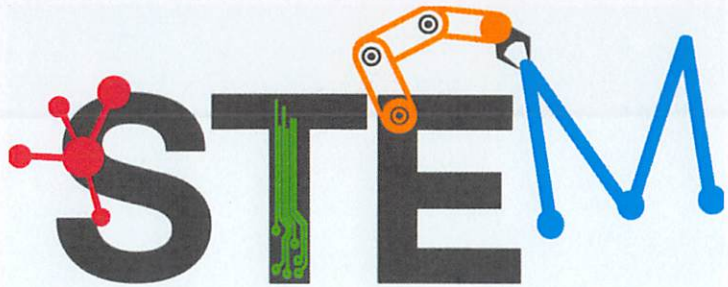


Curriculum and Instruction Board Presentation - October 2024

Hello, We are your C&I STEM Team!

Dr. Lilia Nanez

Associate Superintendent of Curriculum and Instruction

Lisa Wills

Executive Director of Curriculum and Instruction - STEM

Caitlin Couch

District Science Coordinator
TSELA President

Melissa Cooper

Secondary Math Coordinator

Brittany Swaim

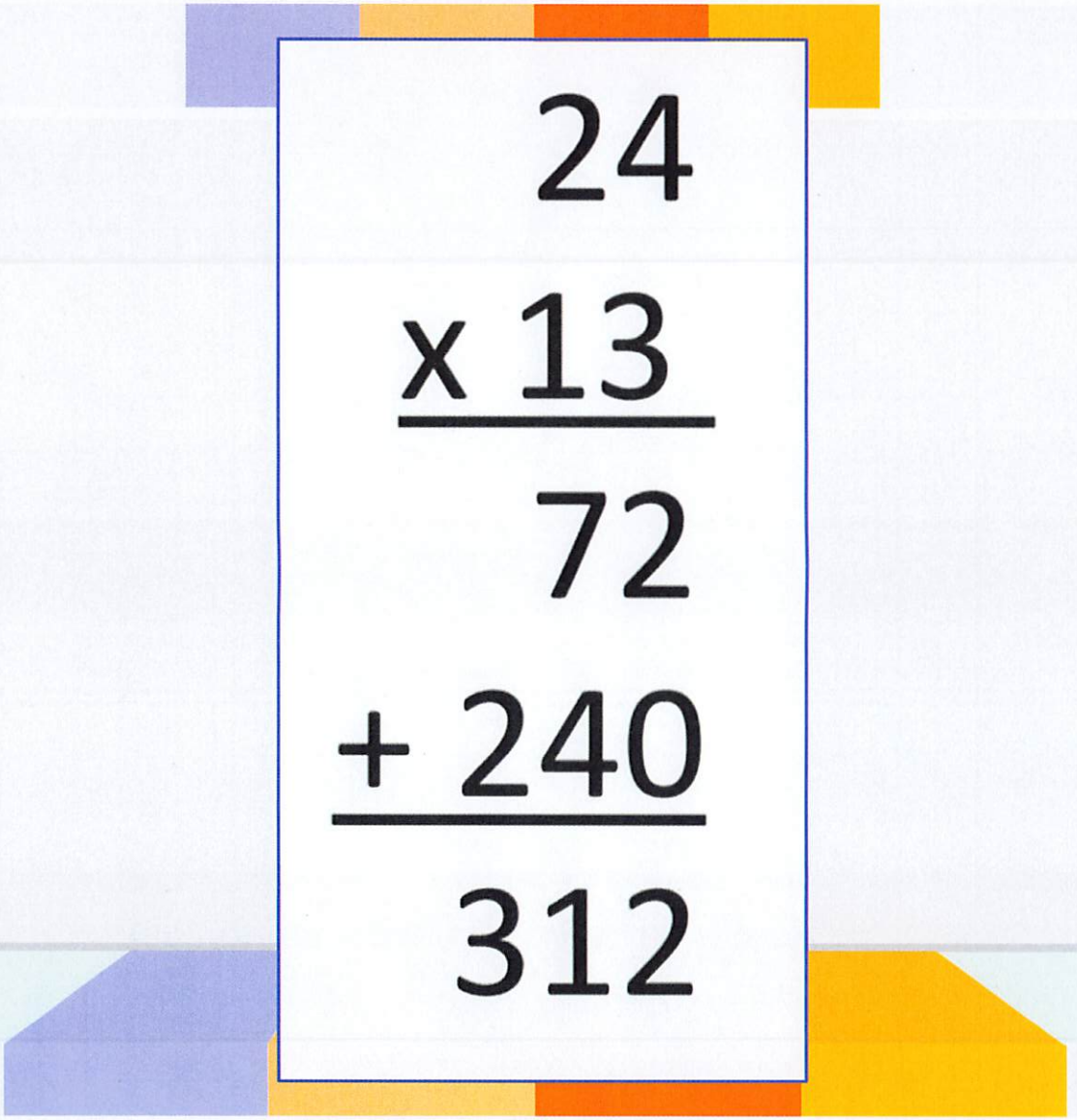
Elementary Math Coordinator

Today we will cover:

