



# Math Pathways

Presentation to the Woodbridge Board of Education

February 26th, 2024

Frank Purcaro, Assistant Superintendent

Amity Region #5



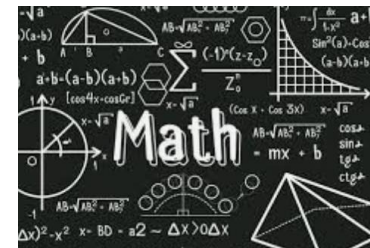
# Presentation Contents

- MS Pathways to Advanced Math
- HS Pathways to Advanced Math
- 2018-19 Grade 7 Cohort Math Pathways Analysis
- 2019-20 Grade 7 Cohort Math Pathways Analysis
- AP Math Enrollment by Year, Grade, Performance & Town (3 Year Trends)



# MS Pathways to Advanced Math

## Math Entry Points in 7th Grade



### 7th Grade Accelerated Math/Algebra I

4 Major considerations for placement in Algebra:

1. **At least a 97<sup>th</sup> percentile** on all STAR/iReady assessments in grades 5 and 6 (with one score exception).
2. \*Meets all 5 classroom performance criteria as rated by 6<sup>th</sup> grade teachers.
3. Must “exceed” Mathematical Claims as rated by 6<sup>th</sup> grade teachers .
4. **Must take** the Pre-Algebra Final Exam and achieve a grade of B+ or higher

### 7th Grade Advanced Math/Pre-Algebra

3 Major considerations for placement in Pre-Algebra:

1. 6<sup>th</sup> Grade Math STAR/iReady Scale Scores (SS) - **at least an 83<sup>rd</sup> percentile** on Winter and Spring Assessments.
2. Meets at least 4 out of 5 classroom performance criteria as rated by 6<sup>th</sup> grade teachers.\*
3. **Must “meet” or “exceed”** SBA Mathematical Claims as rated by 6<sup>th</sup> grade teachers.

### 7th Grade Math/Comp

Traditional, direct placement from 6th grade math.

Parents can waive students in 7<sup>th</sup> Grade Advanced Math/Pre-Algebra.

**\*Classroom performance criteria factors considered by 6<sup>th</sup> grade teachers includes:** Outstanding math achievement (>85% on summative assessments), Completes homework on time with attention to detail and organization; Independent learner, perseveres toward mastery; Developmentally mature, thinks abstractly, makes connections; Ability to make relevant applications of new concepts

# 7<sup>th</sup> to 8<sup>th</sup> Grade Placement

## 7th Grade Accelerated Math/Algebra I

Student meets criteria and moves to **Geometry** in 8<sup>th</sup> grade.



## 7th Grade Advanced Math/Pre-Algebra

Student meets the criteria and receives teacher recommendation to advance to **Algebra I**.

**OR**

If the student does not meet the criteria/recommendation, parent has the option of **waiving** student into Algebra I

## 7th Grade Math/Comp

Student advances to **8<sup>th</sup> Grade Math**.

**Option #1:** High achievement and teacher recommendation, student moves to **Pre-Algebra** at the mid year.

**Option #2:** Student advances to **Pre-Algebra** after meeting assessment criteria, completion of summer work, and teacher recommendation

**INCOMING 7<sup>TH</sup> GRADE STUDENTS**

Meets criteria to take Pre-Algebra Assessment

Meets criteria to be placed in Pre-Algebra

Does not meet criteria to take Pre-Algebra

**ALGEBRA I**

**GRADE 7 PRE-ALGEBRA**

**GRADE 7 MATH**

Meets criteria to take Geometry

Meets criteria/Teacher recommendation to take Algebra I

Does not meet criteria/Teacher recommendation to take Algebra I

Meets criteria/Teacher recommendation to move to Pre-Algebra in January

Teacher recommendation and successful completion of summer work and assessment criteria.

