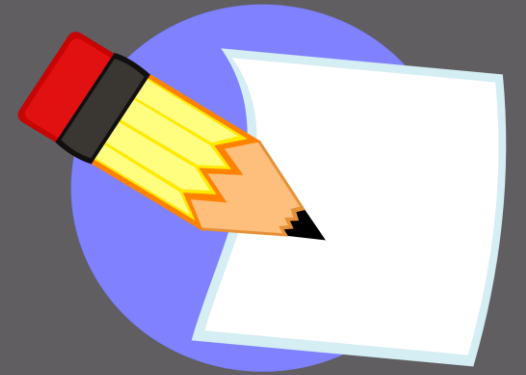


3rd Quarter Curriculum Night

“Learning is not attained by chance. It must be sought for with ardor and attended to with diligence.” —Abigail Adams



Hosted by...

Ms. Kirn

Ms. Gray

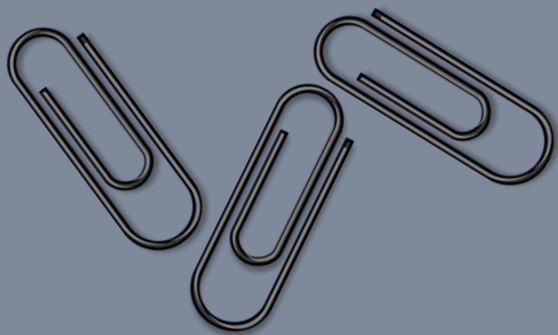
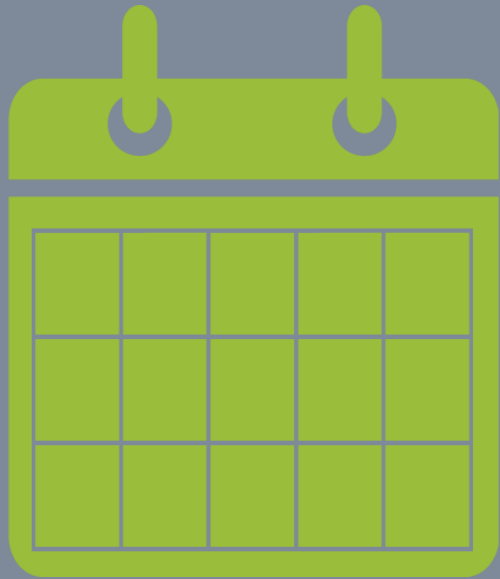
Ms. Laug

Ms. Perry

Ms. Dillon

Ms. Thompson

Schedule



6:00-6:25 Math Presentation

6:25-6:30 Transition to Room 306

6:30-6:55 ELA Presentation

7:00 Transition to Cafeteria

Math

MATHEMATICS

is not about
numbers, equations,
computations, or
algorithms:
it is about
UNDERSTANDING.

William Paul Thurston



Today you are going to be switching roles with your child! YOU are going to be the student and learn about the 4th grade math curriculum for 3rd quarter by participating in an interactive math lesson about fractions.

We have chosen to focus on **comparing fractions** because it is one of the more difficult concepts of the unit.

We are going to integrate some of the 3rd quarter science standards into the lesson.



Comparing Fractions

Word Problem

After conducting the Stream Table experiment students noticed that the earth material traveled farther when the slope was steeper.

- Experiment 1: Earth material traveled $\frac{2}{3}$ of a foot.
- Experiment 2: Earth material traveled $\frac{5}{6}$ of a foot.

Which experiment was conducted using a *steeper* slope?