1. Conceptual Flow in Elementary Math
2. Building a strong foundation with ST Math
3. Middle School Advanced Math Program
4. New Course Sequence in High School Math
5. Making the shift from 2D to 3D Learning in Science

01

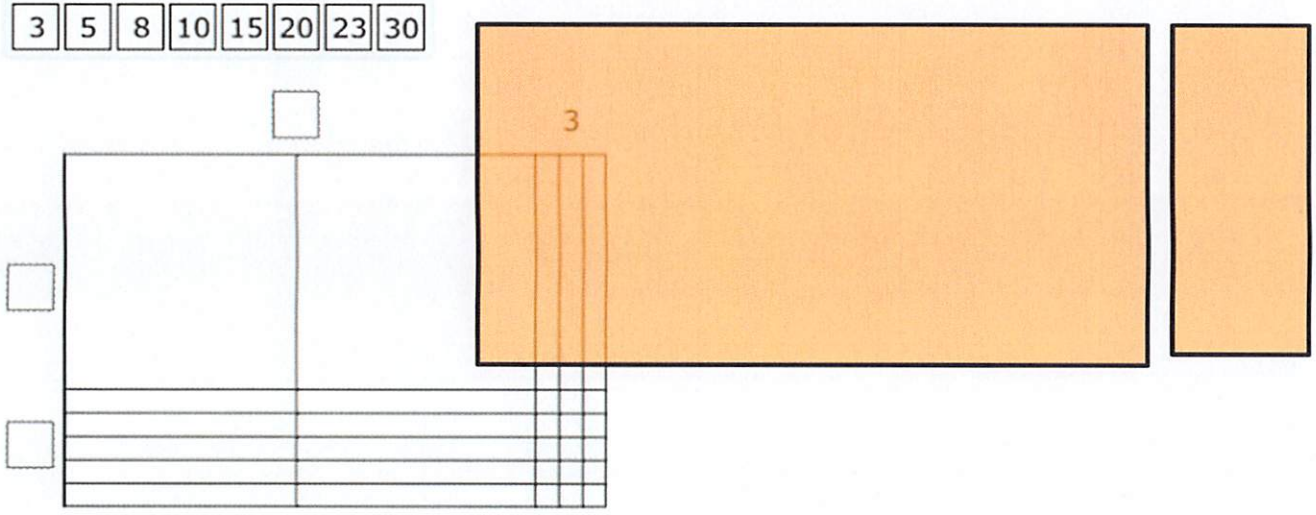
Conceptual Flow in Elementary Math



Complete the area model to represent the equation $23 \times 15 = 345$.

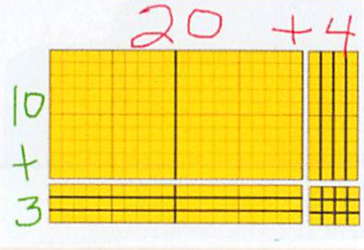
Move the correct number to each box. Each number may be used more than once. Not all numbers will be used.