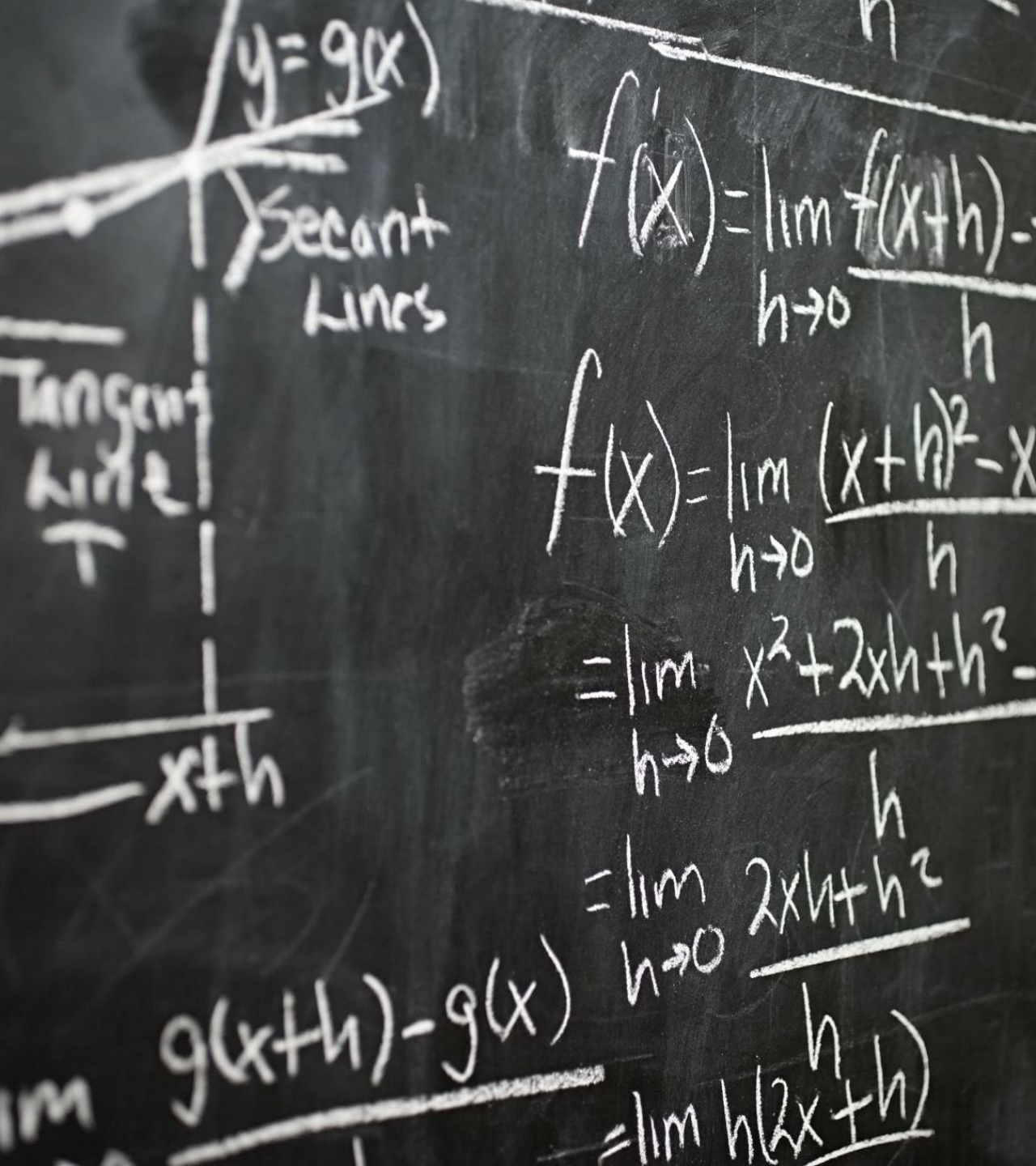
**GEOMETRY**

**ALGEBRA I**

**GRADE 8 MATH**

**WAIVE**

**WAIVE**



## HS Pathway to Advanced Math


- Students placed in Grade 7 Math/Comp, Advanced Math/Pre-Calculus and Accelerated Math/Algebra I **ALL** have a pathway to Calculus in HS.
- The next slides include:
  1. Overview of HS Math Pathways.
  2. Trace the current pathway of the 2018-19 Grade 7 Cohort.
  3. Trace the current pathway of the 2019-20 Grade 7 Cohort.

# Student Example #1 – Geometry in 8<sup>th</sup> Grade

Geometry

Algebra I

8th Grade Math




Grade	Course
8 <sup>th</sup>	Geometry
9 <sup>th</sup>	Algebra II Hon/L1
10 <sup>th</sup>	Precalculus Hon/L1
11 <sup>th</sup>	Calculus AP/L1
12 <sup>th</sup>	AP Statistics

# Student Example #2 – Algebra I in 8<sup>th</sup> Grade

Geometry

Algebra I

8th Grade Math



<b>Grade</b>	<b>Course</b>
8 <sup>th</sup>	Algebra 1
9 <sup>th</sup>	Geometry Hon/L1
10 <sup>th</sup>	Algebra II Hon/L1
11 <sup>th</sup>	Precalculus Hon/L1
12 <sup>th</sup>	Calculus AP/L1 & AP Statistics





# Student Example #3 – 8th Grade Math


Geometry

Algebra I

8th Grade Math


Option #1		
	Grade	Course
	8 <sup>th</sup>	8 <sup>th</sup> Grade Math
	9 <sup>th</sup>	Algebra I
	10 <sup>th</sup>	Geometry
	11 <sup>th</sup>	Algebra II
	12 <sup>th</sup>	Precalculus

Option #2 – Summer Geometry		
	Grade	Course
	8 <sup>th</sup>	8 <sup>th</sup> Grade Math
	9 <sup>th</sup>	Algebra I
	Summer	Geometry
	10 <sup>th</sup>	Algebra II
	11 <sup>th</sup>	Precalculus
	12 <sup>th</sup>	Calculus

Option #3 – Double Math		
	Grade	Course
	8 <sup>th</sup>	8 <sup>th</sup> Grade Math
	9 <sup>th</sup>	Algebra I
	10 <sup>th</sup>	Geometry & Algebra II
	11 <sup>th</sup>	Precalculus
	12 <sup>th</sup>	Calculus

# 2018-19 Grade 7 Cohort\* - Current 12<sup>th</sup> Graders

## Algebra I in 7<sup>th</sup> Grade and Geometry in 8<sup>th</sup> Grade

	Grade	Course
	8 <sup>th</sup>	Geometry
	9 <sup>th</sup>	Algebra II Hon/L1
	10 <sup>th</sup>	Precalculus Hon/L1
	11 <sup>th</sup>	Calculus AP/L1
	12 <sup>th</sup>	AP Statistics


7 <sup>th</sup> Grade Accelerated/Algebra I / 2018-19 School Year / 4 Students Total	
Course in Grade 11 (2022-23 School Year)	AP Calculus
# of Students	4
Current Grade 12 Course (2023-24 School Year)	AP Statistics
# of Students	4
Percent	100%

In 2018-19, 4 students were enrolled in Algebra I in 7<sup>th</sup> grade; all 4 advanced to AP Calculus and AP Statistics in their 12<sup>th</sup> grade year.

