

SVSU's Continuous Improvement Plan: Technological Paths and Opportunities

Ruben R. Puentedura, Ph.D.

Transformation

Redefinition

*Tech allows for the creation of new tasks,
previously inconceivable*

Modification

Tech allows for significant task redesign

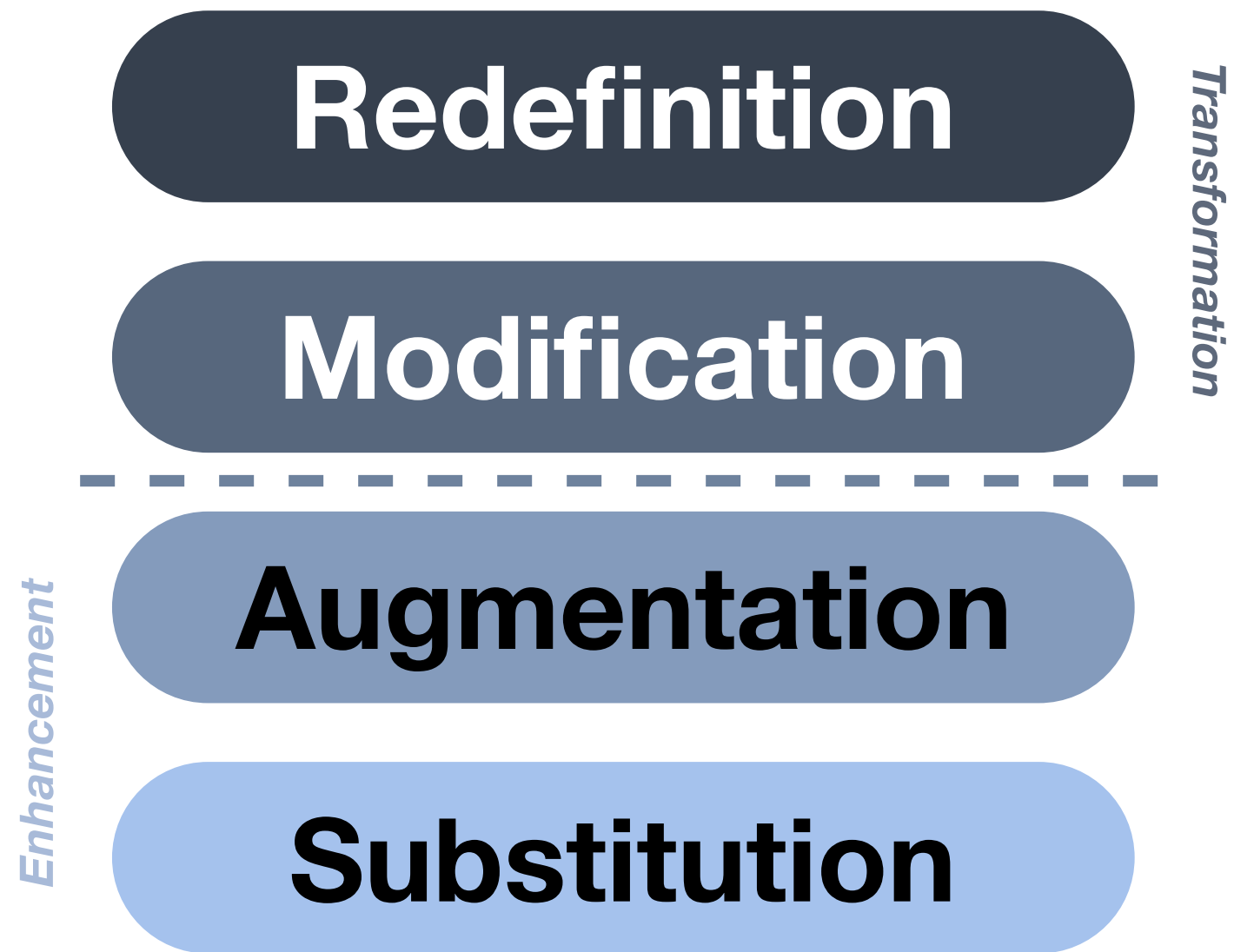
Augmentation

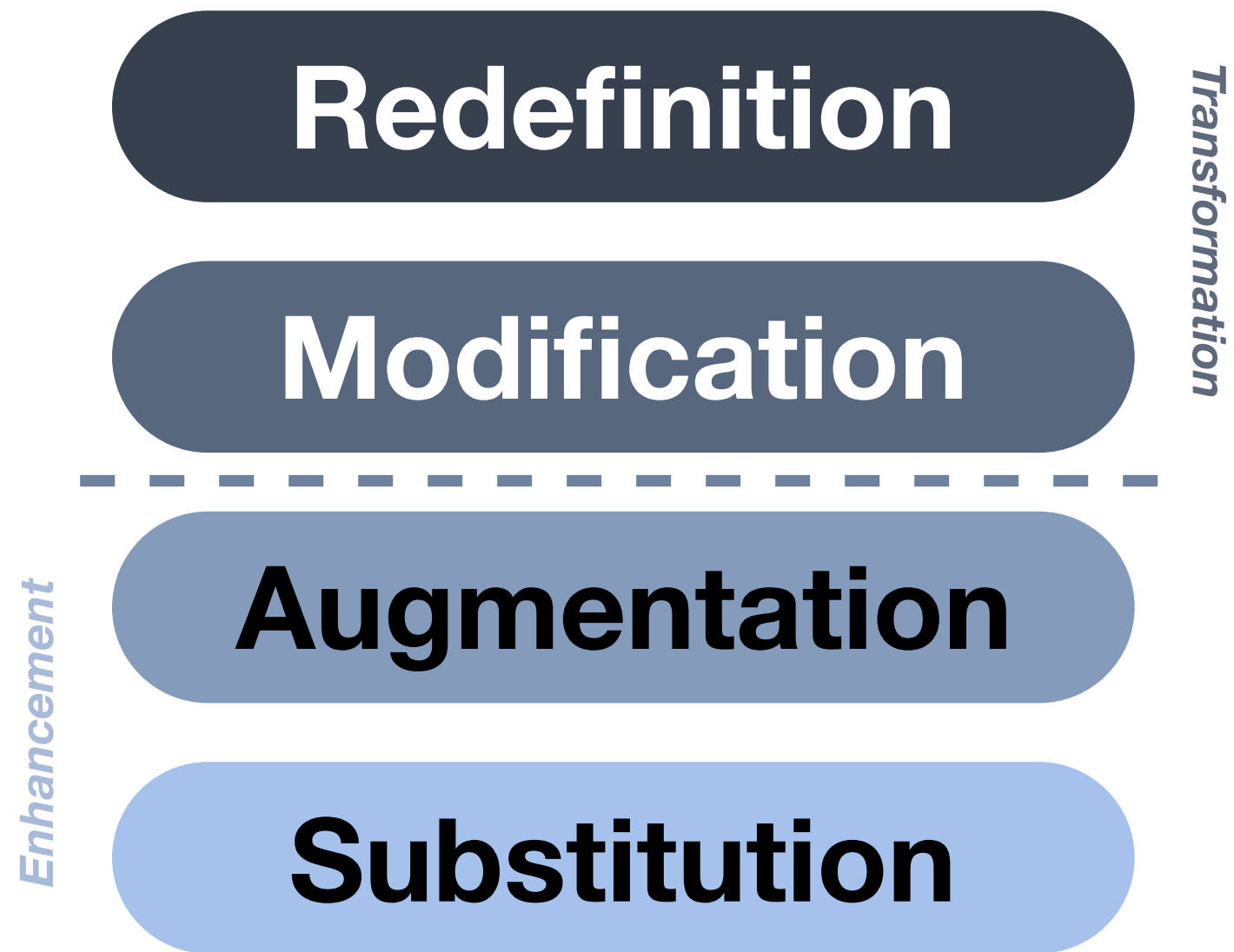
*Tech acts as a direct tool substitute,
with functional improvement*

Substitution

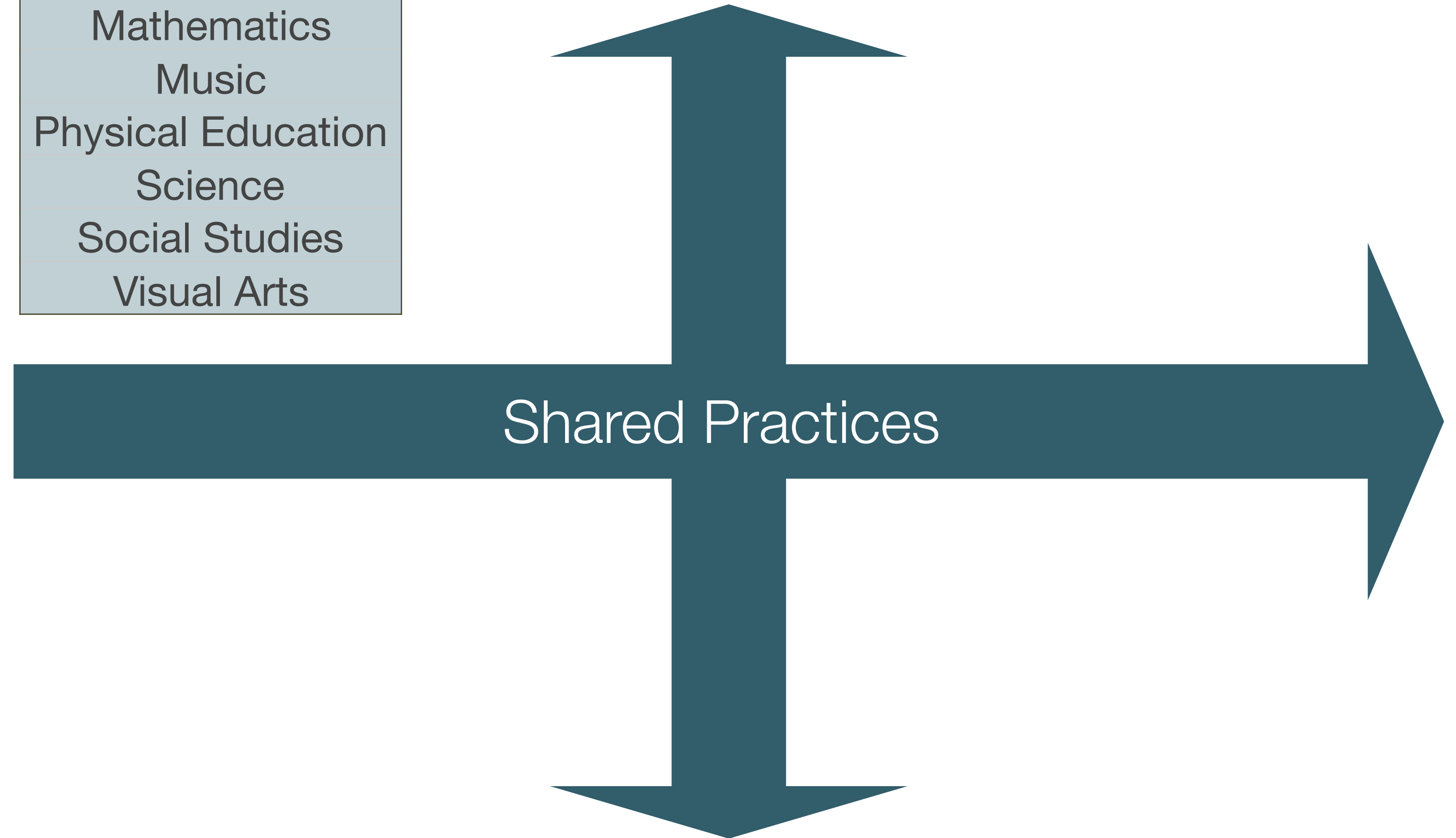
*Tech acts as a direct tool substitute,
with no functional change*