3	5	8	10	15	20	23	30

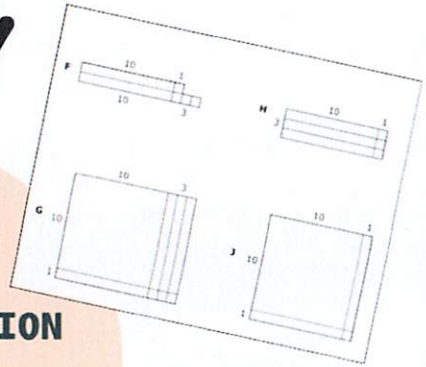


200

Conceptual Flow



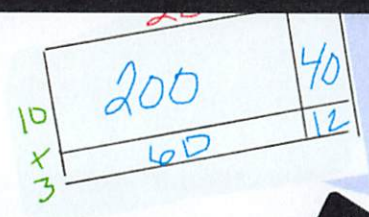
CONCRETE



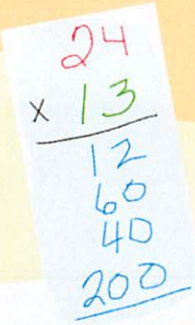
APPLICATION

33. A rectangular place mat is 24 inches long and 13 inches wide. What is the area of this place mat in square inches?

A. 312 square inches
B. 60 square inches
C. 54 square inches
D. 900 square inches



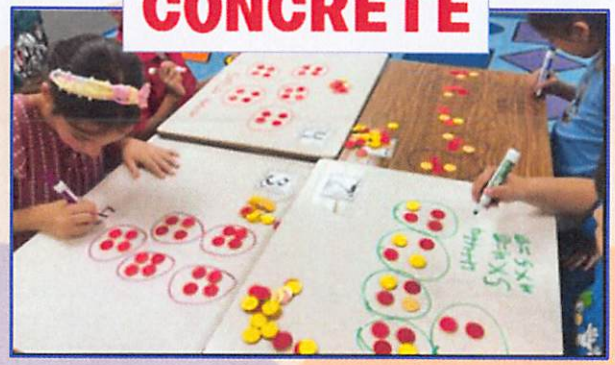
ABSTRACT

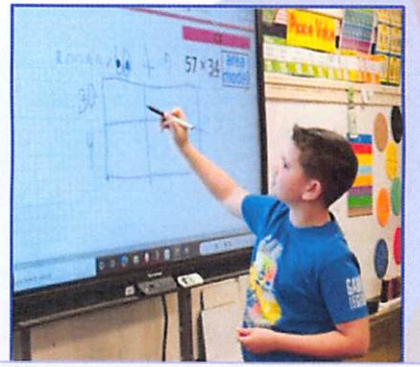


THE GOAL

Conceptual Flow in Action

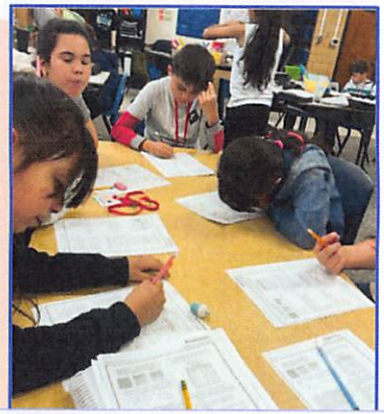
CONCRETE





REPRESENTATIONS

ABSTRACT



APPLICATION

02

Building a Strong Foundation with ST Math

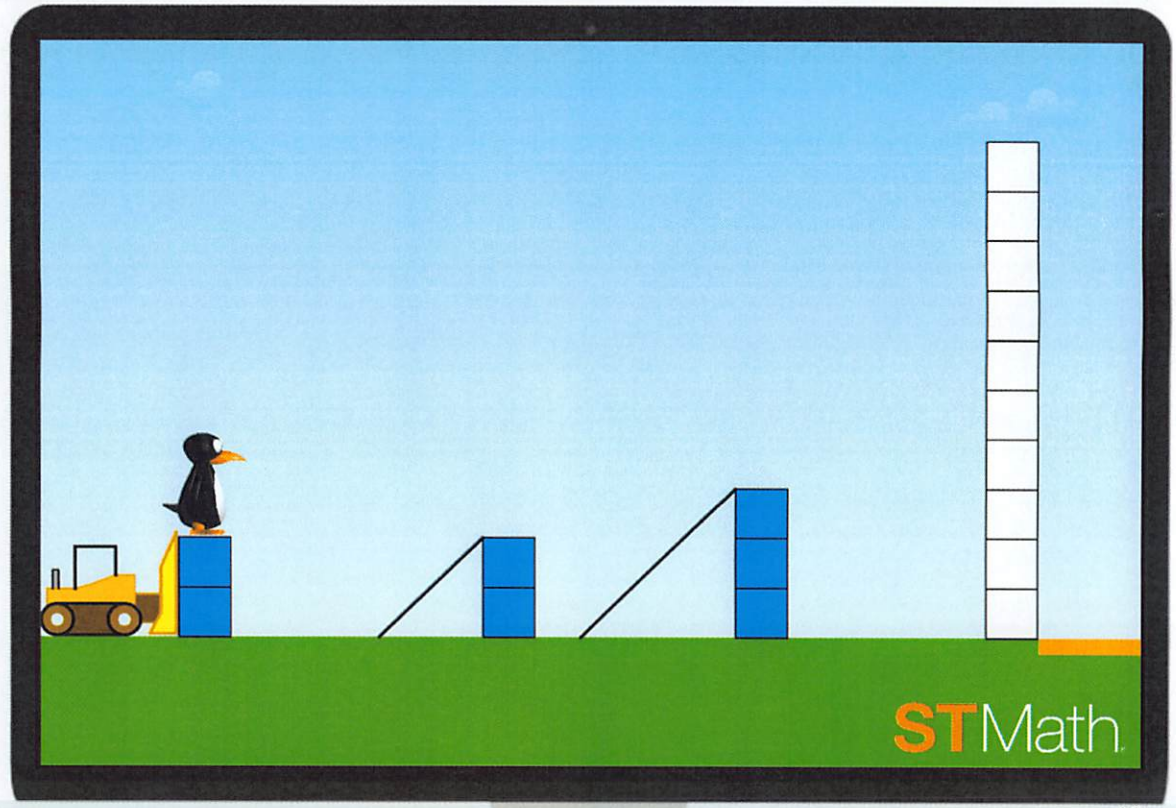
ST Math
Created by MIND Education

PHILLIPS 66

PreK-5 Visual Instructional Program

Math the Way the Brain Learns

- Students learn by doing to build deep conceptual understanding.
- Equitable access for all students. No language barriers, ensuring every student can engage and succeed.
- Students tackle unfamiliar math problems with visual learning.
- Foster curiosity and problem-solving through productive struggle



03

Middle School Advanced Mathematics Program

Middle School Advanced Mathematics Program

Senate Bill 2124 requires that all students who score in the **top 40%** on the 5th Grade Math STAAR Test be **automatically** placed in an Honors Math class in 6th grade.

