugation of *passé composé* with *avoir* and *être* (regular and irregular verbs) in the affirmative, interrogative, and negative; verbs conjugated with *être;* contrastive uses of definite, indefinite and partitive articles; direct and indirect object pronouns and their position in affirmative, negative, imperative and infinitive constructions; double object pronouns; verbs with indirect object pronouns; *savoir/connaitre*; reflexive verbs and pronouns in the indicative, imperative, interrogative,

and with infinitives; uses of *en* and *y*; relative pronouns *qui* and *que*; the imperfect tense; contrast between the imperfect and preterite; adverbs with *ment*, interrogative pronoun *lequel/laquelle*; demonstrative pronoun *celui/celle*

22. Cultural units include the study of French-speaking countries in Europe and outside of Europe
23. Cultural Video series: Discovering French program and Les Correspondantes
24. Additional Reading: Blain Ray, Le voyage perdu

III. Pacing Guide:

August/September/October (MP #1)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Formative/Summ.)	STANDARDS
Preliminary Unit (12 days) **Essential Question:** *How does French language, structure, and communication differ from that of English?*			Baseline assessment	
Initial in-depth review				
Reprise • Getting to know people, pags 4-5 • School vocabulary, subjects	• Talk about people • Talk about school and subjects	Mini dialogues: Meeting Oral Act. *Mon école*		**ACTFL:** 1.1, 1.2 **CCR:** **W**3, **L**1, 2, 3 **R**1
Rappel 1: Numbers and weather • Telling time, asking cost, numbers • Weather vocabulary	• Tell time, talk about numbers • Talk about weather	Mini dialogue: *Quelle heure Quel temps fait-il?*	Quiz	
Rappel 2: Everyday life • Definite/Indefinite articles • Preferences • Prepositions and location • Possessive adjectives and clothing	• Correctly use the articles • Talk about likes and dislikes • Indicate where things are • Correctly use possessive adjectives • Correctly use dem/interrog. adj.	Act. 1, page 12 Act. 8, 9 page 15 Act 10, page 16	Quiz	**ACTFL:** 1.3, 1.1, 3.1 **CCR:** **SL**4, **L**2, **W**2

		Oral Act. Pages 18-19		
• Demonstrative and interrogative adj.				
Rappel 3: Activities	• Use verbs expressing actions	Oral Act. Pages 18-19	Quiz on regular verbs	**ACTFL:** 1.2, 4.1
• Verbs and actions	• Correctly use the negative form	Act. 3, page 19		
• Negative form of the verbs	• Know how to build questions	Act. 7, page 21		**CCR:**
• Asking words and expressions	• Correctly use the regular verbs	Act. 10, page 22		L1, 2
• Regular verbs (-er, -ir, -re) in present	• Correctly use the pronouns	Act. 12, page 23		
• Subject and stress pronouns	• Correctly use the imperative			
• Imperatives			**Preliminary Unit Test**	**ACTFL:** 1.1, 1.3
				CCR:
Unit 1: Qui suis-je? (10 days)				**SL**1, 2
Essential Questions:				
How do you describe the diversity of the French people? How do the French describe themselves and others?				
Lesson 1:		Written Act.		**ACTFL:** 1.1
• Presenting oneself, personal data	• Introduce oneself and others	Describe your town		**CCR:**
• Family, friends, professions	• Describe family, friends and people	Describe your family		W5
Lesson 2:		Project: *Mon ami ideal*	Quiz on verb *être*	**ACTFL:** 2.1, 4.2
• Expressions with *être*	• Use verb *être* with expressions	Poster with pictures of		**CCR:**
• La personnalité, les adjectifs	• Describe looks and personality	friends and oral presentation		SL4
• Le copain idéal	• Describe ideal friend using adj.			
			Quiz: Verbs *avoir* & *faire*	**ACTFL:** 2.1, 2.2
Lesson 3:			Quiz on use of inverted	**CCR:**
• Expressions with *avoir* and *faire*	• Use *avoir/faire* with expressions		questions	SL4
• L'inversion (Inverted questions)	• Use inversion in questions			
		Work in groups: Point out	Quiz on verb *aller*	**ACTFL:** 1.2
Lesson 4:		differences	• Quiz on verb *venir*	**CCR:**
• Salutations: American vs. French	• Gain awareness of culture diff.			L3
• Verb *aller* and the near future	• Correctly use the near future			
• Verb *venir* and the recent past	• Correctly use the recent past	Answer comprehension		**ACTFL:** 1.2
		questions about video		**CCR:**
Vidéo-scènes 1 – 4	Understand by listening			L3
Unit 1 Review		Group work: country	**Unit 1 Test**	
Cultural Topic: *Le monde francophone*		presentations		
	Gain cultural awareness of the			

	francophone world			

November/December/January (MP #2)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Formative/Summ.)	STANDARDS
Unit 2 **Essential Question for Unit 2:** *What do French teens do on weekends as compared to the American teens? What are their leisure activities compared to ours?*				
Lesson 5: Le weekend, enfin! • Cultural: Week-ends in France • Weekend activities • Weekend in the country	• Talk about week-end in France • Talk about week-end activities • Describe a day in the country	Discussion in class Act. 2, page 107 Group Work: One group prepares to describe French teens, another USA teens		**ACTFL:** 3.1, 3.2 **CCR:** L3, L1
Lesson 6: Pierre a un rendez-vous • *Passé Composé* with *avoir* • Sequence of events in the past • Negative and interrogative forms • Verbs *prendre* and *mettre*	• Talk about past events • Correctly use past tense w/*avoir* • Correctly use negative and interrogative forms in p.comp	Act. 4, page 112 Activities on pages. 118-119	Quizzes on *passé composé* Quiz on verbs *prendre, mettre* Quiz: *P. Composé* w/*avoir*	**ACTFL:** 3.1, 3.2 **CCR:** L1, 3
Lesson 7: Achats de Corinne • *Passé Composé* with *être* • Time expressions	• Correctly use past tense w/*être* • Use time expressions correctly	Act. 6, page 125	Quiz:*P. Composé* w/*être*	**ACTFL:** 1.2, 4.2 **CCR:** SL1, 2
Lesson 8: Tu es sorti? • Verbs *partir* and *sortir* • More verbs conjugated with *être*	• Correctly use *partir* and *sortir* in past tense • Correctly use other verbs w/*être*	Write a letter describing your weekend.		**ACTFL:** 1.3 **CCR:** SL1
Vidéo-scènes 5-8	**Understand through listening**	Answer comprehension questions about video		**ACTFL:** 3.1, 3.2 **CCR:** L4
Unit 2 Review			**Unit 2 Test**	**ACTFL** 1.2 **CCR:** SL1, **SL**4

Unit 3 **Essential Questions for Unit 3** *What are the favorite foods and drinks of the French? Why do they prefer this cuisine? How does food shopping in France compare to the U. S.?*	• Talk/write about food • Know how to order food • Express food preferences • Know how to shop for food	Mini-dialogues: • Order food Mini-dialogues • Shopping		**ACTFL:** 1.2, 2.1, 4.2
Lesson 9: Food and drinks • Table setting and meals • Order food at a restaurant • Vocabulary to express preferences • Food shopping vocabulary **Cultural Topic: French cuisine**	• Cultural Awareness: Shopping in France • Use verbs correctly • Use articles correctly	Group Work: Choose and describe a French dish. Act. 5, pg. 169	Quiz: Food vocabulary	**ACTFL:** 2.1, 2.2, 3.1 **CCR:** **L**1, 2
Lesson 10: Au supermarché • Verbs *vouloir, pouvoir, devoir* • *L'article partitif*	• Talk/write about beverages • Know about stem changing verbs • Correctly use the articles	Act. 2, page 177 Act. 5, page 179	Quiz: Verbs *vouloir/pouvoir/devoir*	**ACTFL:** 1.3 **CCR:** **W**2
Lesson 11: Inviter ses copains • More verbs: *boire, acheter, préférer* • Def./indef./partitif articles		Act. 8, page 191		**ACTFL:** 1.3 **CCR:** **W**2
Lesson 12: L'addition, s'il vous plait • Quantity expressions • The adjective *tout* • The expression *il faut* + infinitif **Vidéo-scènes 9-12** **French through movies:** *La Gloire de mon Père* *Review for Mid-Term*	• Express quantities • Correctly use the adjective *tout* • Express obligation with *il faut* Understand through listening Listening/comprehension skills	Answer questions about videos Oral: Describe characters Write summary	**TEST ON** *P. COMPOSE* **MID-TERM EXAM**	**ACTFL:** 1.1, 1.2, 2.1, 4.1 **CCR:** **SL**1, **L**1, **W**2

