Eureka Math

3rd Grade
Module 5
Lesson 30

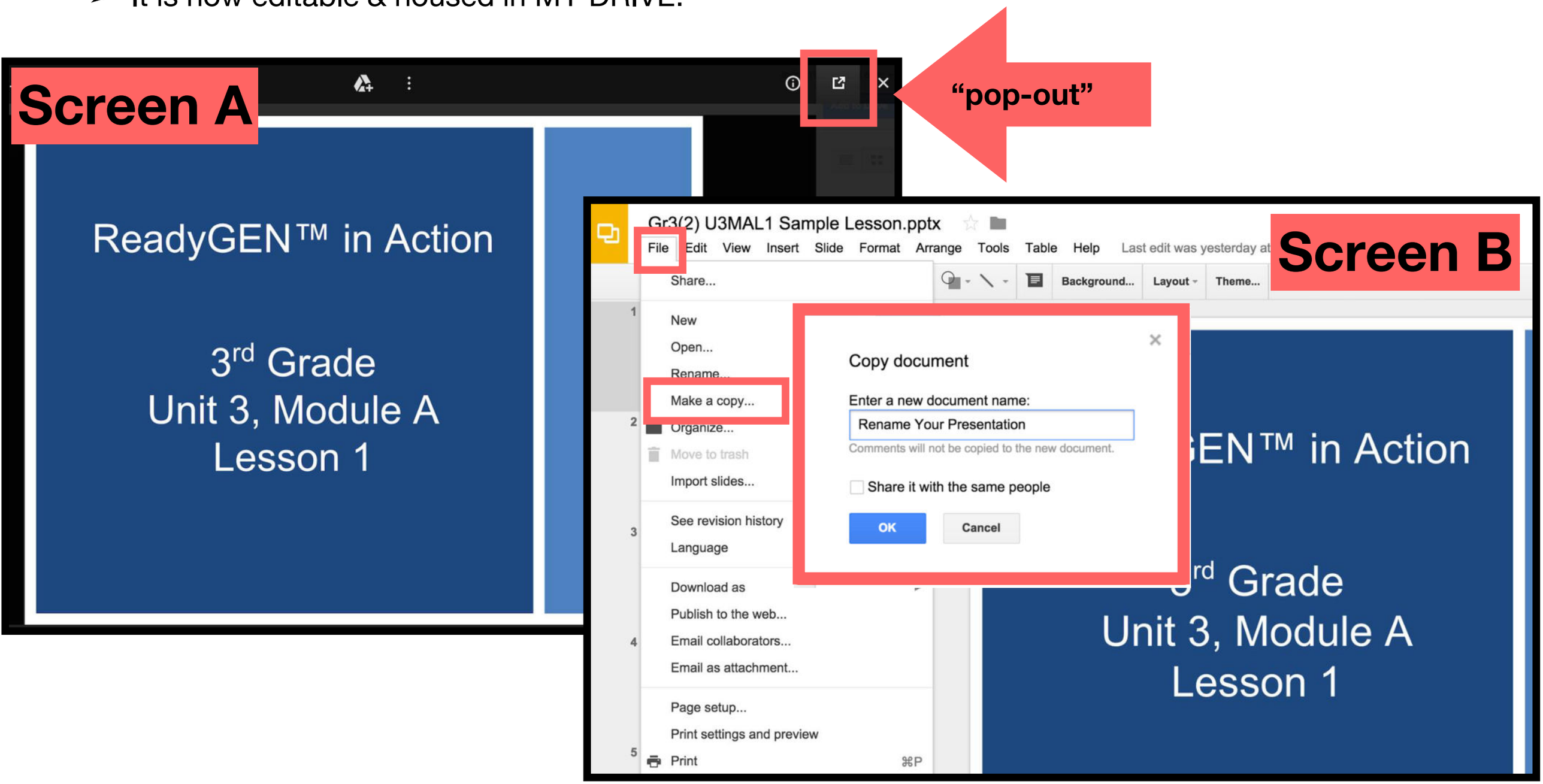
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- ➢ When the Google Slides presentation is opened, it will look like Screen A.
- ➢ Click on the “pop-out” button in the upper right hand corner to change the view.
- ➢ The view now looks like Screen B.
- ➢ Within Google Slides (not Chrome), choose FILE.
- ➢ Choose MAKE A COPY and rename your presentation.
- ➢ Google Slides will open your renamed presentation.
- ➢ It is now editable & housed in MY DRIVE.