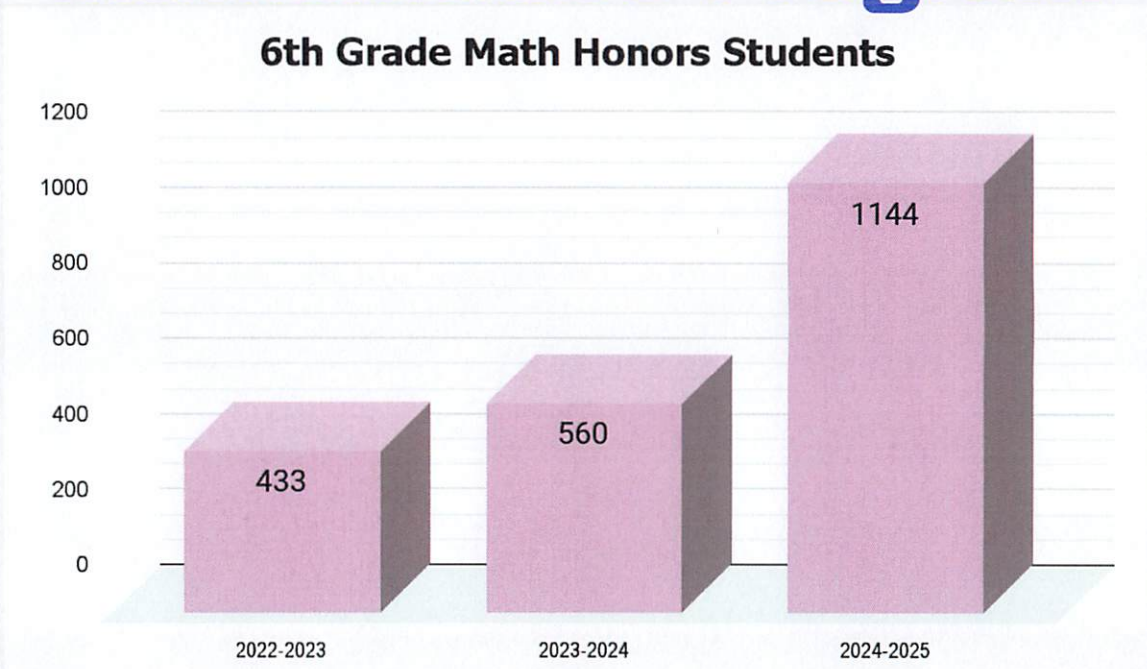
Students who don't have a 5th Grade STAAR score will take a locally developed assessment.

Middle School Advanced Mathematics Program

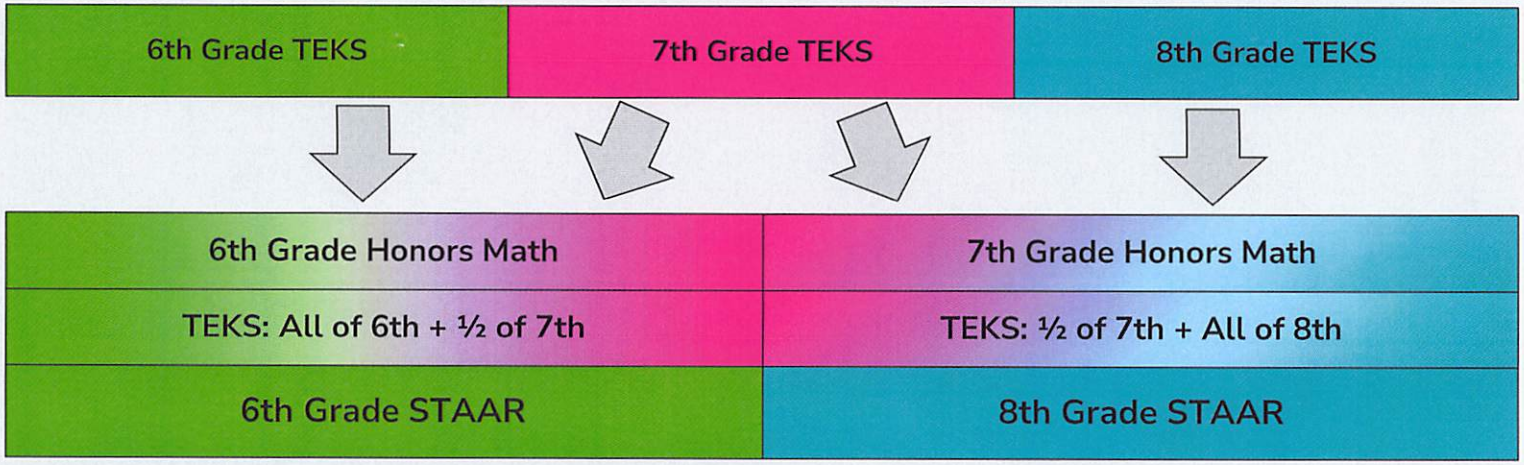
The purpose of the Middle School Advanced Mathematics Program is to "increase the number of students who complete advanced mathematics courses in high school."