January/February/March (MP #3)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Formative/Summ.)	STANDARDS
Unit 4 **Essential Question for Unit 4** *What do the French like to do in their free time? How does this compare/contrast to our preferences?*				
Lesson 13: Allons au spectacle • The world of French movies • Entertainment and movie vocabulary • *Le cinéma français*	• Talk about movies • Expand entertainment vocabulary • Talk about the French Cinema	Oral: Describe your favorite actor/actress. Act. 5, page 212		**ACTFL:** 4.1 **CCR:** SL2
Lesson 14: Un petit service • Object pronouns • Object pronouns after imperative	• Correctly use object pronouns • Correctly use obj. pronouns with imperative	Act. 9, page 215	Quiz on obj. pronouns	**ACTFL:** 4.1 **CCR:** SL1
Lesson 15: Une boutique de disques • Verbe *connaître* • Object Pronouns: *le, la, les*	• Correctly use verb *connaître* • Correctly use obj. pronouns		Quiz on verb *connaître*	**ACTFL:** 4.1 **CCR:** L1
Lesson 16: La voisine d'en bas • Verbes *dire, lire, écrire* • Verb *savoir* vs. *connaître* • Ind.Object Pronouns • Order of pronouns (dir. vs. ind.)	• Correctly use *dire, lire, écrire* • Know difference between 2 verbs • Correctly use indirect object pronouns		Quiz on verbs: *Dire, lire, écrire*	**ACTFL:** 1.2 **CCR:** L1
Vidéo-scènes: 13-16 **Reader: Voyage perdu** Chapter 1-4	Understanding through listening Understanding through reading	Answer comprehension questions Answer questions on those chapters	*Unit 4 test*	

Unit 4 Review **Unit 5: Vive le sport** **Essential Question for Unit 5** *What sports do the French enjoy? How does that compare to our preferences?* **Lesson 17:** • Vocabulary: Sports and you • Body parts and Health (Vocabulary)				
	• Talk about sports • Expand vocabulary about body/health	Activities on pages 288 and 289 Mini-dialogue - At the doctor's		**ACTFL:** 4.1 **CCR:** **L**1
Lesson 18: Un vrai sportif • Expressions of frequency • Verb *croire* • Vocabulary for expressing opinions	• Use expressions of frequency • Correctly use the verb *croire* • Use vocabulary for expressing opinions	Act. 10, 28	Quiz on verb *croire*	**ACTFL:** 4.1 **CCR:** **SL**2
Lesson 19: Jerôme se lève • Reflexive verbs and daily routine • Personal care activities	• Talking about everyday routine • Using correctly the reflexive verbs	Act. 1, page 297 Act. 9, page 297	Quiz on reflexive verbs	
Lesson 20: • The imperative of the reflexive verbs • Past tense of the reflexive verbs • Infinitive of the reflexive verbs	• Using reflexive verbs in imperative • Using refl. Verbs in past tense • Using refl. Verbs in infinitive	*La gymnastique du matin* *Pg. 307*	**Unit 5 Test**	**ACTFL:** 1.3 **CCR:** **SL**4
Vidéo-scènes: 17-20 **DVD:** *Les correspondantes* Visite d'une Française au Canada	Understanding through listening Gaining cultural awareness about differences between French and Canadian languages and culture	Answer questions about video series Oral Activity: Act out in groups the two characters of the DVD		**ACTFL:** 4.1 **CCR:** **L**1

April/May/June (MP #4)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Unit 6 **Essential Question for Unit 6** *What are French houses like? How do they compare to ours?* **Lesson 21: Chez nous** • Residence and house vocabulary • Parts of the house	• Tell where and how you live • Know how to look for house/rent • Describe your room	Written and then oral: • Describe your house • Describe your room		**ACTFL:** 4.1 **CCR:** **L**1
Lesson 22 • Verb *vivre* • Relative Pronouns: *qui, que*	• Build more complex sentences	Act. 4, page 332 Act. 6, page 333	Quiz on relative pronouns	**ACTFL:** 3.2, 2.1 **CCR:** **W**1
Vidéo-scènes: 21-22 **French through movies** *Le château de ma mère*	**Understand through listening** **Listening/Comprehension skills**	Written: Write summary of the movie. Oral: Describe Characters		
Lesson 23: À Menthon • Formation of the Imperfect tense • Use of the imperfect tense • *A l'école autrefois* • More expressions of frequency	• Talking/writing about past events • Expressing about repeated or continuing actions in the past • Using expressions of frequency when talking about past events	Written: *Quand j'étais petit.* Project: *Mon enfance* Poster w/pictures and paragraphs		**ACTFL:** 4.1, 2.1 **CCR:** **SL**1

Lesson 24: Montrez vos papiers! • More about imperfect tense • *Imparfait* vs. *Passé Compose*	• Understand the imperfect • Correctly use either the imperfect or perfect past tense	Written: Act. on page 351 Act. 2, page 352		**ACTFL:** 4.2 **CCR:** **SL**1, **W**1
Reader: *Au voleur, pgs 356-357*	Understand through reading	Identify different tenses in the reading and explain why are they used		**ACTFL:** 1.2 **CCR:** **W**2
Vidéo-scènes: 23-24	Understand through listening			
Unit 6 Review				
Unit 7: La mode **Essential Questions for Unit 7** *Where do the French buy their clothes and how do they dress? How does this compare with the U.S.?*				
Lesson 25 • Les jeunes Français et la mode • Vocabulary on clothing • Clothes shops • Culture: Size France vs. USA	• Know about French teens and fashion • Buy clothes • Gain awareness of difference in clothing in France and in the USA	Act. 4, page 375 Act. 7 page 376 Mini-dialogue: Store keeper – buyer	Quiz on clothing vocabulary	**ACTFL:** 2.2, 1.2 **CCR:** **W**2
Lesson 26 • Number (cardinal, ordinal) • Comparative(adverbs, adjectives)	• Rank items in a series • Correctly use adjectives and adverbs to make comparisons	Act. on page 387 Act. 3, page 383, Act. 4, 384		**ACTFL:** 1.3 **CCR:** **SL**2
Lesson 27: Corinne a une idée More on comparison: Adverbs and adjectives	• Express correctly comparisons	Oral: Compare and contrast photos of French movie stars	Quiz on comparisons	
Reader: Voyage perdu Chapters 5 through the end	Understand through reading	Answer questions about the read chapter	**Unit 7 Test**	**ACTFL:** 1.1, 2.2, 4.1
Review for Final Exam				**CCR:** **SL**1, **R**2, **W**1, **W**2

		FINAL EXAM	

IV. Assessments:

MARKING PERIOD #1

QUIZZES:

- Quiz: Regular verbs in present

- Quiz: The irregular verbs in present

- Quiz on the use of inverted questions

- Quiz on Chapters 1-4 from reader

- Quiz on *passé composé* with *avoir*

MARKING PERIOD #2

QUIZZES:

- Quiz on *passé compose* with *être*

- Quiz on food vocabulary

- Another quiz on verbs: *vouloir, pouvoir, devoir*

- Quiz on *passé composé* with *avoir* and *être*

- Quiz on Interrogative/Demonstrative Pronouns

TESTS:

- Pre AP Baseline Test

- Test on Preliminary Unit

- Test on Unit 1

- Project (Pre-AP) *Mon ami idéal*

TESTS:

- Test on Unit 2

- Test on Unit 3

- Project (Pre-AP) Present to class your favorite French actor

- Test on *Passé Composé*

- Mid-Term Exam

MARKING PERIOD #3

QUIZZES:

- Quiz on the use of verbs *connaître* and *savoir*

- Quiz on verbs: *dire, lire, écrire*

- Quiz on Chapters 1-4 (*Voyage Perdu)*

- Quiz on the use of *en* and *y*

- Quiz on the use of *imparfait*

TESTS:

- Test on Unit 4

- Test on Unit 5

- Pre-AP Project: Prepare poster: *My house, my town*

MARKING PERIOD #4

QUIZZES:

- Quiz: *L'imparfait* vs. *Le passé compose*

- Quiz on clothing vocabulary

- Quiz on the use of adjectives and comparison

- Pre-AP Writing: Write (In Class) about the main idea of the movie

TESTS

- Test on Unit 6

- Test on Unit 7

- FINAL EXAM

DATA COLLECTION:

