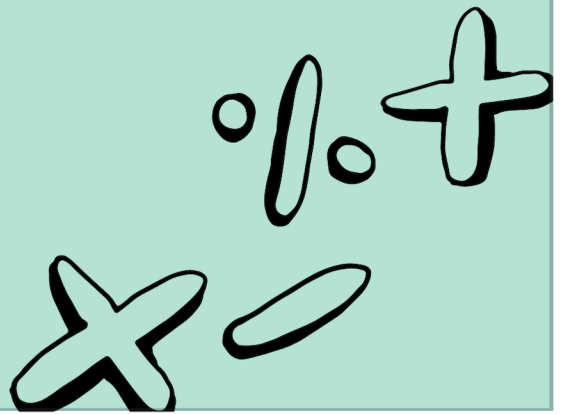


DAY

3

Middle School Math Initiative



Number Talk

Mentally Solve the problem. Be prepared to share your strategy

25×9

12×15

12×25

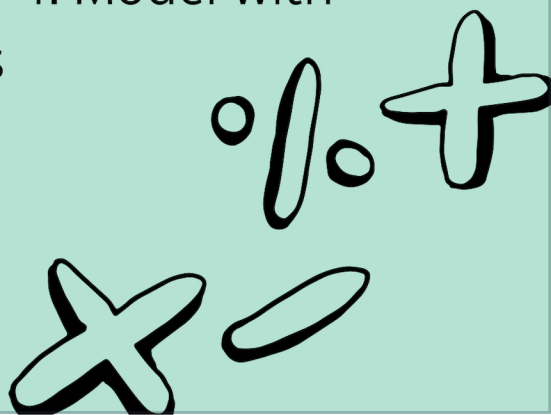
What do you want your future self to remember for the next number talk?

Model with Math Lesson Reflection

Share your lesson and describe the multiple visual representations used

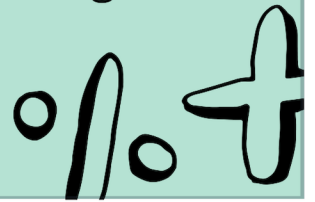
Learning Intentions

We are learning about SMP 4: Model with Mathematics



Sucess Criteria

- I can describe how to use a ratio table.
- I can use a double number line to compare two quantities.
- I can use a tape diagram to model a mathematical relationship.
- I can make sense of a high-quality task using multiple representations.



Ratio Tables

Create a ratio table to model the following problems:

- 1** Proportions: Ratio tables can be used to solve proportion problems. For example, if 5 apples cost \$3.75, how much would 10 apples cost? How much would one apple cost?
- 2** Scaling: Ratio tables can be used to scale up or down quantities. For example, if a recipe calls for 1 cup of flour and you want to make twice as much. How much flour would you use?
- 3** Distance Problems: if a car travels 60 miles in 2 hours, how far will it travel in 3 hours? How far will it travel in 1 hour? 100 hours?

Double Number Lines

Let's make sense of a double number line.

Open this link and read information on a double number line

One-minute paper:

Choose one of the following prompts

- In your own words, tell me what you understand about double number lines.
- What is most confusing with using double number lines?

Double Number Lines

One Minute Paper (Formative Assessment Strategy)

Choose one of the following prompts

- In your own words, tell me what you understand about double number lines.
- What is most confusing with using double number lines?

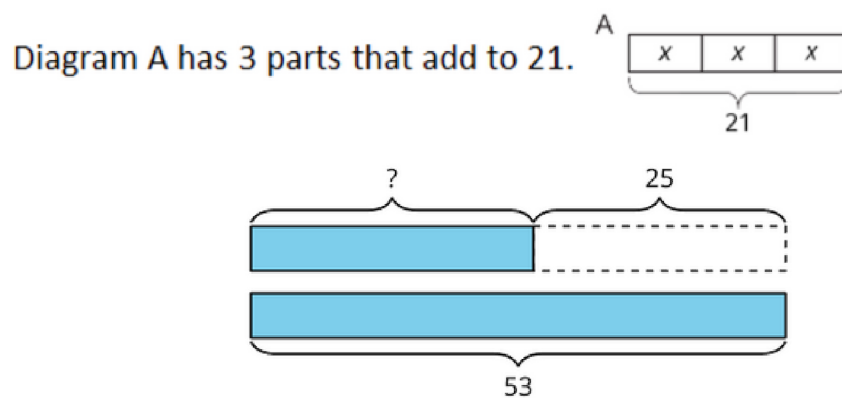
Grade 6 Example Task (IM)

Now, let's do a few examples to practice our skills.

Open Link Here

Tape Diagram

What information can we glean from these tape diagrams?



Using Tape Diagrams

As students use tape diagrams as a tool for reasoning, they understand that the length of a piece of the “tape” carries meaning.

Two pieces drawn to be the same length are understood to represent the same value.

These pieces can be labeled with values to clarify what is known about the diagram, so two pieces labeled with the same letter indicate that they have the same value, even if that value is not known.

When students choose to use a tape diagram to represent a relationship between values and reason about a problem, they are using appropriate tools strategically (MP5).

Grade 7 Task

Tape Diagrams in Grade 7 (Illustrative Math)

[Open this link](#)

Try this task

Use at least one math model to support your solution for part b and part c..

Sweet Tea



- a. If you have a cup of tea, will it be sweeter if you add one teaspoon of sugar or two?
- b. If you have two identical cups of tea and add one teaspoon of sugar to each, they will taste the same.
 - i. If you pour both cups into a larger container and mixed them thoroughly, will the result taste the same or different?
 - ii. How many cups of tea are in the mixture? How many teaspoons of sugar are in the mixture?
 - iii. If you mix two cups of tea with two teaspoons of sugar, will it taste the same or different as one cup of tea with one teaspoon of sugar?
- c. A small pitcher contains 4 cups of tea and 2 teaspoons of sugar. A large pitcher contains 6 cups of tea and 4 teaspoons of sugar. Will the tea in the large pitcher be more, less, or have the same sweetness as the tea in the small pitcher? Explain and draw a picture to illustrate.

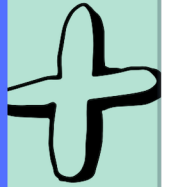
Students making sense of math. (click on link to open)

[illegible]

Page 14 of 21


How does this statement land with you?

Modifying tasks to become modeling tasks:
Typical mathematics tasks in textbooks can often be modified to become modeling tasks by removing scaffolds or steps in problems. To support students' engagement in modeling ensure tasks involve communicating with others, developing strategies, asking good questions, and persevering when solutions are not obvious.



What does a math modeling classroom look like, feel like?

What would we see?



Creating a Walkthrough tool/IC Map

Review University of TX Dana Center's IC Map

Read Page 1 and the Scenarios



What are three points
might you take away
from this reading?



What is still circling
with you?



What is squaring
with your beliefs?

What scenario might you and your
building implement?

Scenario 3 is our example

In your team groups review review the dimensions you are going to focus on.

Once you select a dimension, self reflect on your level. What components do you have in place? What is your current reality?

Describe what you want to work towards?

What additional information or strategies do you need to know in order to attain your goal?

Who is going to conduct the walkthrough in your building using this tool? Set that date/time

Write and turn in - no names on paper

Video evidence of Modeling in Action

What connections comes to mind?

Link

Choose a lesson to teach between now and the next workshop.

Dig into the lesson using the skills we learned last time and add the following considerations:

What resources will you need to have available to allow students access to model the math?

How will modeling be evident?

How will your chosen dimension be evident?

Optimistic Closure

Describe your first next step with your team?