Texas Education Agency

Middle School Advanced Mathematics Program



Middle School Advanced Mathematics Program



04

New Course Sequence in High School

Old Course Sequence:

Algebra 1 → Geometry → Algebra 2 → 4th Year Math

New Course Sequence:

Algebra 1 → Algebra 2 → Geometry → 4th Year Math

Why the change and What does that mean?

- TSIA Readiness
- Keep the momentum of algebraic learning
- In 2024-2025, many more of Algebra 2 classes and very few Geometry classes

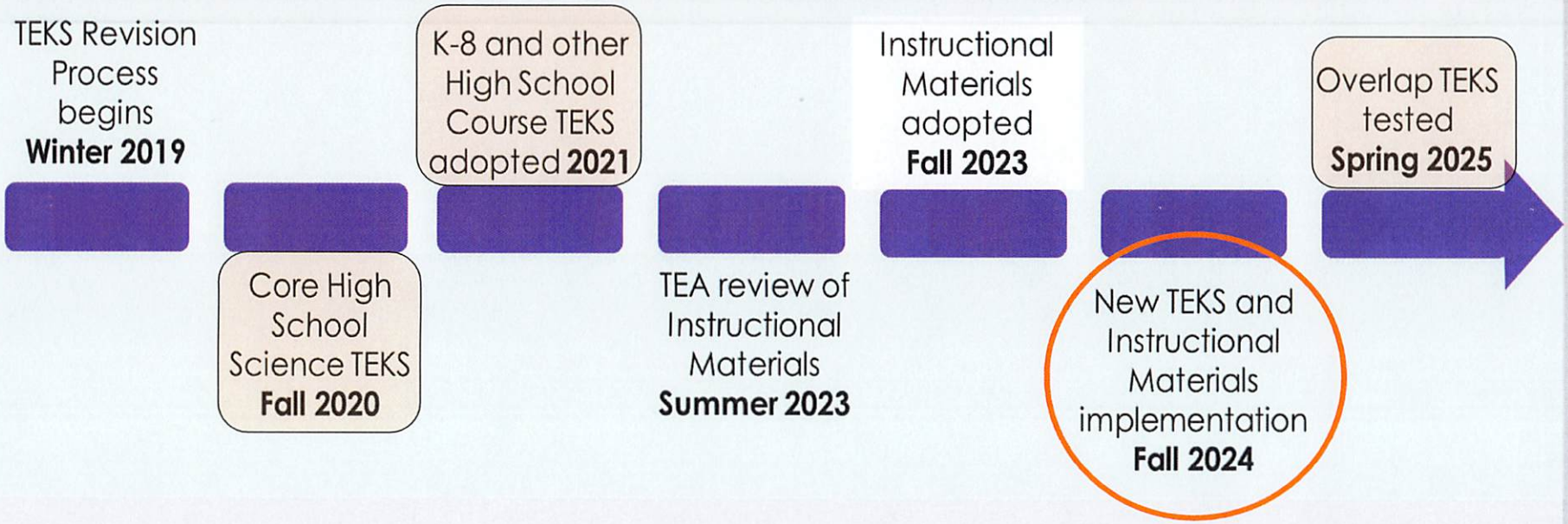
Algebra 1 → Algebra 2 → Geometry → 4th Math

05

The Shift from 2 Dimensional to 3 Dimensional Learning in Science

Transforming Understanding: Moving from 2D to 3D Learning in Science

Where have we been... Where are we now...



... and where are we going?

2 Dimensional Learning in Science

Processing Skills
(The steps that govern the Scientific Method)

TEKS (Knowledge)