- Pre-AP Baseline Test	- Test on Unit 3
- Test on Unit 1	- Test on Unit 4
- Test on Unit 2	- Mid-Term Exam
- Test on Unit 5	- Test on Unit 6
- Test on Unit 7	- Test on *Passe Compose*
- Test on *Imparfait*	- MID-TERM & FINAL EXAM

V. <u>Resources</u>

Text: *Discovering French Nouveau, Blanc* (Level 2)   (Chapters: Reprise through 7)
Supplementary Materials:

All supplementary materials from *Discovering French Nouveau, Rouge*
- Audio CD series   - Resource Package
- Integrated video series   - Testing and Assessment kit
- Workbooks   - Overhead visuals

Movies:
- *La Gloire de mon père*
- *Le château de ma mère*

Readers:
- *Le Voyage de ma vie*
- *Le Voyage perdu*

Online Resources :
- www.classzone.com
- www.tv

Bethel Public Schools
French 31 Curriculum 2012

I. Alignment to ACTFL and College and Career Readiness Standards

Goals: At the end of French 31, we expect students to demonstrate the following skills:

Communication: (ACTFL standards 1.1, 1.2, 1.3) (Intermediate-Low to Intermediate-Mid ACTFL Proficiency level)
   A. Speaking:
   - To handle successfully a number of familiar topics, in the present and with increasing accuracy in the past
   - To ask simple questions, respond to simple statements, and sustain short conversations of 4-7 minutes in length using complete sentences
   - To begin to apply familiar structures to new situations by combining and recombining known structures, although with much linguistic inaccuracy
   - To demonstrate increasing accuracy in pronunciation and intonation when presenting familiar material
   - To demonstrate confidence and willingness to take risks while speaking in the target language (French)

   B. Listening:
   - To understand sentence length utterances and longer, more complex conversations and narratives in a number of content areas

   C. Writing:
   - To meet limited practical writing needs such as short simple messages, letters, notes, and short summaries by recombining learned vocabulary and structures into simple sentences
   - To write in different time frames, particularly the present and with increasing accuracy in the past, showing adequate control of non-complex syntax and basic inflectional morphology

   D. Reading:
   - To understand linguistically noncomplex text on basic topics, particularly stories with much redundancy and repetition
   - To infer the meaning of unfamiliar words that are necessary in order to understand the gist of a more complex text

Culture: (ACTFL standards 2.1, 2.2, 3.1, 3.2, 4.2, 5.1, 5.2)
- To demonstrate a broader and deeper understanding of French-speaking cultures through the study of the geography, history, indigenous and modern languages, cultures, and peoples of these nations. The study of these cultures includes participation in cultural activities, presentations on these cultures, and exposure to authentic materials.

Linguistic Awareness:
- To show increasing meta-linguistic awareness of the nature of language and its grammatical structures through the inherent comparison of English and French and exposure to an even greater variety of grammatical structures and constructs (ACTFL standard 4.1)
- To show awareness of the linguistic regionalisms in the target language (French)

STANDARDS FOR FOREIGN LANGUAGE LEARNING

COMMUNICATION: Communicate in   Languages Other Than English

Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.
Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.
Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.

CULTURES: Gain Knowledge and Understanding of Other Cultures

Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.
Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.

CONNECTIONS: Connect with Other Discipline s and Acquire Information

Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language.

Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.

COMPARISONS: Develop Insight into the Nature of Language and Culture

Standard 4.1: Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.

Standard 4.2: Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

COMMUNITIES: Participate in Multilingual Communities at Home & Around the World

Standard 5.1: Students use the language both within and beyond the school setting.

Standard 5.2: Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

College and Career Readiness Anchor Standards for Reading

Key Ideas and Details
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter,

scene, or stanza) relate to each other and the whole.
6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas
7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity
10. Read and comprehend complex literary and informational texts independently and proficiently.

College and Career Readiness Anchor Standards for Writing

Text Types and Purposes
1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.

8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.
9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

Comprehension and Collaboration
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

College and Career Readiness Anchor Standards for Language

Conventions of Standard English
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

II. What are the most important things that will be covered in French 31:

1. Review of previous knowledge, such as description of self and others, likes and dislikes, people and places, activities, and daily routines
2. Review of regular and irregular present tense verbs
3. Unequal and equal comparisons
4. Camping and nature vocabulary
5. Expansion of *passé composé*, and *imparfait* tenses
6. Formal and informal commands
7. Environment vocabulary
8. Vocabulary on volunteer activities and projects
9. Expansion of vocabulary on leisure activities and pastimes, family relationships, vacation activities, places in a city, and house vocabulary
10. Expansion of personal characteristics with vocabulary related to professions
11. Future events
12. Hypothetical events and feelings (at an introductory and more complex level)
13. Increasingly complex narration in the past and future
14. Grammatical structures: Conjugation and use of verbs in the future, conditional, and subjunctive tenses, formation of compound tenses (present, past, future
15. Cultural units include the study of French-speaking countries and nations in Europe, North America (Canada), Africa, the exposure to authentic materials such as video series, poems, folk tales, short stories, and internet sites in French, and the study of the history and culture of these nations and their indigenous and modern peoples.
15. Expansion of vocabulary on health, healthy/unhealthy lifestyle/habits (smoking, exercise) and their impact on our health
16. Additional expansion of vocabulary on entertainment world and movies enabling students to discuss a movie in depth

III. <u>Pacing Guide:</u>

August/September/October (MP #1)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Preliminary Unit (8 days) *Essential Questions:* *What are some of the cultural practices in the francophone world and how do they compare to those in the USA?*			**Pre-AP:** **Baseline Test**	**ACTFL:** 1.1, 1.2, 1.3 2.1, 2.2 **CCR:** **R**1, 2
Reprise A • Verb *être* and the adjectives • Verb *avoir* and expressions with it • Verb *aller* and *venir* • *Le futur proche* and *le passé composé* • Present Tense: Reg/Irregular verbs	• Give/ask for personal info • Introduce oneself and others • Describe oneself and others • Use *avoir* correctly in present • Use *aller* and *venir* in present • Use verbs correctly in present • Use *le futur proche* and *le passé composé*	- Fill-in forms with personal info - Interview one-another - Describe the ideal parent(Pre-AP) - Practice with Activity 4, page 5 - Practice act. bottom of page 5 - Change from 1st to 3rd person, - Practice with activity on page 6	Quiz on conjugation of regular/irregular verbs in present tense	**ACTFL:** 3.1, 4.1 **CCR:** **L**1, 2
Reprise B • Verbs: *manger, boire, prendre* • Food and preferences • Basic questions in present tense • Cultural Content: French teens and their vacation destinations	• Correctly use the articles • Talk about food and preferences • Inquire in the target language about basic things	- Answer questions from page 9 - Do activities on pages 10 and 11	Quiz on verbs *manger, boire, prendre*	**ACTFL:** 3.1, 4.1 **CCR:** **L**1, 2
Reprise C • Week-end activities • *Le Passé Composé* w/*être* & *avoir* • *L'imparfait* • Basic questions in the past tense • Direct and indirect object pronouns	• Talk about week-day activities • Talk about week-end activities • Use correctly past tenses • Inquire about things in the past • Correct use of dir/indirect object pronouns	- Write paragraph in the past about your last weekend. pg. 12 - Practice the conjugation grid (use sentences) - Detectives and Witnesses (practice situations from pg.19) - Replace nouns with pronouns (Activities on pg.16, workbook)	Quiz: *Passé compose* Quiz: *L'imparfait* Quiz: The pronouns **TEST** **ON PRELIM. UNIT**	**ACTFL:** 1.2, 4.1 **CCR:** **L**1, 2 **ACTFL:** 1.1, 1.3, 3.1 **CCR:** **R**1, **W**2