\* These are “loose” cohorts, as the data does not account for students who moved in or out of district.

# 2019-20 Grade 7 Cohort\* - Current 11<sup>th</sup> Graders

## Algebra I in 7<sup>th</sup> Grade and Geometry in 8<sup>th</sup> Grade

	Grade	Course
	8 <sup>th</sup>	Geometry
	9 <sup>th</sup>	Algebra II Hon/L1
	10 <sup>th</sup>	Precalculus Hon/L1
	11 <sup>th</sup>	Calculus AP/L1
12 <sup>th</sup>	AP Statistics	


7 <sup>th</sup> Grade Accelerated/Algebra I / 2019-20 School Year / 2 Students Total		
Current Grade 11 Course (2023-24 School Year)	AP Calculus AB	AP Calculus BC
# of Students	1	1

In 2019-20, 2 students were enrolled in Algebra I in 7<sup>th</sup> grade; both students are currently in AP Calculus this year.

\* These are “loose” cohorts, as the data does not account for students who moved in or out of district.

# 2018-19 Grade 7 Cohort\* - Current 12<sup>th</sup> Graders

## PreAlgebra in 7<sup>th</sup> Grade and Algebra I in 8<sup>th</sup> Grade




Grade	Course
8 <sup>th</sup>	Algebra 1
9 <sup>th</sup>	Geometry Hon/L1
10 <sup>th</sup>	Algebra II Hon/L1
11 <sup>th</sup>	Precalculus Hon/L1
12 <sup>th</sup>	Calculus AP/L1 & AP Statistics

7 <sup>th</sup> Grade Advanced/Pre-Algebra / 2018-19 School Year / 119 Students Total					
Current Grade 12 Course (2023-24 School Year)	<u>PreCalc L1</u>	Calc L1	AP Calc AB	AP Calc BC	AP Stats
# of Students	9	24	21	11	24
Percent	8%	20%	18%	9%	20%

In 2018-19, 119 students were enrolled in PreAlgebra in 7<sup>th</sup> grade; 89 of the students were enrolled in courses ranging from PreCalc L1 through AP Statistics in their 12<sup>th</sup> grade year, with the majority of students in one of the two AP Calc offerings.

# 2019-20 Grade 7 Cohort\* - Current 11<sup>th</sup> Graders

## PreAlgebra in 7<sup>th</sup> Grade and Algebra I in 8<sup>th</sup> Grade




Grade	Course
8 <sup>th</sup>	Algebra 1
9 <sup>th</sup>	Geometry Hon/L1
10 <sup>th</sup>	Algebra II Hon/L1
11 <sup>th</sup>	Precalculus Hon/L1
12 <sup>th</sup>	Calculus AP/L1 & AP Statistics

7 <sup>th</sup> Grade Advanced/Pre-Algebra / 2019-20 School Year / 124 Students Total				
Current Grade 11 Course (2023-24 School Year)	Algebra II L1	<u>PreCalc L1</u>	<u>PreCalc LH</u>	AP Calc AB
# of Students	13	56	28	1
Percent	11%	46%	23%	1%

For the tables above, if a student is currently in Alg II L1, they will most likely be in PreCalc L1 next year. For the students in PreCalc LH, they will most likely be in either AP Calc class and/or AP Stats. For the students in PreCalc L1, they may go to Calc L1 or AP Stats (they can waive into AP Calc).

# 2018-19 Grade 7 Cohort\* - Current 12<sup>th</sup> Graders


## 7th Grade Math, then 8th Grade Math

Option #1		
	Grade	Course
	8 <sup>th</sup>	8 <sup>th</sup> Grade Math
	9 <sup>th</sup>	Algebra I
	10 <sup>th</sup>	Geometry
	11 <sup>th</sup>	Algebra II
	12 <sup>th</sup>	Precalculus

7 <sup>th</sup> Grade Math/Comp / 2018-19 School Year / 161 Students Total					
Current Grade 12 Course (2023-24 School Year)	<u>PreCalc L1</u>	Calc L1	AP Calc AB	Statistics L1	AP Stats
# of Students	19	3	1	16	1
Percent	12%	2%	1%	10%	1%