Enhancement





- ELA
- Foreign Language
- Health
- Mathematics
- Music
- Physical Education
- Science
- Social Studies
- Visual Arts



Enhancement




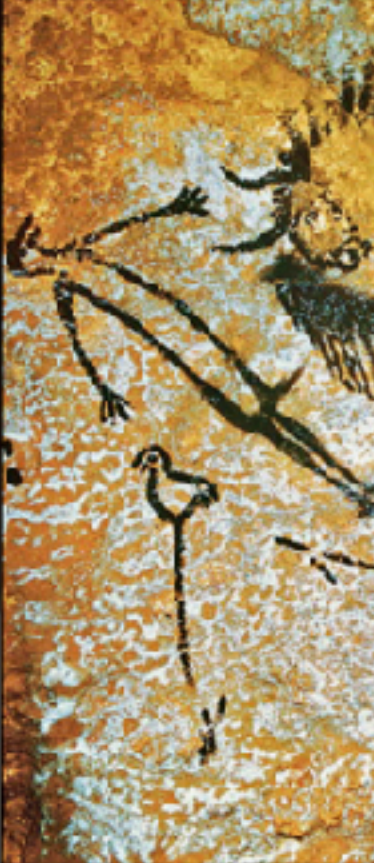
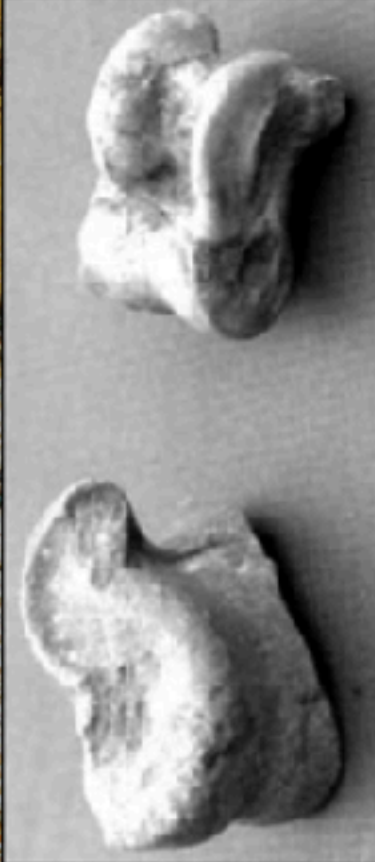
Redefinition

Modification

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Transformation

Social	Mobility	Visualization	Storytelling	Gaming
200,000 years	70,000 years	40,000 years	17,000 years	8,000 years
				