Unit 1: *Au jour le jour* (14 days) **Essential Questions:** *Why do French teens care about their personal appearance? How do they dress? What is the French and American attitude on style?* • Body parts and physical description • Uses of the expression *j'ai mal à...* • Personal Care • The reflexive verbs • The daily routine activities • Imperatives with reflexive verbs • Reflexive verbs and *passé compose* • Idiomatic use of the reflexive verbs • Description of physical or emotional condition Video Drama: *Bonjour, M. Pasquier!*	• Describe oneself • Talk about health problems • Talk about personal care • Use the reflexive verbs • Use commands correctly • Use reflexive verbs in past • Talk about how you feel • Improve listening and comprehension skills	- Bring pictures and match with descriptions - Activity 3, page 43 - Describe daily routine activities - Activities on pages 46-48 - Activity 2, page 51 - Describe picture on page 53 - Vocabulary activity from page 54 (Teacher's Edition) - Answer questions about video	Quiz: Reflective Verbs in *p. composé* Quiz: Reflexive Verbs in *imparfait* **UNIT 1 TEST**	**ACTFL:** 1.3, 4.1 **CCR:** **L**1 2 **ACTFL:** 1.2, 4.1, 4.2 **CCR:** **SL**1, **L**1
• Cultural reading: The impressionists • Video DVD: *Vignette* on Impressionism • Vocabulary on art **Unit 3:** *Vive la nature (Part 1)* (14 days) **Essential Questions:** *What is the French attitude toward the environment? How does this compare to our attitude?* • Vacation and activities • Does and do nots, precautions • Review of the *passé composé* and the *imparfait*	• Gain cultural knowledge about French impressionism • Talk about vacation activities • Consolidate knowledge and use of the *passé compose* and *imparfait*	-Work in groups: Each group reads and prepares to talk about a French Impressionist - Prepare oral summary about your last vacation - Activity 5, page 116	**Pre-AP:** **Oral Presentation** Prepare an Art Poster on a French artist and present orally to class **Pre-AP:** **Writing Prompt** Write about a funny day from a past vacation.	**ACTFL:** 1.1, 1.3 **CCR:** **SL**1, 2 **ACTFL:** 1.3 **CCR:** **W**1, 2

November/December/January (MP #2)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
(Continuation of Unit 3, Part 1) • Ecology and environment related vocabulary • Reading : L'écologie à la maison • Animal vocabulary and expressions with animal words (added packet)	• Talk about the environment • Talk about environment protection • Talk about animals & their protection	- Write a paragraph about ways to protect environment and/or a paragraph on impact of environmental changes on some animal species. (writing rubric)	Pre-AP Oral Simple discussion on the environment Quiz on vocabulary	**ACTFL:** 1.1 **CCR:** **SL**1
Reading: *Le corbeau et le renard* (pg. 146)	Improve reading-comprehension skills through French authentic literature	- Answer comprehension questions	**Unit Test**	**ACTFL:** 1.2 **CCR:** **L**4
Unit 3 : Part 2 • Weather conditions and nature phenomena • *Passé comp.* and *imparfait* with time expressions *Passé simple* and its use in literature	• Talk about weather and nature • Know how to talk about events in past • Become acquainted with the *passé simple*	- Discuss weather using transparencies - Act. 4, Promenade romantique - Activities in textbook - Act. 11, on page 133	Quiz on French history	**ACTFL:** 1.2, 1.3 **CCR:** **L**4, **W1, W**2
Video drama: *Un accident* Interlude: Great moments in French history (pages 140-141) Vignette Culturelle: *La Liberation,* Movie: *Au Revoir les Enfants*	• Improve listening-comprehension skills • Learn and talk about French history	- Answer questions about video - Discussion using transparencies Also : www.classzone.com for further work - Answer questions about video	**Pre-AP** Oral Project : Movie discussion	**ACTFL:** 2.1, 3.1 **CCR:** **W**1 **ACTFL:** 1.1, 1.3 **CCR:** **SL**1, **SL**4
Unit 4 : Part 1 (10 days) **Essential Question:** *How do shopping practices in France compare to the ones in the US?* • Shopping vocabulary • The *y* and *en* pronouns • Indefinite expressions of quantity Cultural reading: En France, faites come les Français (Scenes de la vie courante) Video drama: *Mélanie fait les courses*	• Talk about shopping • Use correctly *y* and *e* • Gain shopping awareness about shopping conventions • Sharpen and improve listening-skills	- Mini shopping dialogues : Page 155 - Discuss reading - Answer questions about video	Vocabulary Quiz	**ACTFL:** 1.2 **CCR:** **L**4 **ACTFL:** 1.1 **CCR:** **SL**4

Unit 4: Part 2 • Personal hair style, getting a haircut and other services Reading : *Une histoire de cheveux* Pgs.170-175	• Learn and use vocabulary about the services • Talk about things other people do for you Listening-comprehension skills	- Mini-dialogues, Activities on pages 161,167 - Activities from textbook		**ACTFL:** 4.1 **CCR:** L1
• Pronouns : order, sequence of object pronouns in a sentence and agreement with past participle *Faire* + the infinitive Cultural Activity : French Music Readings, CD and cultural video vignette *La fête de la musique*	• Know how to order pronouns, and apply gender/number agreement • Know how to use correctly the structure *faire* + Listening-comprehension skills	- Act.1, pg.169. Have students make sentences with *faire* + infinitive **- Pre- AP: Oral Presentation** - Group presentation on different types of French music	Quiz on Obj. Pronouns Pre-AP Presentation on a French Singer **Unit Test**	**ACTFL:** 1.2, 2.1 **CCR:** L1, **W**1 **ACTFL:** 1.3 **CCR:** SL4
Unit 6: Part 1 and 2 (14 days) **Essential Question:** *What should one be aware of (culturally, linguistically) while staying in France?* • Travel : Different types of accommodations, hotel amenities, making reservations and hotel services Video drama: *À l'hôtel*	• Know how to make a reservation • Know how to buy a ticket Improve listening-comprehension skills	- In pairs, students create dialogs (Act.2 , pg. 232), - Act. 1, pg. 232, Act.1, pg. 241 - Answer comprehension questions	Presentation of Dialog: Reserving a hotel room	**ACTFL:** 1.2, 4.1 **CCR:** L1
• The comparative and superlative • Interrogative pronoun: *Lequel* • Demonstrative pronoun: *Celui* • Possessive Pronoun : *Le mien* Reading, short novel: *Aventure à Paris* (Pages 25 to end)	• Consolidate the comparative and superlative • Know how to use the interrogative pronouns Improve listening-comprehension skills	- Act. 3, 4 pg. 234, Act. 6 pg. 237 - Act. 4, page 244 - Answer comprehension questions	Quiz on interrogative and demonstrative pronouns **Unit Test** **MID-TERM EXAM**	**ACTFL:** 1.1, 1.2, 3.1, 2.1 **CCR:** R3, SL1, W1, W4

January/February/March (MP #3)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Unit 5: Part 1 & 2 (12 days) **Essential Questions for Unit 5:** *Why it is important to know how to make travel arrangements? How might one prepare for a trip to France?*			**Pre-AP Writing** Write essay about your last vacation	**ACTFL:** 1.3 **CCR:** **W**2
• Cultural Activity: Favorite French and American vacations and destinations	• Gain awareness of French vacation habits	- Act. page 188	Travel Vocabulary Quiz	**ACTFL:**1.2 **CCR:** **L**4
Video Drama: *Nicolas fait un voyage*	Listening and comprehension skills	- Answer comprehension questions	**Pre-AP** Project: *La Provence* Prepare brochure promoting the region	**ACTFL:** 1.3, 4.1 **CCR:** **W**1, 2
• More on travel: Travel plans and preparations • Buying a ticket, checking in and travelling by train or plane	• Know travel related vocabulary and expressions	- In groups, make passports, tickets - Prepare and enact scenes of an entire travel experience		
• Affirmative/negative expressions • The future tense : Regular and irregular verbs • Future with *si* and *quand* and other conjunctions	• Know these expressions and use them in present and past tense • Know how to describe what will happen	- Exercises on page 193 - Have students interview each other on future plans (Pg.202) - Activities from textbook, pgs 205-206	**Unit Test**	**ACTFL:** 1.2, 2.1 **CCR:** **L**1, **L**4, **W**1
Cultural Activity: • La Marseillaise • Reading (pgs.222-223) and Cultural Vignette Culture: • French Revolution. • Readings from text Movie: *The Lady and the Duke*	• Gain cultural awareness • Expand cultural and historical knowledge • Improve listening/comprehension	- Compare American and French anthems - Readings, questions & answers, discussion - What is the main idea of the movie? - Talk about main characters	**Pre-AP Activity** Presentation on French Revolution and discussion **Pre-AP: Oral** Movie Discussion in groups	**ACTFL** 3.1, 2.1 **CCR:** **SL**4, **ACTFL** 3.1, 2.1 **SL**4