Common Numerator
Common Denominator
Strategy

1. Look to see if the fractions have the same numerator or the same denominator.

For this comparison I can't use this strategy because my numerators and denominators are different.

$$\frac{2}{3} \bigcirc \frac{5}{6}$$

2. Find a common numerator or a common denominator.

For this comparison I can see that I could use 10 as a common numerator. I can also see that 6 is a multiple of 3 and 6 can be their common denominator.

$$\frac{2}{3} \bigcirc \frac{5}{6}$$

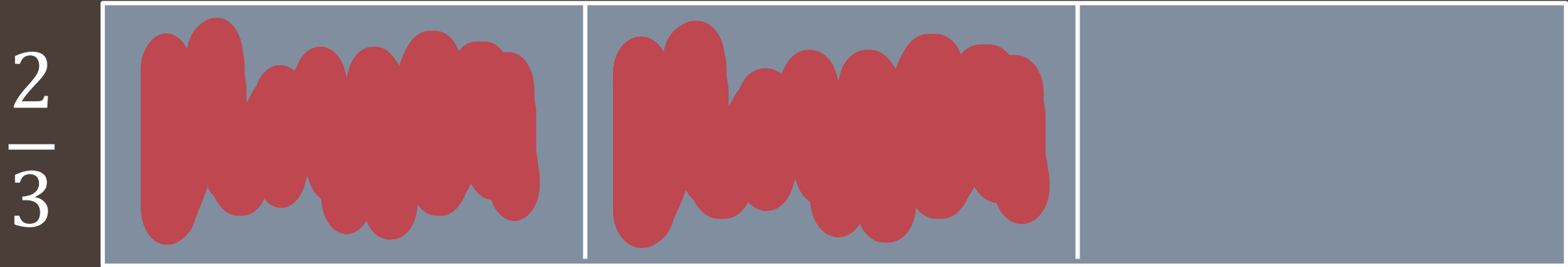
3. Use a visual model: Area Model, Fraction Bars, Number Lines.

For this comparison
I can choose one of
the three visual
models.

$$\frac{2}{3} \bigcirc \frac{5}{6}$$

Area Model
Strategy

Area Model



The Area Model is a way to visually represent fractions using an array. This problem works great for this model because the denominators are multiples of each other.