Enhancement

Redefinition

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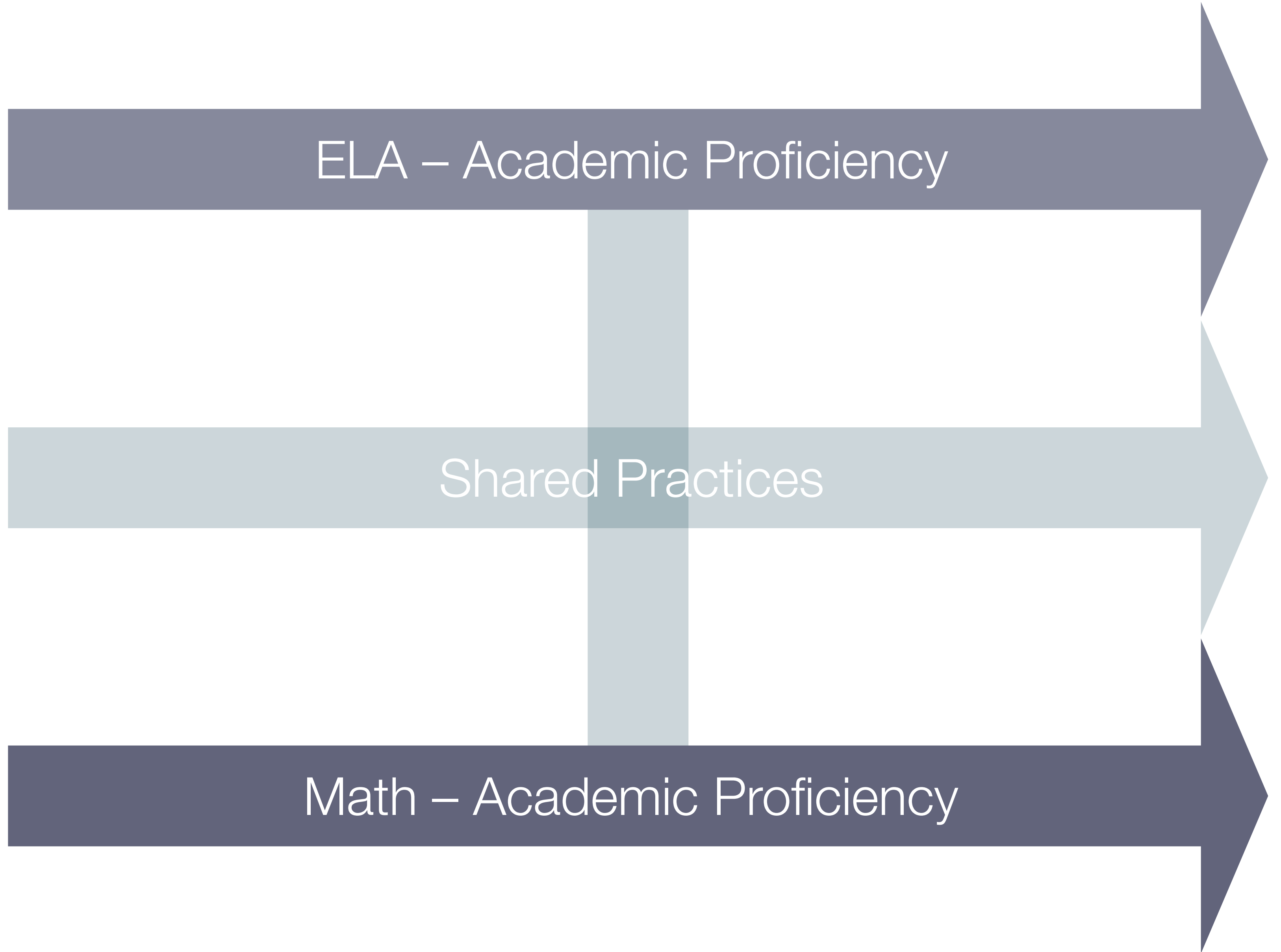
Substitution

Transformation

ELA – Academic Proficiency

Shared Practices

Math – Academic Proficiency



Enhancement

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ELA – Academic Proficiency

Newsela

Shared Practices

Math – Academic Proficiency

Desmos

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800L Create Assignment

Science

Students solve a pasta problem that puzzled famous scientists

By Washington Post, adapted by Newsela staff Text Level 2 Word Count 426




Image 1. Students at Massachusetts Institute of Technology wanted to find out if it is possible to break a spaghetti noodle in two halves. Almost always, the spaghetti breaks into three or more pieces. Photo by iStock/Getty Images

Physics is a type of science. Physics **studies** energy. It also studies mass. This is the stuff that makes up everything around us.

POWER WORD studies

If someone studies something,

Activities

Quiz

Question 1/4 Correct Choice B

Grade 2, Anchor 1: What the Text Says

What detail in the article shows the problem with the spaghetti noodles?

A. Some physicists study why time only moves forward.

B. It kept breaking into more than two pieces. **Correct Choice**

C. The students broke a lot of spaghetti.

D. Mr. Hezser made a machine to bend and twist the noodles.

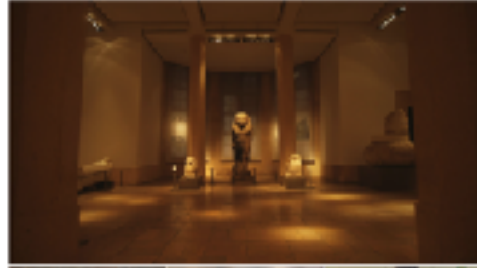
Report This Question

Back Next

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Text Sets for Social Studies

Text Sets




TEXT SET

The Power Of History Education




TEXT SET

Buddhism




TEXT SET

Chinese Folktales & Mythology




TEXT SET

Meet The Hominins




TEXT SET

Topics In The Contemporary U.S. West




TEXT SET

Hinduism




TEXT SET


First Amendment: Freedom Of Religion





TEXT SET

A Changing America










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TEXT SET Create Assignment


Benjamin Banneker Unit

Created by Ruben Puentedura - This Text Set is only accessible to other teachers in your school, unless you share the link directly.


A unit connecting Banneker's work with his life



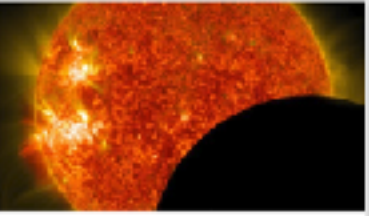
Inventors and Scientists: Benjamin Banneker




Primary Sources: Benjamin Banneker's Letter to Thomas Jefferson




Primary Sources: Jefferson's Notes on Slavery



What is an eclipse?



What causes the tides in the ocean?



Primary Sources: Thomas Jefferson Drafts a Law on Religious Freedom

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CLOSE READING // READING SKILL CHECKS

UNIT Create Assignment

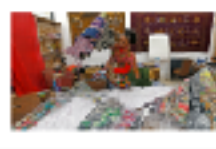
Reading Skill Checks

Although your students can get started on Newsela by reading any article, assigning Reading Skill Checks helps jumpstart their progress on Newsela and the Reading Skills insights you see in your Binder.