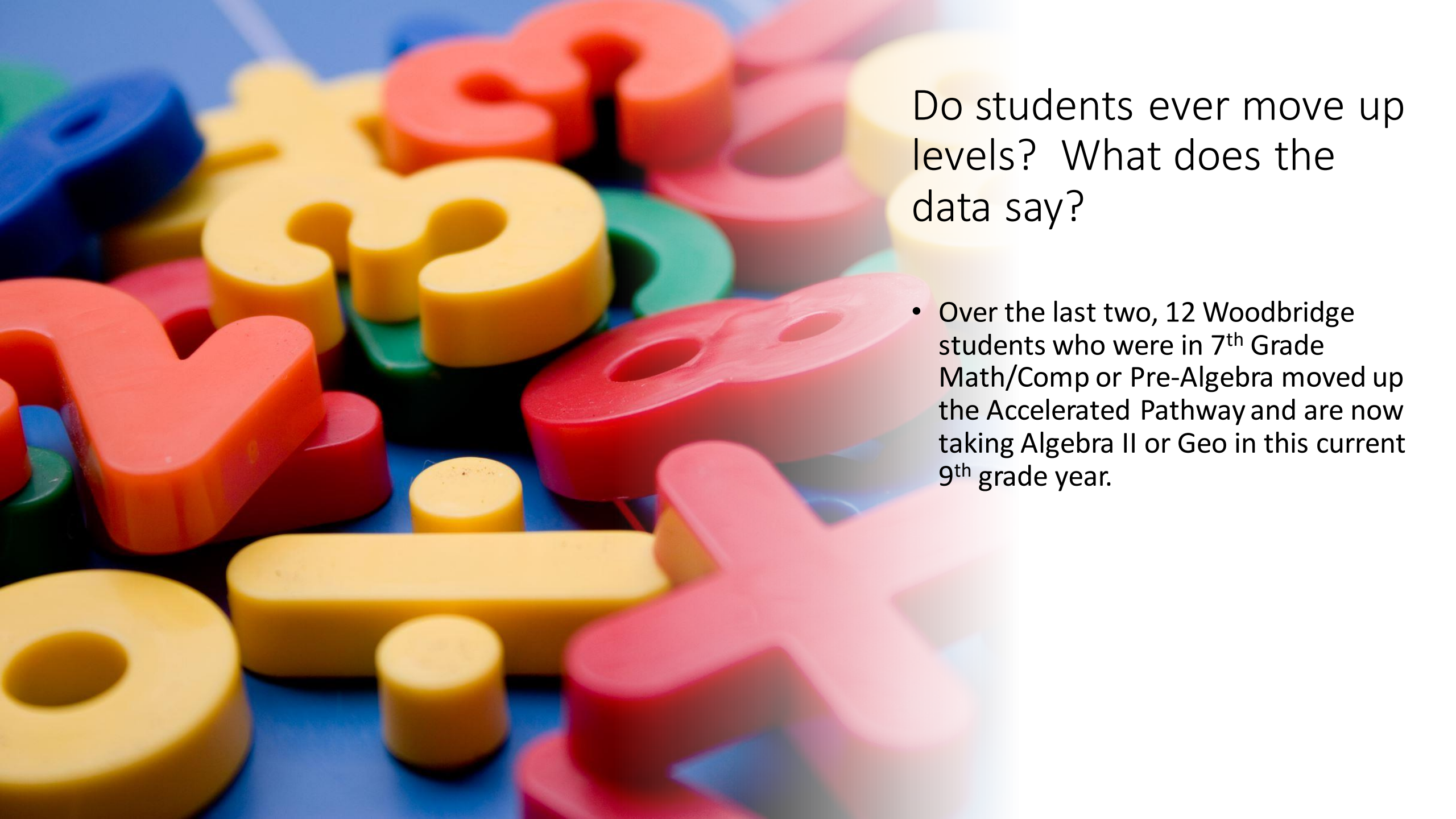
# 2019-20 Grade 7 Cohort\* - Current 11<sup>th</sup> Graders

## 7th Grade Math, then 8th Grade Math

Option #1		
	Grade	Course
	8 <sup>th</sup>	8 <sup>th</sup> Grade Math
	9 <sup>th</sup>	Algebra I
	10 <sup>th</sup>	Geometry
	11 <sup>th</sup>	Algebra II
12 <sup>th</sup>	Precalculus	

7 <sup>th</sup> Grade Math/Comp / 2019 School Year / 154 Students Total		
Current Grade 11 Course (2023-24 School Year)	Algebra II L1	<u>PreCalc LH</u>
# of Students	21	1
Percent	14%	1%

For the tables above, if a student is currently in Alg II L1, they will most likely be in PreCalc L1 next year. For the students in PreCalc LH, they will most likely be in either AP Calc class and/or AP Stats. For the students in PreCalc L1, they may go to Calc L1 or AP Stats (they can waive into AP Calc).