Fraction Bars Strategy

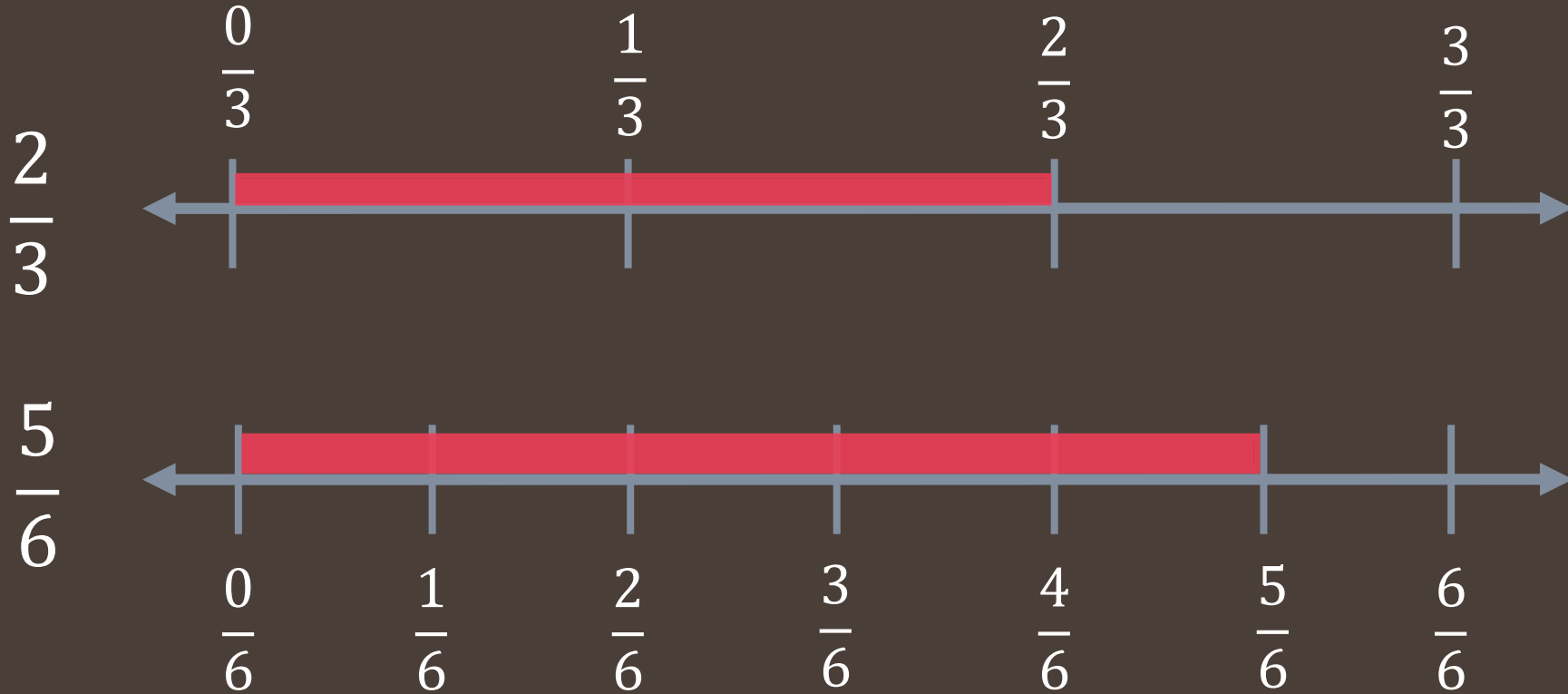
Fraction Bars



Fraction Bars always need to be the same size. We spend quite a bit of time modeling for students how to equally partition their fractions bars by using their knowledge of multiples. Let us show you!

Number Line Strategy

Number Lines (“flattened” fraction bars)



Number Lines are basically “flattened” fraction bars. It is important for students to label the “tick marks” of their number line correctly, starting with 0.

Compare to the
Benchmark $1/2$
Strategy

Greater than, less than, equal to $\frac{1}{2}$

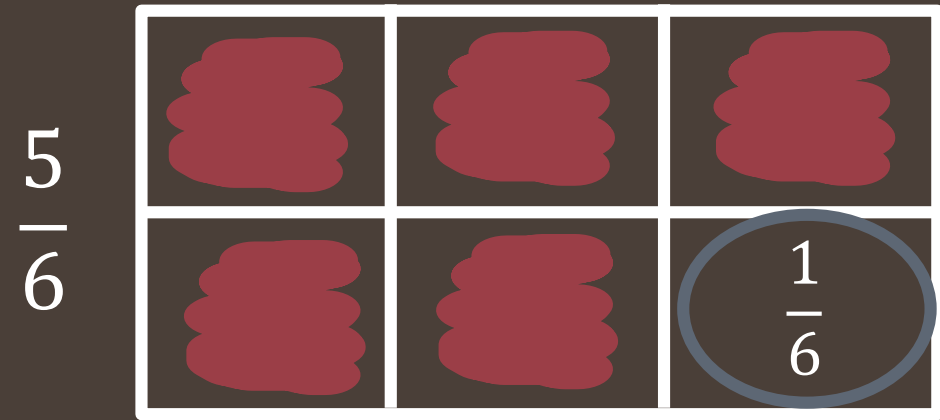
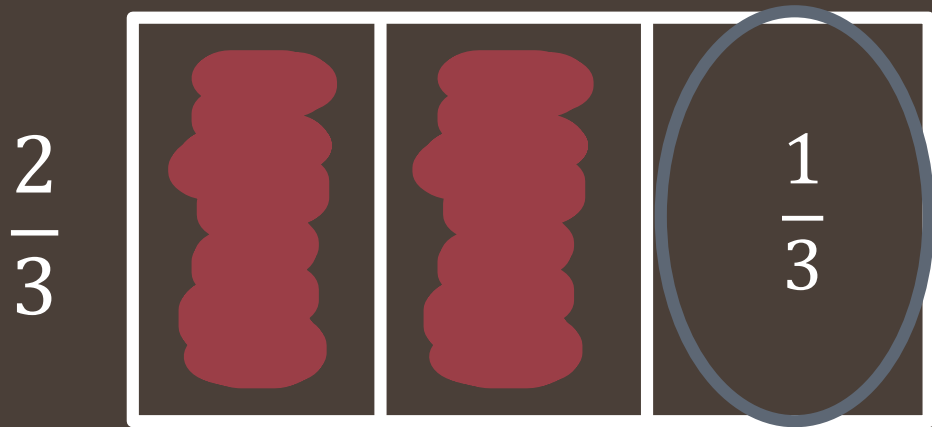


$\frac{2}{3}$ and $\frac{5}{6}$ are BOTH greater than $\frac{1}{2}$, so this strategy would not be the best one to use to compare these two fractions.