Each grade level set has three articles. These articles are different from other Newsela articles in two ways: they are only available at one reading level (instead of the usual five) and they come with eight multiple choice quiz questions per article (instead of the usual four). You can use the sets for your grade level in any order. For each grade level, Set A covers Reading Skills 1-4 and Sets B and C cover Reading Skills 4-6.

To assign Reading Skill Checks or to learn more about them, select the grade that you teach from the subtopics below.


[View PRO Teacher Resources](#)



TOPIC

Grade 2 Reading Skill Checks


Save



TOPIC

Grade 3 Reading Skill Checks


Save



TOPIC

Grade 4 Reading Skill Checks

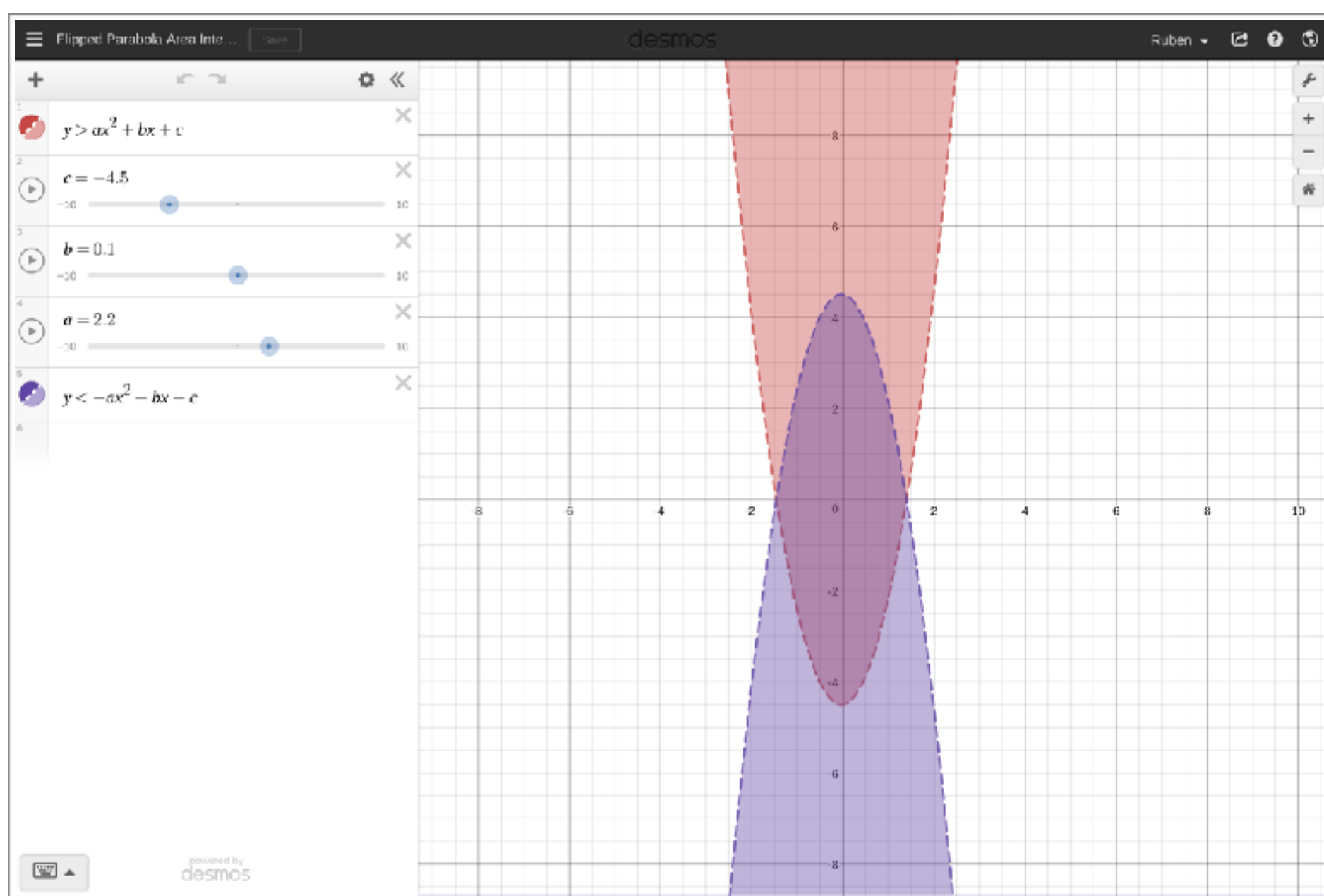
Save



TOPIC

Grade 5 Reading Skill Checks

Save



desmos

$\frac{4}{3} + \frac{2}{5} = 1.73333333333333$
 $1.73333... + 2.5 = 4.23333333333333$
 $4.23333...^2 = 17.9211111111111$

main abc func DEG ← → clear ↺

7	8	9	÷	a^2	a^b	$\frac{a}{b}$	↵
4	5	6	×	√	∛	()	
1	2	3	-	sin	cos	tan	π
0	.	ans	+	a	ln	%	↶

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desmos Search for an activity

Home Most Popular Latest

Burning Daylight

by Desmos | 45-60 minutes | Application

In this activity, students use sinusoids to model daylight data for two US cities (Fairbanks, AK and Miami, FL). They predict which city has more total daylight during a given year, and then use their model to calculate an answer to that question. (They may be in for a surprise!)