	skills			
Unit 8 : Part 1 & 2 (8 days) **Essential Question for Unit 8:** *What are neighborhoods like in the francophone world? How do they compare to American neighborhoods?* Vocabulary: • Arranging a meeting, inviting people, describing neighborhoods, explaining where you live Video Drama: *Un rendez-vous en ville* • The Pluperfect The conditional • The conditional with *Si*+ imperfect • Conditional: polite requests and indirect speech	 • Talk about where you live, know how to invite a friend. Listening-comprehension skills • Describe what people had done or what had happened • Express what would happen • Use the conditional with <u>si</u> + imperfect	 - Mini-dialogues: An invitation, pg.306 - Describe neighborhood and where you live, pg. 312, act. 1 - Answer comprehension questions - Act. 2, 4, page 309 in textbook - Act. 3, page 315 - Exercises pages 316	 **Pre-AP Oral** Present your neighborhood to the class Quiz on conditional **Unit Test**	 **ACTFL:** 3.1, 5.1 **CCR:** **SL**4 **ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.2, 2.1 **CCR:** **L**1, **L**4
Unit 9: Part 1 & 2 (10 days) **Essential Questions for Unit 9:** *How do you express wishes and emotions in French?* • Feeling and relations • Congratulating and consoling Video Drama: *Disputes et reconciliation* • Life and its phases • Reflexive verbs used reciprocally • Relative pronouns *qui, que, dont & lequel* • Relative pronouns with *ce* Reading: *Le Bracelet* Culture: French- Speaking Africa	 • Be able to talk about feelings and relations Listening/Comprehension Skills • Know how to congratulate/console in French • Enrich vocabulary • Use correctly reflexive form of the verbs to express reciprocity • Use correctly the relative pronouns • Reading/Comprehension skills • Gain better understanding of French- Speaking Africa	 - Activity 2 on Page 349 - Mes rapports personnels, pg.351 - Answer comprehension questions - Activities on pages 352, 353 - Activities on pages 362, 363 - Activities on page 365 - Exercises in book, 371 - Make comparisons with France and the US	 **Pre-AP Writing:** Write a letter of condolence/ congratulations Quiz on relative pronouns **Unit Test** **Pre-AP** Group Poster presentations on culture and geography of French speaking Africa	 **ACTFL:** 1.2, 4.1 **CCR:** **W**1 **ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.1, 2.1 **CCR:** **L**1, **L**4 **ACTFL:** 1.3 **CCR:** **SL**4

April/May/June (MP #4)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Unit 2: Part 1 (16 days) **Essential Questions for Unit 2:** *How does one ask for and offer help in French? What jobs are available for French teens?* • Chores, domestic activities and related vocabulary Video Drama: *Nicolas au travail* • The subjunctive: formation, use • Subjunctive with *il faut,* • Differently formed subjunctives **Unit 2: Part 2** • Requesting help, accepting, refusing, showing gratitude • Irregular subjunctives • Subjunctives with impersonal expressions • Subjunctives with *vouloir que* • Describing objects Reading: Great moments in French History: • Charlemagne, Jeanne d'Arc, etc	• Improve vocabulary related to house responsibilities • Improve listening/comprehension skills • Correct use of subjunctive forms • Use subjunctive to express obligation • Request, accept or refuse help • Use correctly the irregular subjunctives • Extend knowledge of subjunctive • Enrich vocabulary describing objects • Gain cultural awareness	- Exercises on pages 75,76,78 - Write a paragraph about your responsibilities at home - Games & activities suggested in Teacher's Edition on pages 78-79 - Act. 6 & 7 page 81 - Activity 1 on page 85 - Act. No. 2, page 86 - Activities on page 87 - Qui suis-je Act. 1, page 91 - Practice describing objects - Answer questions about readings - Play Jeopardy Game. Have students make up questions and play game - Discuss and answer comprehension	Discuss video and answer questions Quiz: Regular subjunctive Quiz: Irregular subjunctive **Test on subjunctive** **Unit Test** **Pre-AP:** **Oral Presentation** Choose a French historical figure and	**ACTFL:** 1.3 **CCR:** **SL**2 **ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.1, 2.1 **CCR:** **L**1, **L**4 **ACTFL:** 1.3, 3.1, 3.2 **CCR:**

French 31 Curriculum Revised 2012   13

Vignette Culturelle, Unit 2 Reading, short novel: *Paris-Marseille* (First Half)	• Improve reading/comprehension skills	questions	present to class	**SL**4
Unit 7: Part 1 (14 days) **Essential Question:** *How is the medical system in French-speaking countries?* • Health: expressions and vocabulary, medical care Video Drama: *Nicolas est malade*	• Talk about health related topics • Improve listening/comprehension skills	- Health Survey page 263, + class health survey page 269 - Exercises 1, pg. 267, - Discuss and answer questions	Dialog: At the doctor's	**ACTFL:** 1.1, 3.1 **CCR:** **SL**1
• Subjunctive with emotions and feelings, expressions of emotions • Subjunctive with expressions of doubts and uncertainty, some expressions of certitude/doubt • Contrast between indicative and subjunctive	• Consolidate the use of subj. with expressions of emotions • Know how to use subjunctive with expressions of doubt and uncertainty • Consolidate the use of subjunctive vs. indicative	- Exercises page 273 - Exercises on page 275, - Have students come up with suggested solutions to imaginary problems	**Pre-AP** Project: *Le Tabagisme* Prepare brochure on tobacco and its risks Another quiz on subjunctive	**ACTFL:** 1.3, 3.1, 4.1 **CCR:** **W**1, 2 **ACTFL:** 1.3, 4.1 **CCR:** **L**1
Cultural Note: Médecins sans frontiers **Unit 7: Part 2** • More on Health: Accidents and dental care	• Gain cultural knowledge about organization • Talk about health issues	- Discuss and answer questions, pg 276-277 -Exercises on pages 278-279 - Write paragraph on ways to keep healthy	**Pre-AP: Writing** Write a complementary letter to the organization	**ACTFL:** 1.2 **CCR:** **W**1
Reading: • *En voyage* (Guy de Maupassant) • More expressions requiring subjunctive (from Unit 10, pages 398-401) Reading, short novel: *Paris-Marseille* (Second Half)	• Improve reading/comprehension skills • Further consolidate the use of subjunctive • Improve reading/comprehension skills	- Discuss reading, answer questions - Activities on pages 399-401 - Discuss and answer comprehension questions	**Unit Test** **FINAL EXAM**	**ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.1, 1.2, 3.1, 2.1 **CCR:** **R**3, **SL**1, **W**1, **W**4

IV. <u>Assessments:</u>

<u>MARKING PERIOD #1</u>

QUIZZES:

- Quiz: Regular/Irregular verbs in present

- Quiz: Verbs   *manger, boire, prendre*

- Quiz on the use of *passé composé*

- Quiz on the use of *imparfait*

- Quiz on the use of the pronouns

- Quiz on reflexive verbs

TESTS:

- Pre AP Baseline Test

- Test on Preliminary Unit

- Test on Unit 1

- Project (Pre-AP) Prepare poster on

  French Artist and present to class

<u>MARKING PERIOD #2</u>

QUIZZES:

- Quiz on environment vocabulary

- Quiz on French historical events

- Quiz on vocabulary from movie

- Quiz on Object Pronouns

- Quiz on Interrogative/Demonstrative Pronouns

TESTS:

- Test on Unit 3

- Test on Unit 4

- Test on Unit 6

- Project (Pre-AP) Present French singer to class

- Project (Pre-AP) Prepare brochure promoting Provence

- Project: Movie discussion

- Mid-Term Exam

MARKING PERIOD #3

QUIZZES:

- Pre-AP Writing: Essay about your last vacation

- Quiz on travel vocabulary

- Quiz on conditional

- Pre-AP: Present your neighborhood to class

- Quiz on relative pronouns

TESTS:

- Test on Unit 5

- Test on Unit 8

- Test on Unit 9

- Pre-AP Project: Prepare poster on culture
  and geography of French-speaking African
  country and present to class (in groups)

- FINAL EXAM

MARKING PERIOD #4

QUIZZES:

- Quiz on health related vocabulary

- Quiz on regular subjunctive

- Quiz on irregular subjunctive

- Dialog: At the doctor's (in groups of twos)

TESTS

- Test on Unit 2

- Test on Subjunctive

- Test on Unit 7

- Pre-AP Oral Project: Choose a French historical
  figure and present orally to class

-Project (Pre-AP) Prepare brochure anti-tobacco.