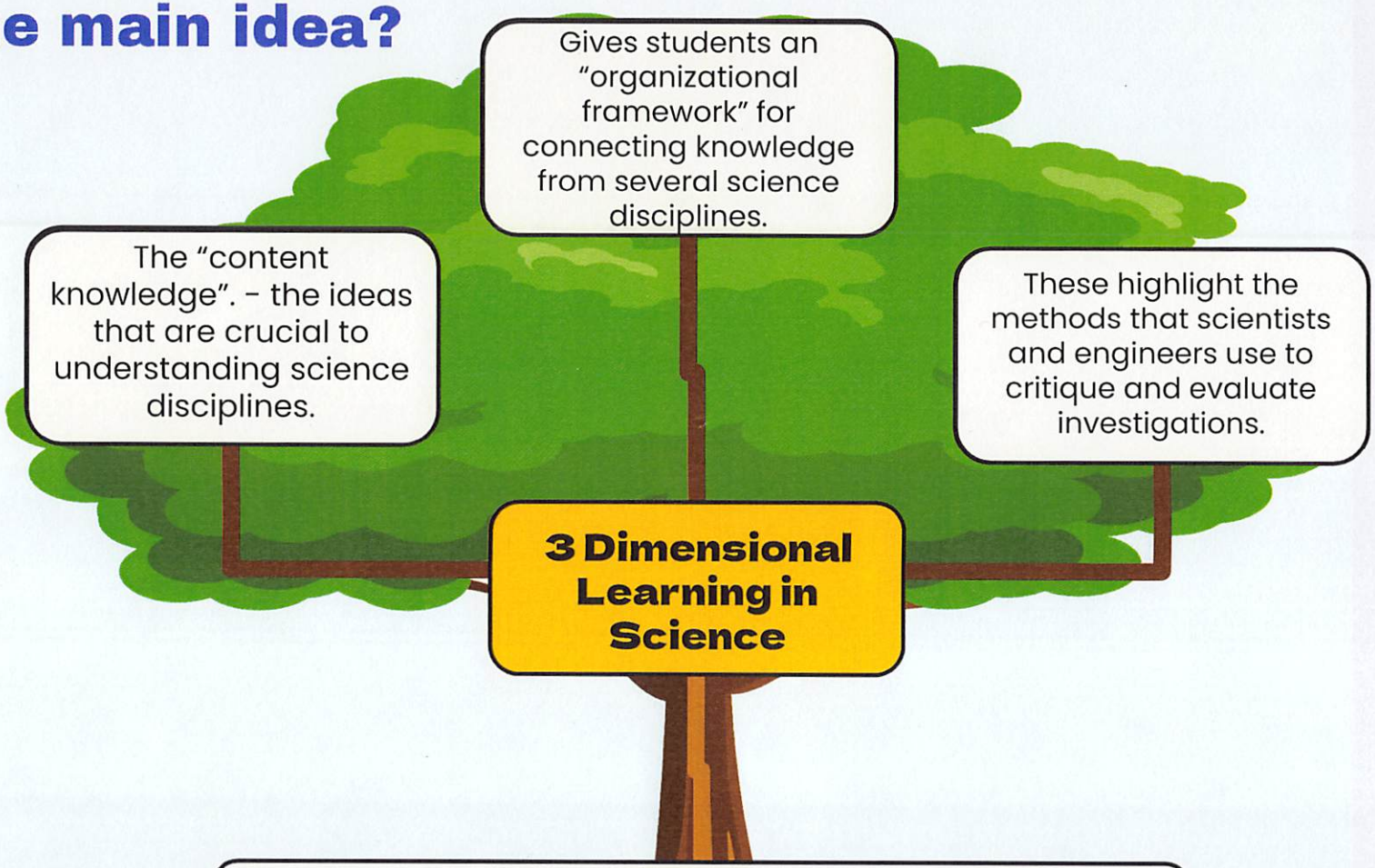
3 Dimensional Learning in Science

SEPs
(Science and Engineering Practices)
What Scientists Do

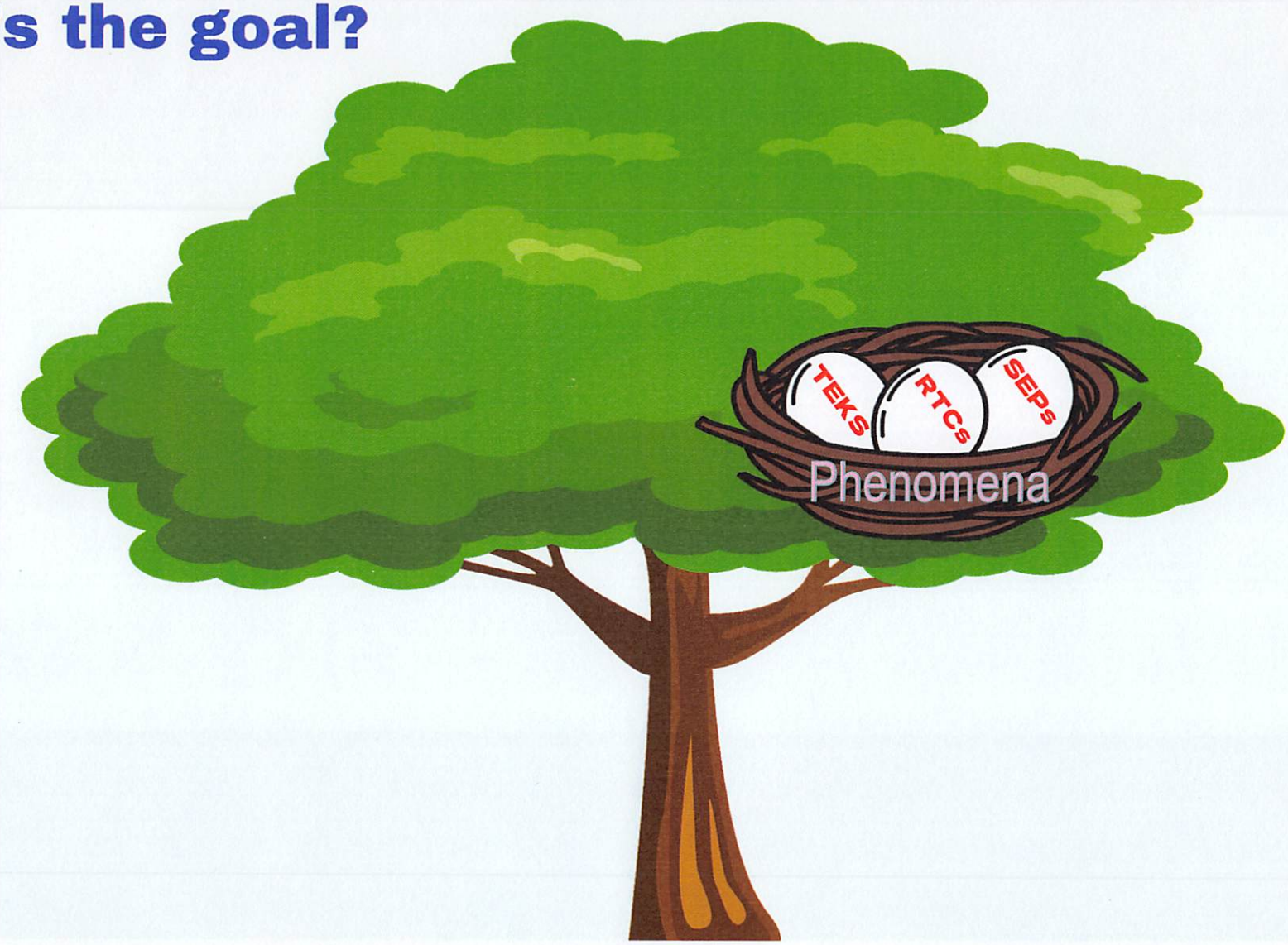
RTCs
(Recurring Themes and Concepts)
How Scientists think