Calculus students have an opportunity here to practice defining and calculating definite integrals, while students in earlier courses will need to take advantage of the fact that the average value of a sinusoid is equal to its midline.

Data source: http://www.nvcc.edu/~mike/waters/our_lineyear_2012

French translation courtesy of Jocelyn Dagenais: <https://teacher.desmos.com/activities/teacher-edition/565e1e48/editions/6912e55375>

As seen in:

Modeling Bundle 6 Activities

Classes [Create Class Code](#)

Linear [Create a class code to run this activity with your students. We recommend creating a different code for each class period.](#)

Screens [Student Preview](#)

1 Two Cities

Fairbanks is a city in Alaska. It's one of the northernmost cities in the United States.

2 Which is Which?

The graph here shows the number of hours of daylight in the two cities.

3 Build a Model

Right and then orange graph represents hours of daylight in Fairbanks.

4 Build a Model

The purple graph represents hours of daylight in Fairbanks.

5 Compare and Contrast

Here are the functions you plotted on the previous screen.

6 Hours of Daylight

Here are the answers to the question you asked earlier.

7 Record your answer

Here are your answers for the total number of hours of daylight.

8 Barrow, Alaska

Barrow, Alaska is the northernmost city in the United States.

9 Reveal

Here is your answer for the number of daylight hours as a function of time (in months) for Barrow.

10 Interpret the graph

Here is the graph of daylight hours as a function of time (in months) for Barrow.

STUDENT SCREEN PREVIEW 4 of 10

Build a Model

The purple graph represents hours of daylight in Fairbanks!

Write an equation to represent the number of hours of daylight as a function of time (in months) for Fairbanks.

[Share with Class](#)

Tip for Teachers

Use this screen to highlight how the context affects the parameters of the function. What stays the same? (E.g. the period and the midline) What changes? (E.g. the amplitude.)

Single trigonometric models will not perfectly fit these points. Encourage students to find good models, not perfect ones.

Sample Answer: $y = 12.7 + 8.8 \cos\left(\frac{2\pi}{12}(x - 6.7)\right)$ (Note: this is an unusually precise model which is not necessary or expected from students in this activity.)

STUDENT SCREEN PREVIEW 8 of 11

Largest Possible Area

Move the vertices of the triangle so it has the largest possible area.

What is the area?

Share with Class

STUDENT SCREEN PREVIEW 2 of 8

Find the Value

Drag any four numbers into the empty boxes below.

Your goal is to create an expression and find its value.

Submit to Teacher

$$\frac{\square}{\square} + \frac{\square}{\square}$$

Tip for Teachers: This is a great place to check student progress. Offer individual support where needed, or lead a whole-class discuss if enough students are struggling.

Check the dashboard view to make sure students are fully simplifying their expressions (e.g., entering $\frac{13}{20}$ instead of $\frac{5}{5} + \frac{7}{4}$).

Sample Answer: $\frac{3}{5} + \frac{7}{4} = \frac{43}{20}$

desmos Search for an activity Ruben Puen...

Kindergarten: Making 10 with Ten Frames (D)

by Kristin Grey Edited with love by Jennifer Vadras

Mobile Tablet Laptop

This Desmos activity goes with this lesson plan: <https://goo.gl/eXWHGR>

Classes [Create Class Code](#)

Screens [Student Preview](#)

1 How many dots do you s...

2 How many dots do you s...

3 How many dots do you s...

4 How many dots do you s...

5 How many dots do you s...

6 Organize the cards in wa...

7 Match the cards that you ...

8 These three cards did not...

9 Draw dots in the 10 fram...

10 Draw dots in the 10 fra...

11 Draw dots in the 10 fram...

desmos Search for an activity Ruben Puen...

Adding Integers

by Desmos | 30-45 minutes | Practice

Mobile Tablet Laptop

In this activity, students practice adding integers in the context of a card game. The goal of the game is to create two groups of cards, each with the same sum. Whoever uses the most cards wins!

French translation courtesy Jocelyn Dagensis. <https://teacher.desmos.com/activity/you/der/kuskml5ao4d7ea63e418073a76645a>

Classes [Create Class Code](#)

Screens [Student Preview](#)