Let's refer to your handout to look at an example that would work for this strategy.

Comparing the Distance
to 1 Whole
Strategy

Compare the distance of each fraction to a Benchmark



With this strategy students focus on comparing the “pieces” that are NOT shaded. In this case $\frac{1}{3}$ is larger than $\frac{1}{6}$ meaning that $\frac{5}{6}$ is closer to 1 whole (the larger fraction).

During the Landform Unit in science students compare the heights of two popular mountains in North Carolina: Grandfather Mountain and Mount Mitchell.

- The height of Grandfather mountain is $\frac{4}{6}$ of a kilometer.
- The height of Mount Mitchell is $\frac{7}{10}$ of a kilometer.

Which mountain is taller?

Your Turn!

Choose one of the strategies that we taught you to solve the word problem!



THINK--PAIR--SHARE

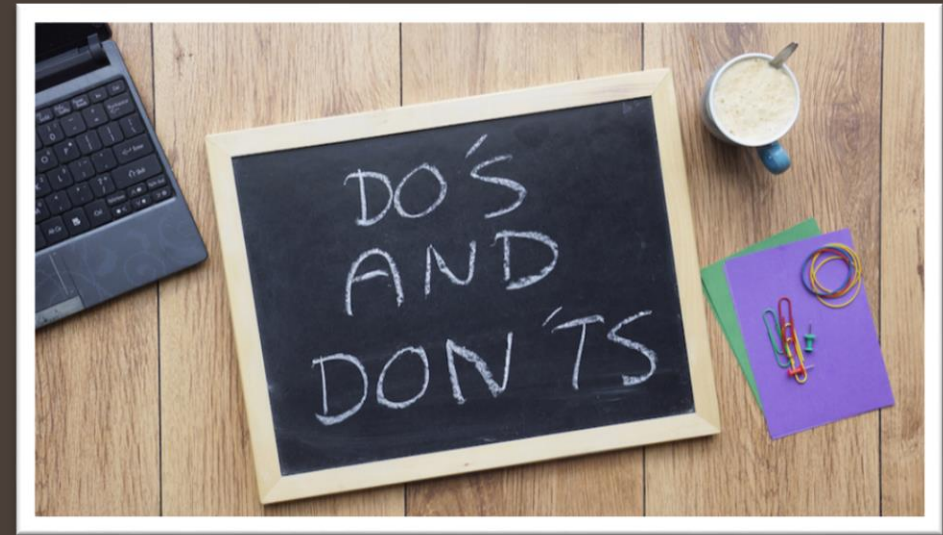
- Which strategy did you choose to solve the word problem?
- Was there any strategy that would not work well to solve this problem?
- Share your answer with a partner!



The Do's and Don'ts of Comparing Fractions

Do

- Compare fractions with visual representations or a conceptual rational (such as benchmark numbers)
- Decompose fractions in order to add & subtract them
- Draw visual representations to illustrate how to multiply fractions by a whole number



Don't

- Use cross products or “the butterfly method” to compare fractions
- Use procedural common denominator strategies in place of conceptual understanding
- Use a trick in place of being able to explain how to multiply a fraction by a whole number

Math Resources

- o Grade Level Website

www.cedarfork4thgrade.weebly.com

- o Wake County Math Videos

<https://www.youtube.com/user/TheWCPSSAcademics/featured>

- o Quarterly Pacing Guides

<http://cedarfork.weebly.com/pacing-guides.html>