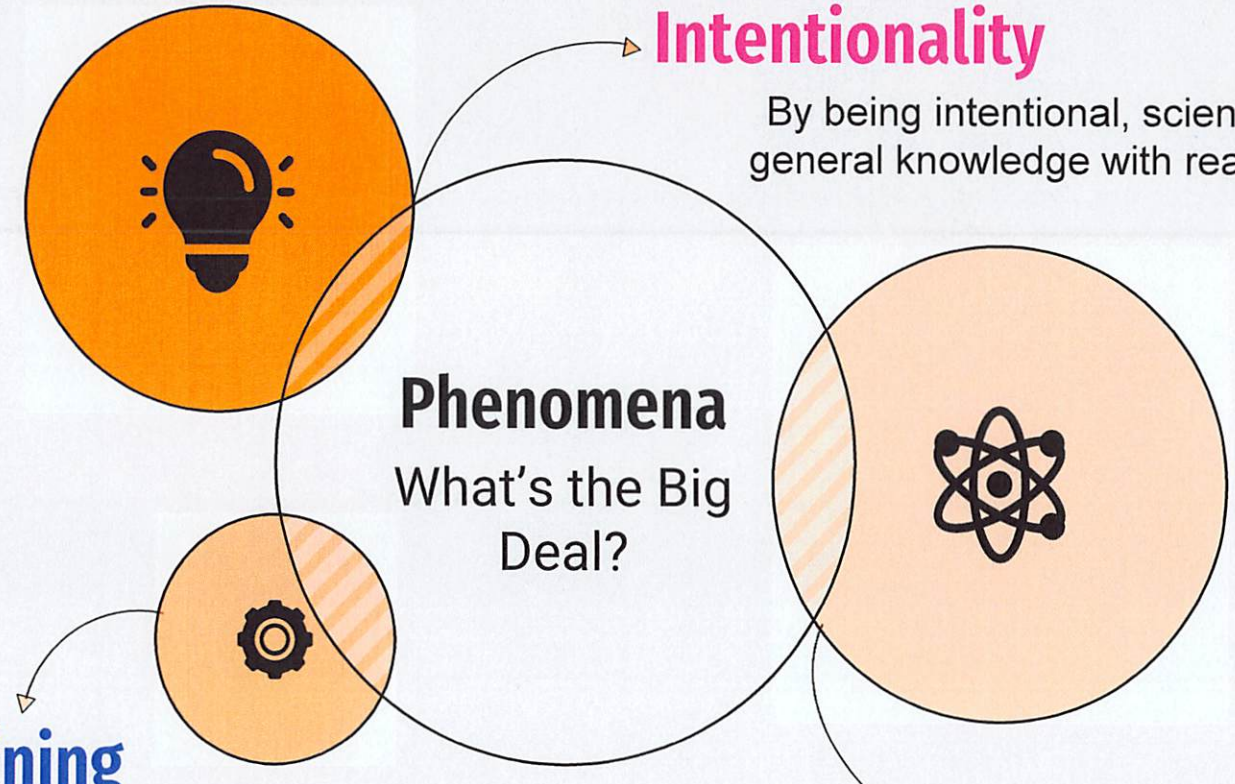
TEKS
(Texas Essential Knowledge and Skills)
What Scientists know

What's the main idea?