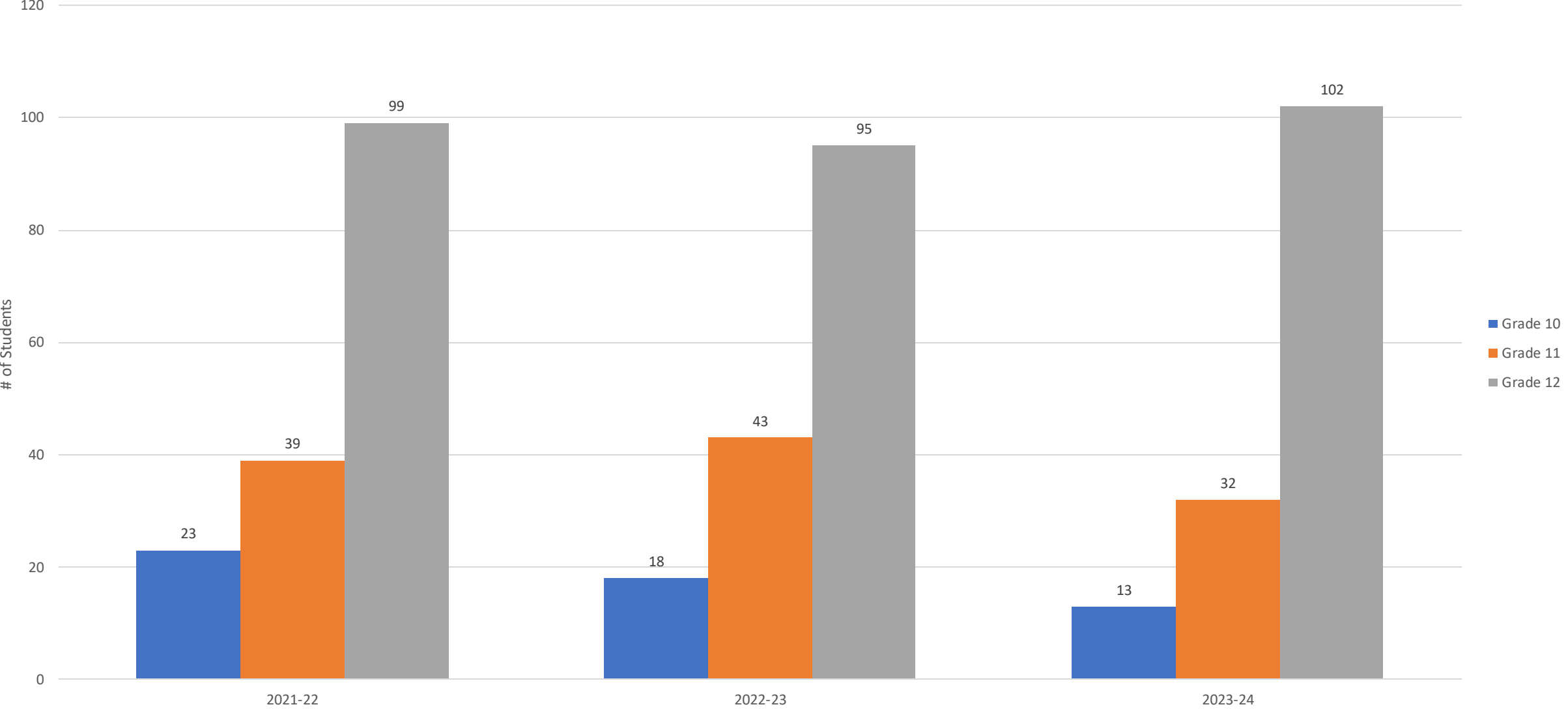


Do students ever move up levels? What does the data say?

- Over the last two, 12 Woodbridge students who were in 7<sup>th</sup> Grade Math/Comp or Pre-Algebra moved up the Accelerated Pathway and are now taking Algebra II or Geo in this current 9<sup>th</sup> grade year.