DATA COLLECTION:

- Pre-AP Baseline Test   - Test on Unit 3
- Test on Unit 1   - Test on Unit 6
- Test on Unit 4   - Mid-Term Exam
- Test on Unit 5   - Test on Unit 8
- Test on Unit 7   - Test on Subjunctive
- Test on Unit 9   - FINAL EXAM

V. <u>Resources</u>

Text: *Discovering French Nouveau, Rouge* (Level 3)   **(**Chapters: Reprise through 9)
Supplementary Materials:

      All supplementary materials from *Discovering French Nouveau, Rouge*
- Audio CD series   - Resource Package
- Integrated video series   - Testing and Assessment kit
- Workbooks   - Overhead visuals

     Movies:
- *The Lady and the Duke*
- *Au Revoir les Enfants*

     Readers:
- Teacher's Discovery : *Aventure à Paris*
- La Spiga Reader : *Paris–Marseille*

     Online Resources :
- www.classzone.com and www.tv5.org

Bethel Public Schools
French 32 Curriculum 2012

I. Alignment to ACTFL and College and Career Readiness Standards

Goals: At the end of French 32, we expect students to demonstrate the following skills:

Communication: (ACTFL standards 1.1, 1.2, 1.3) (Novice-High to Intermediate-Low ACTFL Proficiency level)
   A. Speaking:
- To handle successfully a number of familiar topics, in the present and with increasing accuracy in the past
- To ask simple questions, respond to simple statements, and sustain short conversations of 3-6 minutes in length using complete sentences
- To begin to apply familiar structures to new situations by combining and recombining known structures, although with much linguistic inaccuracy
- To demonstrate increasing accuracy in pronunciation and intonation when presenting familiar material
- To demonstrate willingness to take risks with some competence while speaking in the target language (French)

   B. Listening:
- To understand sentence length utterances and longer conversations and narratives in a number of content areas

   C. Writing:
- To meet limited practical writing needs such as short simple messages, letters, notes, and short summaries by recombining learned vocabulary and structures into simple sentences
- To write in different time frames, particularly the present and with increasing accuracy in the past, showing adequate control of non-complex syntax and basic inflectional morphology

   D. Reading:
- To understand linguistically noncomplex text on basic topics, particularly stories with much redundancy and repetition
- To infer the meaning of unfamiliar words that are necessary in order to understand the gist of a more complex text

Culture: (ACTFL standards 2.1, 2.2, 3.1, 3.2, 4.2, 5.1, 5.2)
- To demonstrate a broader understanding of French-speaking cultures through the study of the geography, history, indigenous and modern languages, cultures, and peoples of these nations. The study of these cultures includes participation in cultural activities, presentations on these cultures, and exposure to authentic materials.

Linguistic Awareness:
- To show increasing meta-linguistic awareness of the nature of language and its grammatical structures through the inherent comparison of English and French and exposure to an even greater variety of grammatical structures and constructs (ACTFL standard 4.1)
- To show awareness of the linguistic regionalisms in the target language (French)

STANDARDS FOR FOREIGN LANGUAGE LEARNING

COMMUNICATION: Communicate in Languages Other Than   English

Standard 1.1: Students engage in conversations, provide and obtain information, express feelings and emotions, and exchange opinions.
Standard 1.2: Students understand and interpret written and spoken language on a variety of topics.
Standard 1.3: Students present information, concepts, and ideas to an audience of listeners or readers on a variety of topics.

CULTURES: Gain Knowledge and Understanding of Other Cultures

Standard 2.1: Students demonstrate an understanding of the relationship between the practices and perspectives of the culture studied.
Standard 2.2: Students demonstrate an understanding of the relationship between the products and perspectives of the culture studied.

CONNECTIONS: Connect with Other Disciplines and Acquire Information

Standard 3.1: Students reinforce and further their knowledge of other disciplines through the foreign language.
Standard 3.2: Students acquire information and recognize the distinctive viewpoints that are only available through the foreign language and its cultures.

COMPARISONS: Develop Insight into the Nature of Language and Culture

Standard 4.1: Students demonstrate understanding of the nature of language through comparisons of the language studied and their own.
Standard 4.2: Students demonstrate understanding of the concept of culture through comparisons of the cultures studied and their own.

COMMUNITIES: Participate in Multilingual Communities at Home & Around the World

Standard 5.1: Students use the language both within and beyond the school setting.
Standard 5.2: Students show evidence of becoming life-long learners by using the language for personal enjoyment and enrichment.

College and Career Readiness Anchor Standards for Reading

Key Ideas and Details
1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, or ideas develop and interact over the course of a text.

Craft and Structure
4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.
5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

6. Assess how point of view or purpose shapes the content and style of a text.

Integration of Knowledge and Ideas
7. Integrate and evaluate content presented in diverse formats and media, including visually and quantitatively, as well as in words
8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

Range of Reading and Level of Text Complexity
10. Read and comprehend complex literary and informational texts independently and proficiently.

College and Career Readiness Anchor Standards for Writing

Text Types and Purposes
1. Write arguments to support claims in an analysis of substantive topics or texts using valid reasoning and relevant and sufficient evidence.
2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content.
3. Write narratives to develop real or imagined experiences or events using effective technique, well-chosen details and well-structured event sequences.

Production and Distribution of Writing
4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
5. Develop and strengthen writing as needed by planning, revising, editing, rewriting, or trying a new approach.
6. Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Research to Build and Present Knowledge
7. Conduct short as well as more sustained research projects based on focused questions, demonstrating understanding of the subject under investigation.
8. Gather relevant information from multiple print and digital sources, assess the credibility and accuracy of each source, and integrate the information while avoiding plagiarism.

9. Draw evidence from literary or informational texts to support analysis, reflection, and research.

Range of Writing
10. Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of tasks, purposes, and audiences.

College and Career Readiness Anchor Standards for Speaking and Listening

Comprehension and Collaboration
1. Prepare for and participate effectively in a range of conversations and collaborations with diverse partners, building on others' ideas and expressing their own clearly and persuasively.
2. Integrate and evaluate information presented in diverse media and formats, including visually, quantitatively, and orally.
3. Evaluate a speaker's point of view, reasoning, and use of evidence and rhetoric.

Presentation of Knowledge and Ideas
4. Present information, findings, and supporting evidence such that listeners can follow the line of reasoning and the organization, development, and style are appropriate to task, purpose, and audience.
5. Make strategic use of digital media and visual displays of data to express information and enhance understanding of presentations.
6. Adapt speech to a variety of contexts and communicative tasks, demonstrating command of formal English when indicated or appropriate.

College and Career Readiness Anchor Standards for Language

Conventions of Standard English
1. Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
2. Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

Knowledge of Language
3. Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

Vocabulary Acquisition and Use
4. Determine or clarify the meaning of unknown and multiple-meaning words and phrases by using context clues, analyzing meaningful word parts, and consulting general and specialized reference materials, as appropriate.
5. Demonstrate understanding of figurative language, word relationships, and nuances in word meanings.
6. Acquire and use accurately a range of general academic and domain-specific words and phrases sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

II. What are the most important things that will be covered in French 32:

1. Review of previous knowledge, such as description of self and others, likes and dislikes, people and places, activities, and daily routines
2. Review of regular and irregular present tense verbs
3. Unequal and equal comparisons
4. Camping and nature vocabulary
5. Expansion of *passé composé*, and *imparfait* tenses
6. Formal and informal commands
7. Environment vocabulary
8. Vocabulary on volunteer activities and projects
9. Expansion of vocabulary on leisure activities and pastimes, family relationships, vacation activities, places in a city, and house vocabulary
10. Expansion of personal characteristics with vocabulary related to professions
11. Future events
12. Hypothetical events and feelings (at an introductory level)
13. Increasingly complex narration in the past and future
14. Grammatical structures: Conjugation and use of verbs in the future, conditional, and subjunctive tenses, formation of compound tenses (present, past, future
15. Cultural units include the study of French-speaking countries and nations in Europe, North America (Canada), Africa, the exposure to authentic materials such as video series, poems, folk tales, short stories, and internet sites in French, and the study of the history and culture of these nations and their indigenous and modern peoples.