1 Warmup

2 Challenge #1

3 Challenge #2

4 Reflection

5 Challenge #3

6 Challenge #4

7 Settle a Dispute

8 Class Gallery

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ELA – Academic Proficiency

Newsela

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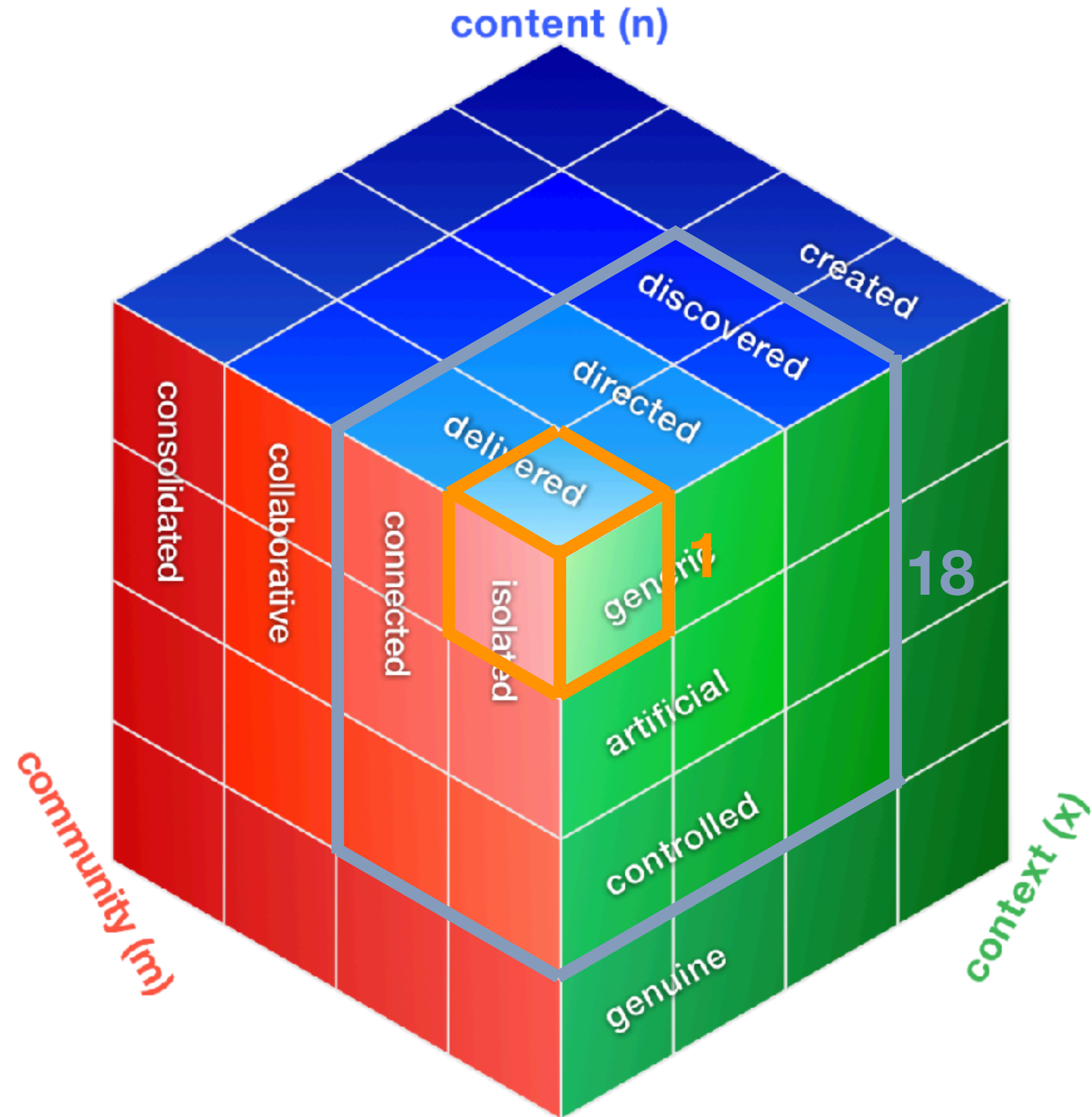
Extended Thinking