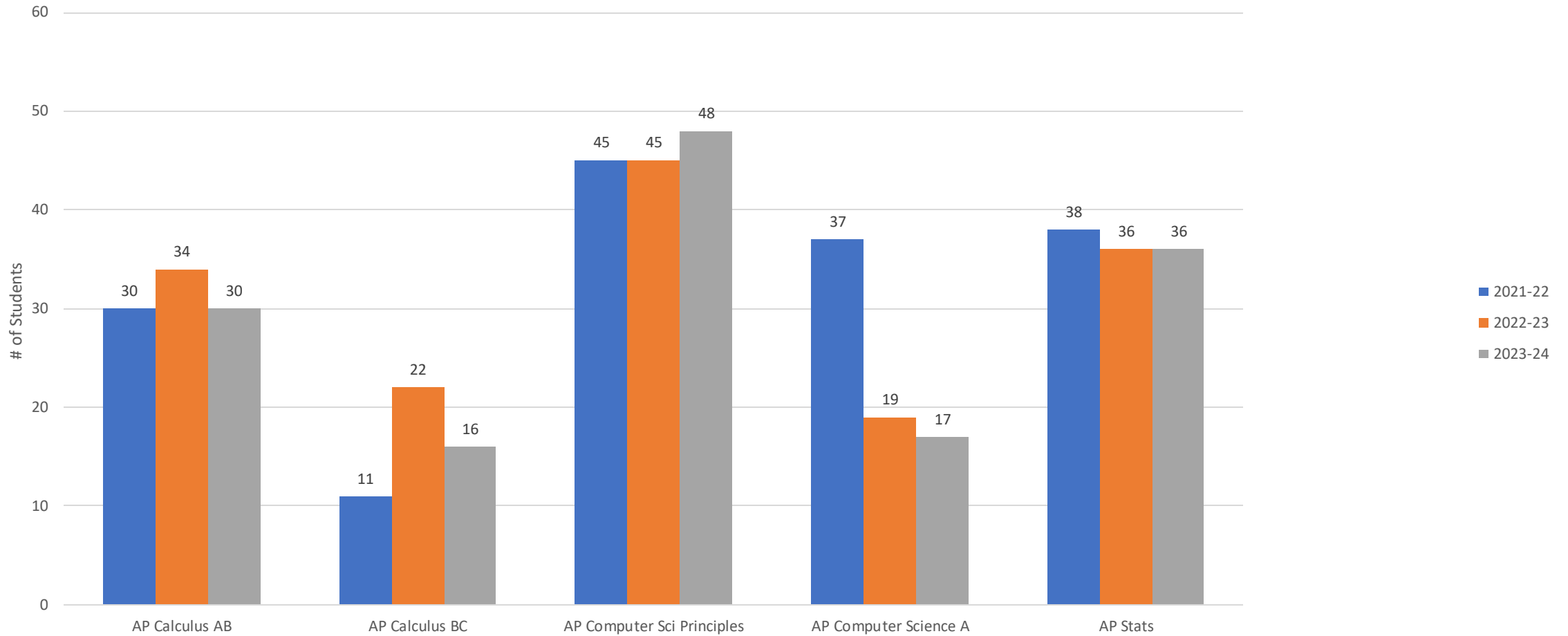


# AP Math Enrollments by Grade by Year



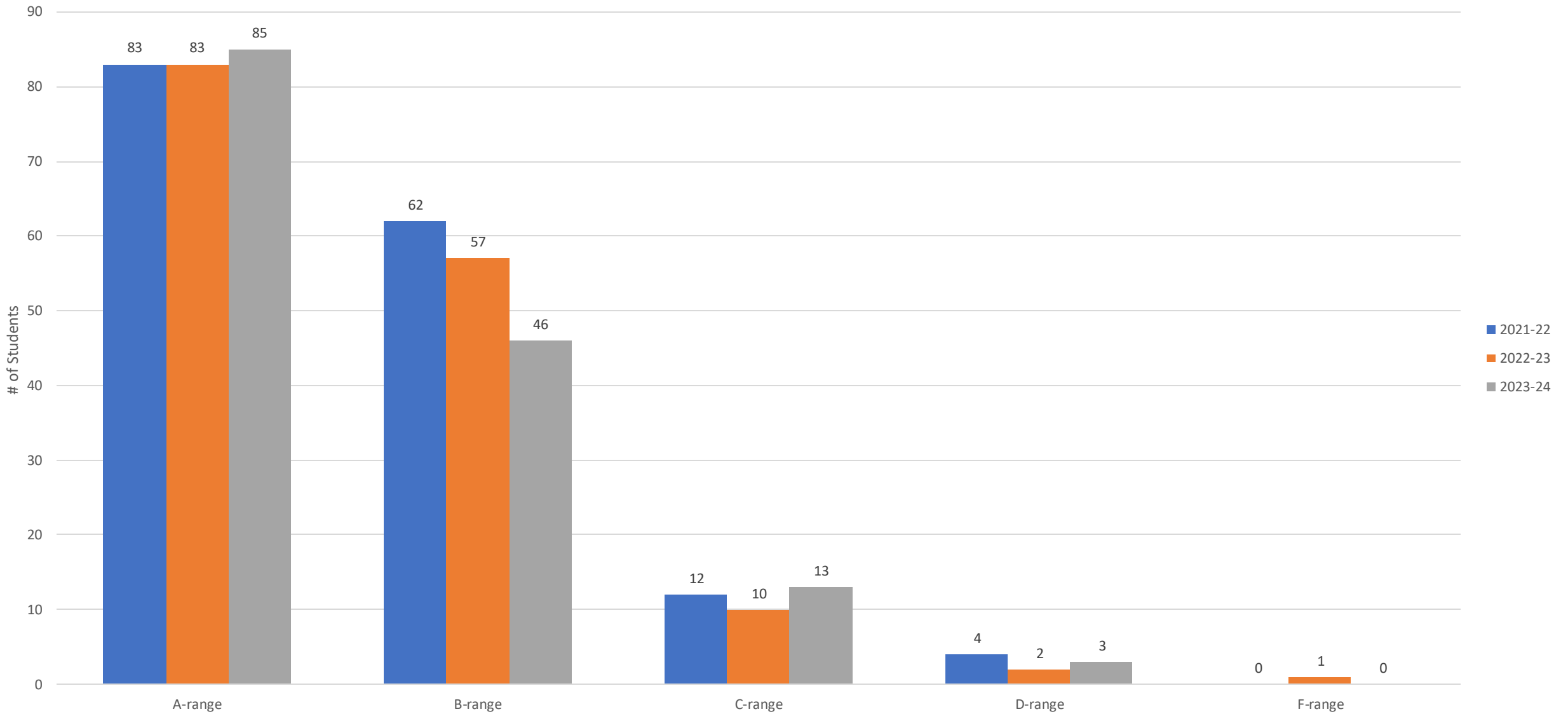
Total Enrollment AP Math Courses: 2021-22=161, 2022-23=156, 2023-24=147