III. Pacing Guide:

August/September/October (MP #1)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Preliminary Unit (8 days) ***Essential Question:*** *What are some of the cultural practices in the francophone world and how do they compare to those in the USA?* ***Reprise A*** • Verb *être* and the adjectives • Verb *avoir* and expressions with it • Verb *aller* and *venir* • *Le futur proche* and *le passé composé* • Present Tense: Reg/Irregular verbs	 • Give/ask for personal info • Introduce oneself and others • Describe oneself and others • Use *avoir* correctly in present • Use *aller* and *venir* in present • Use verbs correctly in present • Use *le futur proche* and *le passé composé*	 - Fill-in forms with personal info - Interview one-another - Describe the ideal parent(Pre-AP) - Practice with Activity 4, page 5 - Practice act. bottom of page 5 - Change from 1st to 3rd person, - Practice with activity on page 6	 Quiz on conjugation of regular/irregular verbs in present tense	 **ACTFL:** 3.1, 4.1 **CCR:** **L**1, **L**2 **ACTFL:** 3.1, 4.1 **CCR:** **L**1, 2
Reprise B • Verbs: *manger, boire, prendre* • Food and preferences • Basic questions in present tense • Cultural Content: French teens and their vacation destinations	• Use articles correctly • Talk about food and preferences • Inquire in the target language about basic things	- Answer questions from page 9 - Do activities on pages 10 and 11	Quiz on verbs *manger, boire, prendre*	**ACTFL:** 1.2 **CCR:** **L**1, 2
Reprise C • Week-end activities • *Le Passé Composé* w/*être* & *avoir* • *L'imparfait* • Basic questions in the past tense • Direct and indirect object pronouns	• Talk about weekday activities • Talk about weekend activities • Use correctly past tenses • Inquire about things in the past • Correct use of dir/indirect object pronouns	- Write paragraph in the past about your last weekend. pg. 12 - Practice the conjugation grid (use sentences) - Detectives and Witnesses (practice situations from pg.19) - Replace nouns with pronouns (Activities on pg.16, workbook)	Quiz: *Passé compose* Quiz: *L'imparfait* Quiz: The pronouns **TEST** **ON PRELIM. UNIT**	**ACTFL:** 1.1, 1.3, 3.1 **CCR:** **R**1, **W**2

Unit 1: *Au jour le jour* (14 days) **Essential Questions:** *Why do French teens care about their personal appearance? What are the French and American attitudes on style?* • Body parts and physical description • Uses of the expression *j'ai mal à...* • Personal Care • The reflexive verbs • The daily routine activities • Imperatives with reflexive verbs • Reflexive verbs and *passé compose* • Idiomatic use of the reflexive verbs • Description of physical or emotional condition Video Drama: *Bonjour, M. Pasquier!* • Cultural reading: The impressionists • Video DVD: *Vignette* on Impressionism • Vocabulary on art **Unit 3:** *Vive la nature (Part 1)* (14 days) **Essential Questions:** *What is the French attitude toward the environment? How does it compare to the American attitude?* • Vacation and activities • Does and do nots, precautions • More on the *passé composé* and the *imparfait* • *Passe Composé* vs. *Imparfait*	• Describe oneself • Talk about health problems • Talk about personal care • Use the reflexive verbs • Use commands correctly • Use reflexive verbs in past • Talk about how you feel • Improve listening and comprehension skills • Know about French impressionism and gain cultural knowledge • Talk about vacation activities • Consolidate knowledge and use of the *passé compose* and *imparfait*	- Bring pictures and match with descriptions - Activity 3, page 43 - Describe daily routine activities - Activities on pages 46-48 - Activity 2, page 51 - Describe picture on page 53 - Vocab activity from page 54 (Teacher's Edition) - Answer questions about video - Prepare oral summary about your last vacation - Activity 5, page 116	Quiz: Reflective Verbs in *p. composé* Quiz: Reflexive Verbs in *imparfait* **UNIT 1 TEST**	**ACTFL:** 1.3, 4.1 **CCR:** **L**1, 2 **ACTFL:** 1.2, 4.1, 4.2 **CCR:** **SL**1, **L**1

November/December/January (MP #2)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS ACTFL, CCR
(Continuation of Unit 3, Part 1) • Ecology and environment related vocabulary • Reading: *L'écologie à la maison* • Animal vocabulary and expressions with animal words (added packet) Reading: *Le corbeau et le renard* (pg. 146) **Unit 3 : Part 2** • Weather conditions and nature phenomena • *Passé comp.* and *imparfait* with time expressions *Passé simple* and its use in literature Video drama: *Un accident* Interlude: Great moments in French history (pages 140-141) Vignette Culturelle: *La Liberation*, Movie: *Au Revoir les Enfants* **Unit 4: Part 1** (10 days) **Essential Question:** *How do shopping practices in France compare to the ones in the US?* • Shopping vocabulary • The *y* and *en* pronouns • Indefinite expressions of quantity Cultural reading: *En France, faites come les Français* (Scenes de la vie courante) Video drama: *Mélanie fait les courses*	• Talk about the environment • Talk about environment protection • Talk about animals & their protection • Improve reading-comprehension skills through French authentic literature • Talk about weather and nature • Know how to talk about events in past • Become acquainted with the *passé simple* • Improve listening-comprehension skills • Learn and talk about French history • Improve Listening & Comprehension Skills • Talk about shopping • Use correctly *y* and *e* • Gain shopping awareness about shopping conventions • Sharpen and improve listening-skills	- Write a paragraph about ways to protect environment and/or a paragraph on the impact of environmental changes on some animal species.(writing rubric) - Answer comprehension questions - Discuss weather using transparencies - Act. 4, Promenade romantique - Activities in textbook - Act. 11, on page 133 - Answer questions about video - Discussion using transparencies Also : www.classzone.com for further work - Answer comprehension questions - Answer questions about video - Mini shopping dialogues : Page 155 - Discuss reading - Answer questions about video	Quiz on vocabulary **Unit Test** Vocabulary Quiz Dialog (Services)	**ACTFL:** 1.2 **CCR:** **L**4 **ACTFL:** 1.2, 1.3 **CCR:** **L**4, **W1, W2** **ACTFL:** 1.2 **CCR:** **L**4 **ACTFL:** 1.1 **CCR:** **SL**4

Unit 4: Part 2 • Personal hair style, getting a haircut and other services Reading : Une histoire de cheveux : Pgs.170-175 • Pronouns : order, sequence of object pronouns in a sentence and agreement with past participle *Faire* + the infinitive Cultural Activity : French Music Readings, CD and cultural video vignette *La fête de la musique*	• Learn and use vocabulary about the services • Talk about things other people do for you Listening-comprehension skills • Know how to order pronouns, and apply gender/number agreement • Know how to use correctly the structure *faire +* • Listening-comprehension skills	- Mini-dialogues, Activities on pages 161,167 - Activities from textbook - Act.1, pg.169. Have students make sentences with *faire* + infinitive	Quiz on Obj. Pronouns Unit Test	**ACTFL:** 4.1 **CCR:** **L**1 **ACTFL:** 1.2, 2.1 **CCR:** **L**1, **W**1
Unit 6: Part 1 and 2 (14 days) **Essential Question:** *What should one be aware of (culturally, linguistically) while staying in France?* • Travel : Different types of accommodations, hotel amenities, making reservations and hotel services Video drama: *À l'hôtel* • The comparative and superlative • Interrogative pronoun: *Lequel* • Demonstrative pronoun: *Celui* • Possessive Pronoun: *Le mien* Reading, short novel: *Aventure à Paris* (Pages 25 to end)	 • Know how to make a reservation • Know how to buy a ticket • Improve listening-comprehension skills • Consolidate the comparative and superlative • Know how to use the interrogative pronouns • Improve listening-comprehension skills	- In pairs, students create dialogs (Act.2 , pg. 232), - Act. 1, pg. 232, Act.1, pg. 241 - Answer comprehension questions - Act. 3, 4 pg. 234, Act. 6 pg. 237 - Act. 4, page 244 - Answer comprehension questions	Presentation of Dialog: Reserving a hotel room Quiz on interrogative/ demonstrative pronouns **Unit Test** **MID-TERM EXAM**	**ACTFL:** 1.3 **CCR:** **SL**4 **ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.1, 1.2, 3.1, 2.1 **CCR:** **R**3, **SL**1, **W**1, **W**4

January/February/March (MP #3)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Unit 5: Part 1 & 2 (12 days) **Essential Question for Unit 5:** *How does one make travel arrangements and prepare for a trip to France?* • Cultural Activity: Favorite French and American vacation destinations	• Gain awareness of French vacation habits	- Act. page 188	Write essay about your last vacation.	**ACTFL:** 1.3 **CCR:** **W**2
Video Drama: *Nicolas fait un voyage* • More on travel: Travel plans and preparations • Buying a ticket, checking in and travelling by train or plane	• Listening and comprehension skills • Know travel related vocabulary and expressions	- Answer comprehension questions - Make passport, tickets, and in groups, - Prepare and enact scenes of an entire travel experience	Travel Vocabulary Quiz	**ACTFL:**1.2 **CCR:** **L**4
• Affirmative/negative expressions • The future tense: Regular and irregular verbs • Future with *si* and *quand* and other conjunctions	• Know these expressions and use them in present and past tense • Know how to describe what will happen	- Exercises on page 193 - Have students interview each other on future plans (Pg.202) - Activities from textbook, page 205-206	**Unit Test**	**ACTFL:** 1.2, 2.1 **CCR:** **L**1, **L**4, **W**1
Cultural Activity: • La Marseillaise • Reading (pgs.222-223) and Cultural Vignette Culture: • French Revolution. • Readings from text	• Gain cultural awareness • Expand cultural and historical knowledge	- Compare American and French anthems - Readings, questions & answers, discussion		