What's the goal?





Intentionality

By being intentional, science teachers link general knowledge with real-world contexts.

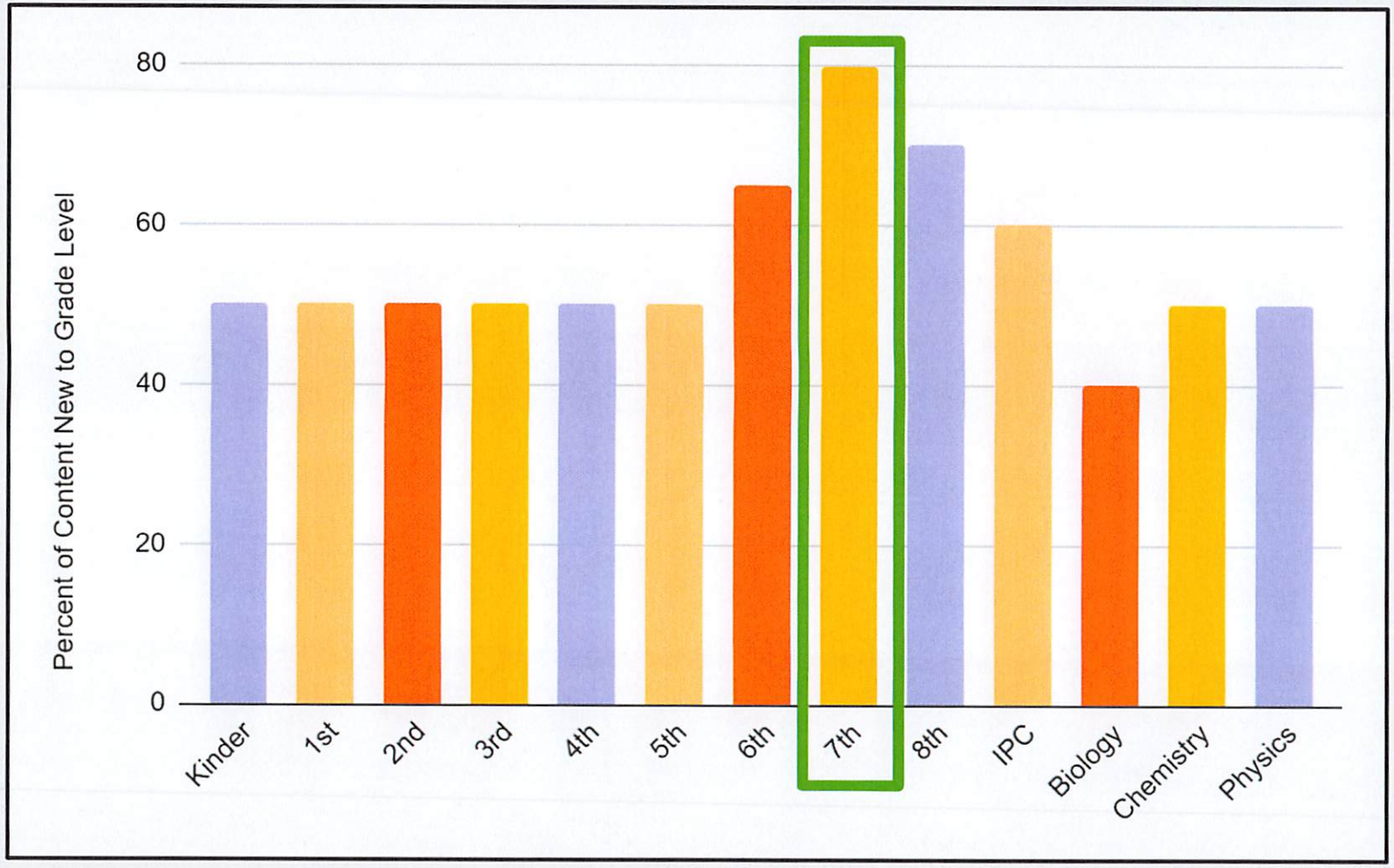
Explaining

The art of explaining phenomena allows students to relate to the compelling world around them and develop an appreciation of the relevance of science.

Anchoring

Using phenomena as the anchor to the learning builds student efficacy and allows for students to take their short term memory and convert into long term memory.

Just how many changes were made?



Key Takeaways

#1

Conceptual Flow gives students a multi-modal experience of math concepts.

#2

ST math allows all students an opportunity to build a strong math foundation.

#3

We have almost triple the students taking honors math in middle school this year.

#4

The new high school course sequence for Math prepares students to be College, Career and Military Ready sooner.

#5

The shift to 3D learning in science is more real-world applicable.

Thank you!

Do you have any questions?

ECISD