# Math AP Enrollments by Course by Year



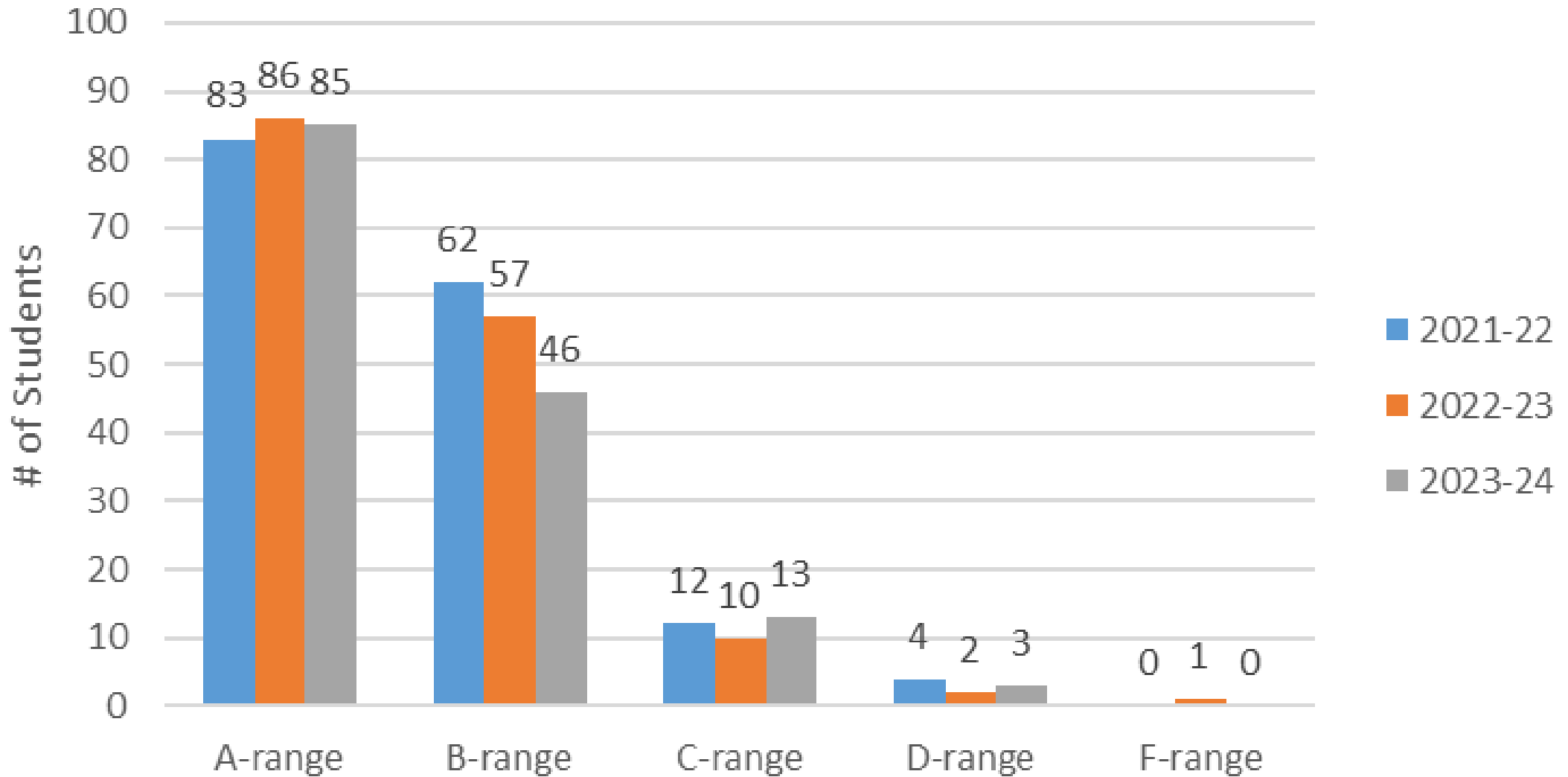
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# AP Class Performance by Year