Unit 8 : Part 1 & 2 (8 days) **Essential Questions for Unit 8:** *What are neighborhoods like in the francophone world? How do they compare to neighborhoods in the US?* Vocabulary: • Arranging a meeting, inviting people, describing neighborhoods, explaining where you live Video Drama: *Un rendez-vous en ville* • The Pluperfect The conditional • The conditional with *Si*+ imperfect • Conditional: polite requests and indirect speech	 • Talk about where you live, know how to invite a friend. • Listening-comprehension skills • Describe what people had done or what had happened • Express what would happen • Use the conditional with <u>si</u> + imperfect	- Mini-dialogues: An invitation, pg., 306; - Describe neighborhood and where you live, pg. 312, act. 1 - Answer comprehension questions - Act. 2, 4, page 309 in textbook - Act. 3, page 315 - Exercises pages 316	 Quiz on conditional **Unit Test**	**ACTFL:** 1.2, 4.1 **CCR:** **W**1 **ACTFL:** 1.1, 2.1 **CCR:** **L**1, **L**4
Unit 9: Part 1 & 2 (10 days) **Essential Questions for Unit 9:** *How can you express wishes and emotions in French?* • Feeling and relations • Congratulating and consoling Video Drama: *Disputes et reconciliation* • Life and its phases • Reflexive verbs used reciprocally • Relative pronouns *qui, que, dont & lequel* • Relative pronouns with *ce* Reading: *Le Bracelet*	 • Be able to talk about feelings and relations • Listening/Comprehension Skills • Know how to congratulate/console in French • Enrich vocabulary • Use correctly reflexive form of the verbs to express reciprocity • Use correctly the relative pronouns • Reading/Comprehension skills • Gain better understanding of	- Activity 2 on Page 349 - Mes rapports personnels, pg.351 - Answer comprehension questions - Activities on pages 352, 353 - Activities on pages 362, 363 - Activities on page 365 - Exercises in book, 371 - Make comparisons with France and the US	 Quiz on relative pronouns **Unit Test**	**ACTFL:** 1.3 **CCR:** **SL**4 **ACTFL:** 1.1, 2.1 **CCR:** **L**1, **L**4

| Culture: French- Speaking Africa | French- Speaking Africa | | | |

April/May/June (MP #4)

CONTENT & ESSENTIAL QUESTIONS	SKILLS	ACTIVITIES	ASSESSMENTS (Form./Summ.)	STANDARDS
Unit 2: Part 1 (16 days) **Essential Question for Unit 2:** *How does one ask for and offer help in French? What jobs are available for French teens?* • Chores, domestic activities and related vocabulary Video Drama: *Nicolas au travail* • The subjunctive: formation, use • Subjunctive with *il faut,* • Differently formed subjunctives **Unit 2: Part 2** • Requesting help, accepting, refusing, showing gratitude • Irregular subjunctives • Subjunctives with impersonal expressions • Subjunctives with *vouloir que* • Describing objects Reading: Great moments in French History: • Charlemagne, Jeanne d'Arc, etc	• Improve vocabulary related to house responsibilities • Improve listening/comprehension skills • Correct use of subjunctive forms • Use subjunctive to express obligation • Request, accept or refuse help • Use correctly the irregular subjunctives • Extend knowledge of subjunctive • Enrich vocabulary describing objects	- Exercises on pages 75,76,78 - Write a paragraph about your responsibilities at home - Games & activities suggested in Teacher's Edition on pages 78-79 - Act. 6 & 7 page 81 - Activity 1 on page 85 - Act. No. 2, page 86 - Activities on page 87 - Qui suis-je Act. 1, page 91 - Practice describing objects using transparencies, objects in class/brought in - Answer questions about readings - Play Jeopardy Game. Have students make up questions and play game	Discuss video and answer questions Quiz: Regular subjunctive Quiz: Irregular subjunctive Test on subjunctive	**ACTFL:** 1.3 **CCR:** **SL**2 **ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.2, 4.1 **CCR:** **L**1 **ACTFL:** 1.1, 2.1 **CCR:** **L**1, **L**4 **ACTFL:** 1.3, 3.1,3.2

			Unit Test	CCR: SL4
Vignette Culturelle, Unit 2	• Gain cultural awareness			
Unit 7: Part 1　(14 days) **Essential Question:** *How do you describe the medical system in French-speaking countries?*				
• Health: expressions and vocabulary, medical care Video Drama: *Nicolas est malade*	• Talk about health related topics • Improve listening/comprehension skills	- Health Survey page 263, + class health survey page 269 - Exercises 1, pg. 267, - Discuss and answer questions	Dialog: At the doctor's	**ACTFL:** 1.1, 3.1 **CCR:** **SL**1
• Subjunctive with emotions and feelings, expressions of emotions • Subjunctive with expressions of doubts and uncertainty, some expressions of certitude/doubt • Contrast between indicative and subjunctive Cultural Note: Médecins sans frontiers	• Consolidate the use of subj. with expressions of emotions • Know how to use subjunctive with expressions of doubt, and uncertainty • Consolidate the use of subjunctive vs. indicative • Gain cultural knowledge about organization	- Exercises page 273 - Exercises on page 275, - Have students come up with suggested solutions to imaginary problems - Discuss and answer questions, pg 276-277	Another quiz on subjunctive **Unit Test**	**ACTFL:** 1.3, 4.1 **CCR:** **L**1
Unit 7: Part 2 • More on Health: Accidents and dental care Reading: • *En voyage* (Guy de Maupassant) • More expressions requiring subjunctive (from Unit 10, pages 398-401) Reading, short novel: *Paris-Marseille* (Second Half)	• Talk about health issues • Improve reading/comprehension skills • Further consolidate the use of subjunctive • Improve reading/comprehension skills	-Exercises on pages 278-279 - Write paragraph on ways to keep healthy - Discuss about reading, answer questions - Activities on pages 399-401 - Discuss and answer comprehension questions	**FINAL EXAM**	**ACTFL:** 1.1, 2.1 **CCR:** **L**1, **L**4 **ACTFL:** 1.1, 1.2, 3.1, 2.1 **CCR:** **R**3, **SL**1, **W**1, **W**4

IV. Assessments:

MARKING PERIOD #1

QUIZZES:

- Quiz: Regular/Irregular verbs in present

- Quiz: Verbs   *manger, boire, prendre*

- Quiz on the use of *passé composé*

- Quiz on the use of *imparfait*

- Quiz on the use of the pronouns

- Quiz on reflexive verbs

TESTS:

- Test on Preliminary Unit

- Test on Unit 1

- Test on Unit 5

- Mid-Term Exam

MARKING PERIOD #3

QUIZZES:

- Quiz on travel vocabulary

- Quiz on regular subjunctive

- Quiz on conditional

MARKING PERIOD #2

QUIZZES:

- Quiz on environment vocabulary

- Quiz on French historical events

- Quiz on vocabulary from movie

- Quiz on Object Pronouns

- Quiz on Interrogative/Demonstrative Pronouns

TESTS:

- Test on Unit 3

- Test on Unit 4

- Test on Unit 6

MARKING PERIOD #4

QUIZZES:

- Quiz on health related vocabulary

- Quiz on irregular subjunctive

- Quiz on relative pronouns

TESTS:

- Test on Unit 5

- Test on Unit 8

- Test on Unit 9

- FINAL EXAM

TESTS

- Test on Unit 2

- Test on Subjunctive

- Test on Unit 7

DATA COLLECTION:

- Test on Unit 1
- Test on Unit 4
- Mid-Term Exam
- Test on Unit 5
- Test on Unit 7
- Test on Unit 9

- Test on Unit 3
- Test on Unit 6

- Test on Unit 8
- Test on Subjunctive
- FINAL EXAM

V. <u>Resources</u>

Text: *Discovering French Nouveau, Rouge* (Level 3) (Chapters: Reprise through 9)
Supplementary Materials:

All supplementary materials from *Discovering French Nouveau, Rouge*
- Audio CD series
- Integrated video series
- Workbooks

- Resource Package
- Testing and Assessment kit
- Overhead visuals

Movies:
- The Lady and the Duke
- Au Revoir les Enfants

Readers:
- Teacher's Discovery : Aventure à Paris

Online Resources :
- www.classzone.com
- www.tv5.org