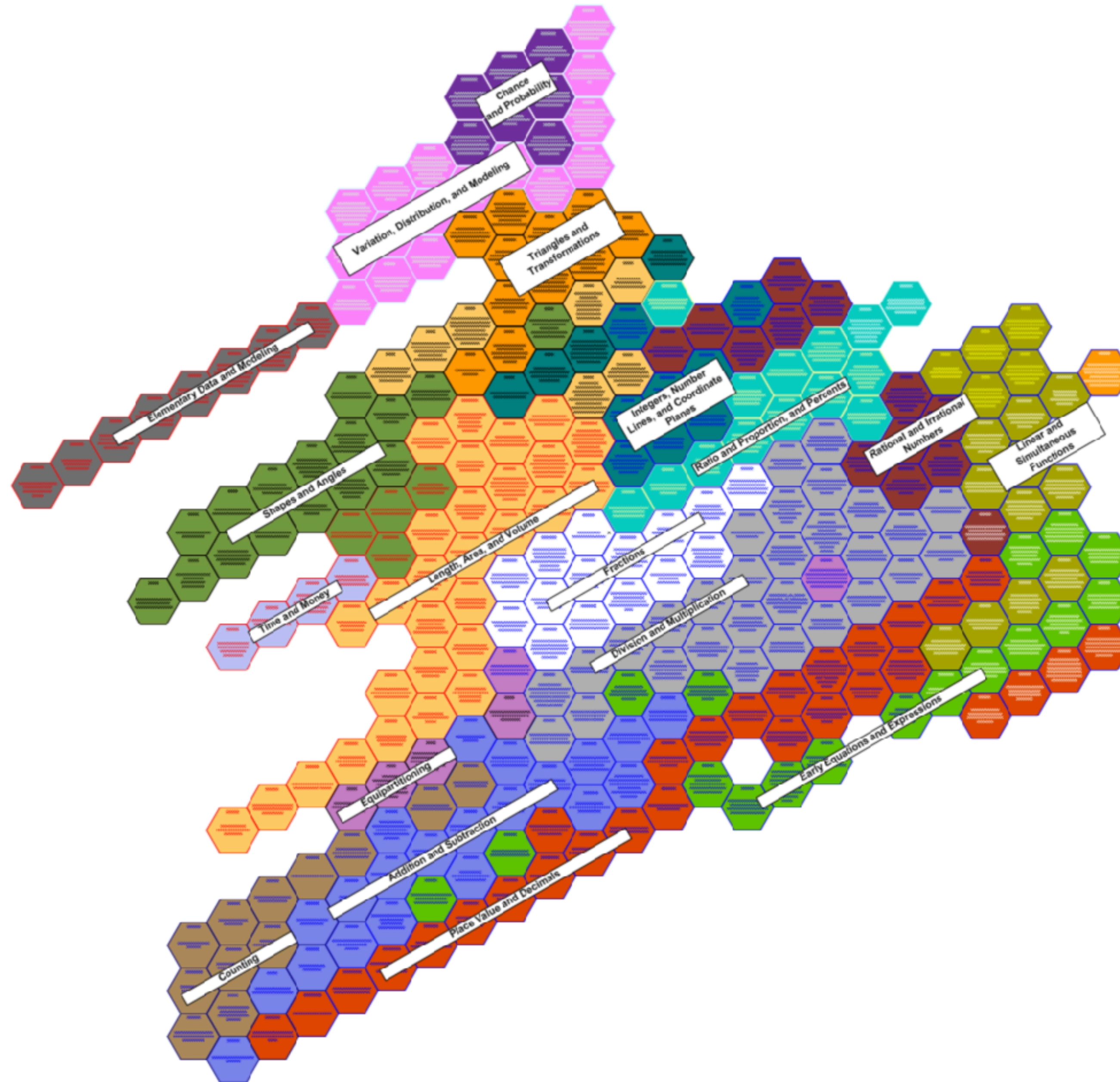
Strategic Thinking

Skills and Concepts

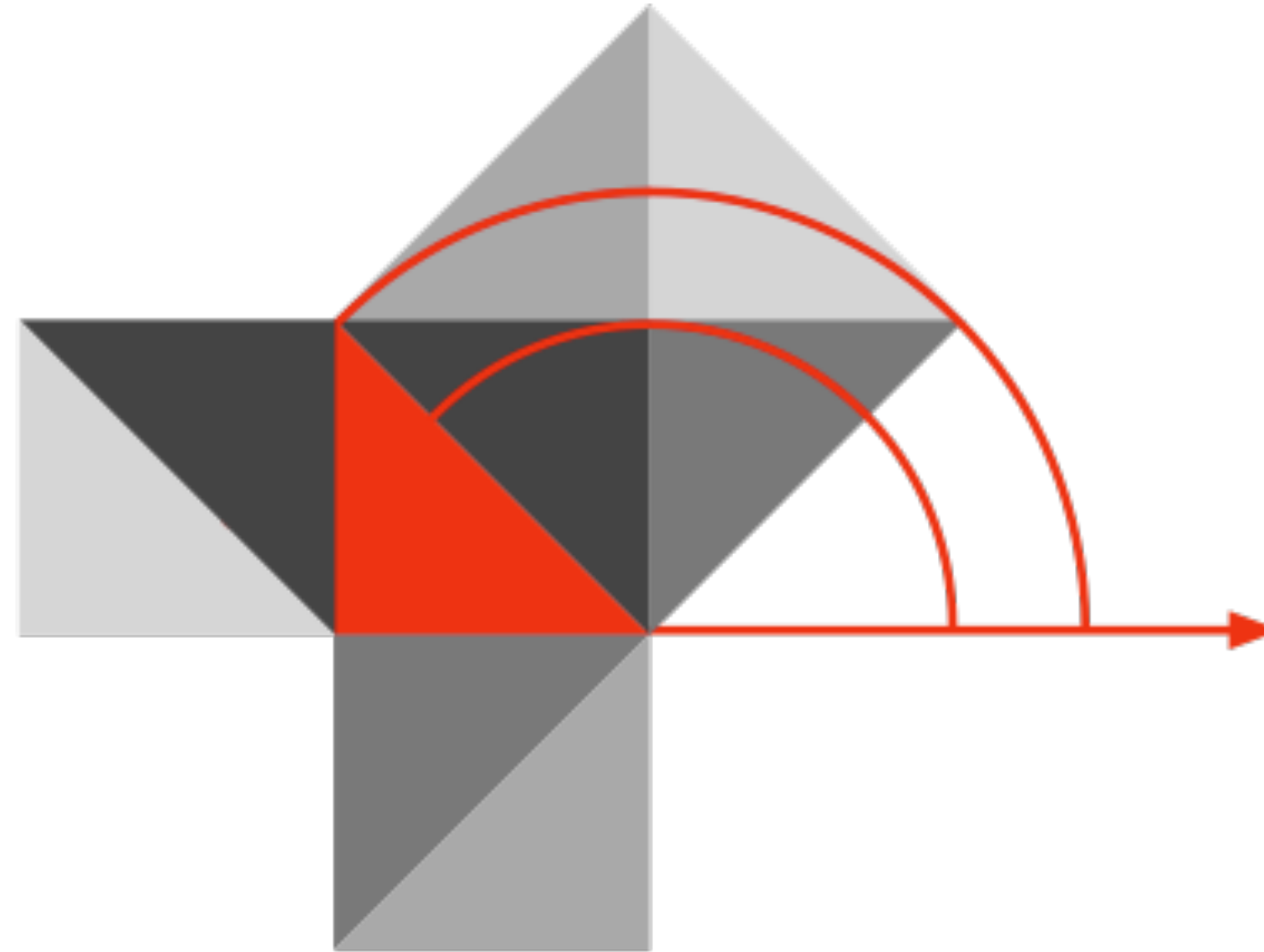
Recall and Reproduction

Dimensional levels of "cubic" learning





Hippasus



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