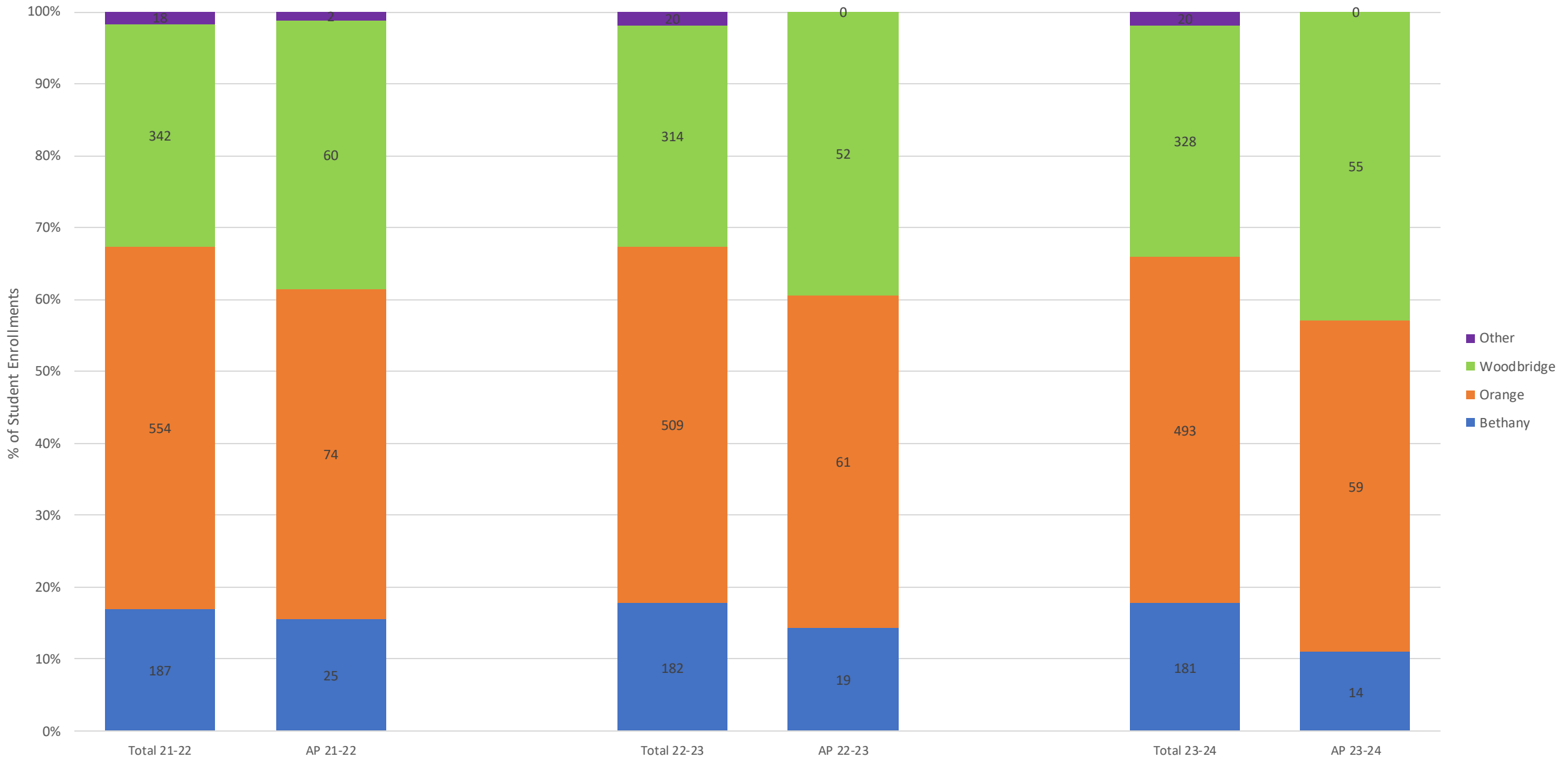
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# AP Class Performance by Year



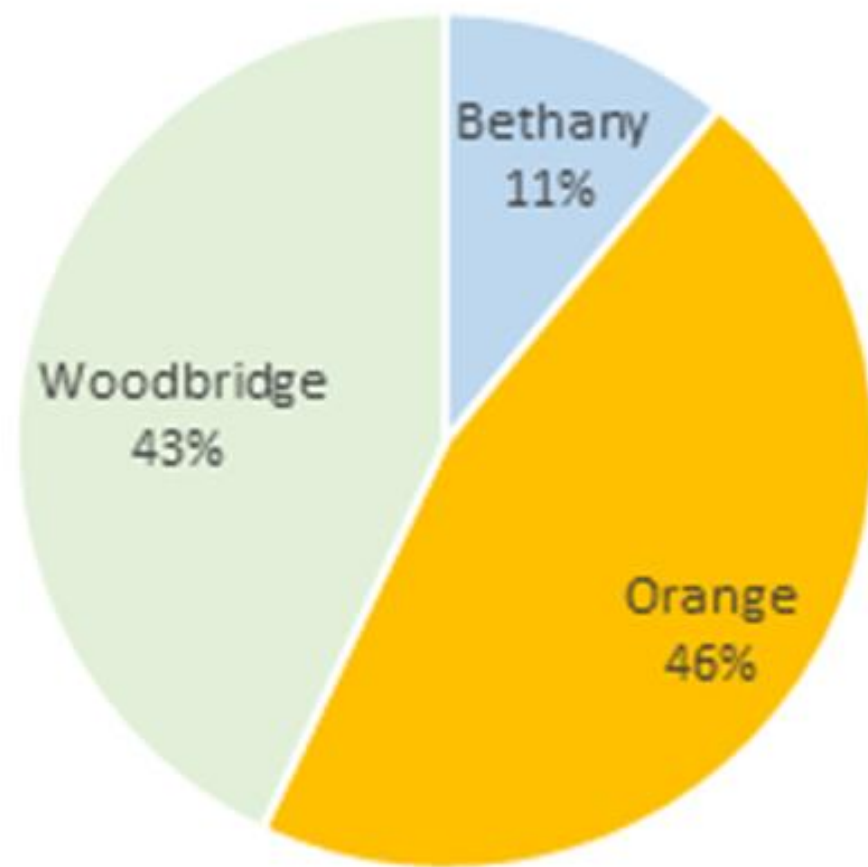
Total Enrollment AP Math Courses: 2021-22=161, 2022-23=156, 2023-24=147

### AP Enrollments by Town – 3 Year Trend



\*Numbers reflect where students resided in any given school year – Does not count students from the same town taking more than one AP course.

## AP Math 2023-2024 Current Towns





Questions