Icons

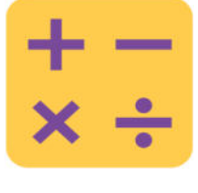
Read, Draw, Write

Learning Target

Personal White Board

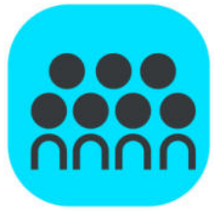
Problem Set

Manipulatives Needed



Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

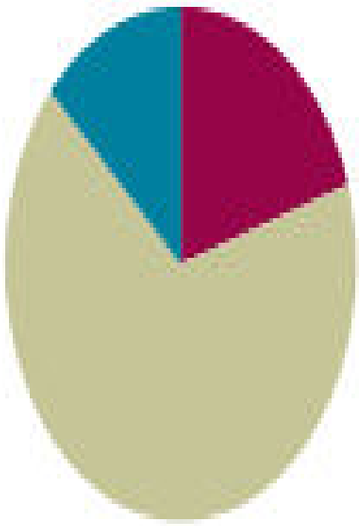
Small Group Time

Lesson 30

Objective: Partition various wholes precisely into equal parts using a number line method.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Concept Development	(40 minutes)
Student Debrief	(8 minutes)
Total Time	**(60 minutes)**



Fluency Practice (12 minutes)

- Multiply by 9 **3.OA.4** (8 minutes)
- Compare Fractions with the Same Numerator **3.NF.3d** (4 minutes)

I can partition various wholes precisely into equal parts using a number line method.

Fluency Practice

Pattern Sheet (8 min.)

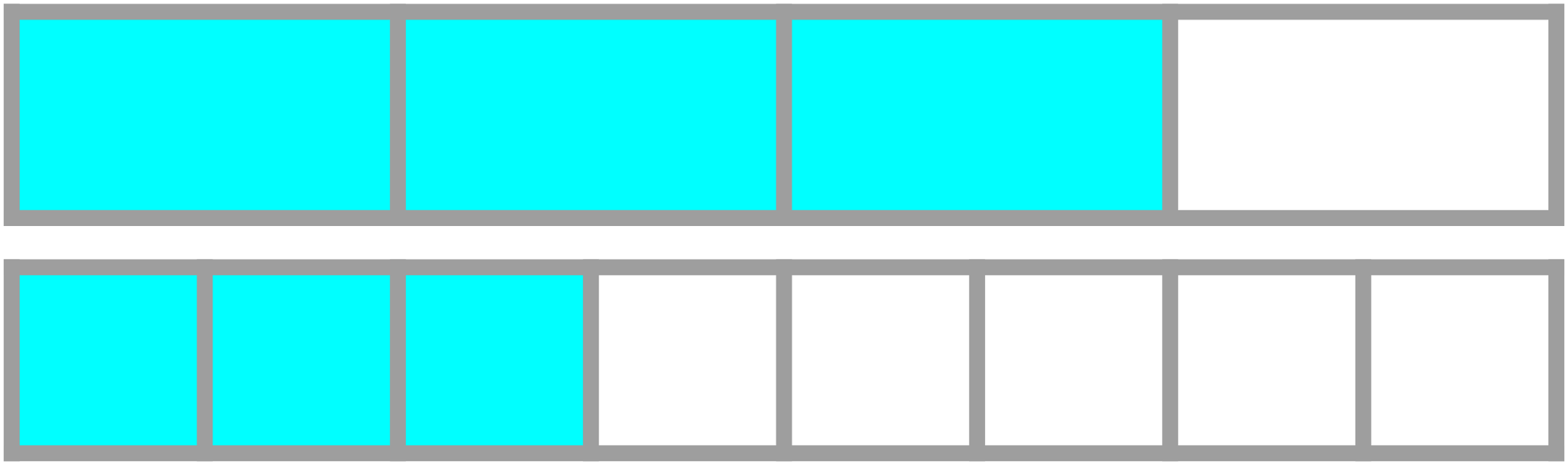
Multiply by 9

Multiply.

9 x 1 = _____	9 x 2 = _____	9 x 3 = _____	9 x 4 = _____
9 x 5 = _____	9 x 1 = _____	9 x 2 = _____	9 x 1 = _____
9 x 3 = _____	9 x 1 = _____	9 x 4 = _____	9 x 1 = _____
9 x 5 = _____	9 x 1 = _____	9 x 2 = _____	9 x 3 = _____
9 x 2 = _____	9 x 4 = _____	9 x 2 = _____	9 x 5 = _____
9 x 2 = _____	9 x 1 = _____	9 x 2 = _____	9 x 3 = _____
9 x 1 = _____	9 x 3 = _____	9 x 2 = _____	9 x 3 = _____
9 x 4 = _____	9 x 3 = _____	9 x 5 = _____	9 x 3 = _____
9 x 4 = _____	9 x 1 = _____	9 x 4 = _____	9 x 2 = _____
9 x 4 = _____	9 x 3 = _____	9 x 4 = _____	9 x 5 = _____
9 x 4 = _____	9 x 5 = _____	9 x 1 = _____	9 x 5 = _____
9 x 2 = _____	9 x 5 = _____	9 x 3 = _____	9 x 5 = _____
9 x 4 = _____	9 x 2 = _____	9 x 4 = _____	9 x 3 = _____

Fluency Practice

Compare Fractions with the Same Numerator



- Label both rectangles
- Write the comparison sentence using greater than, less than or equal to

Concept Development

Materials Needed

- 9-inch x 1-inch strips of red construction paper (at least 5 per student)
- Lined paper (template) or wide-ruled notebook paper (several pieces per student
- 12-inch ruler

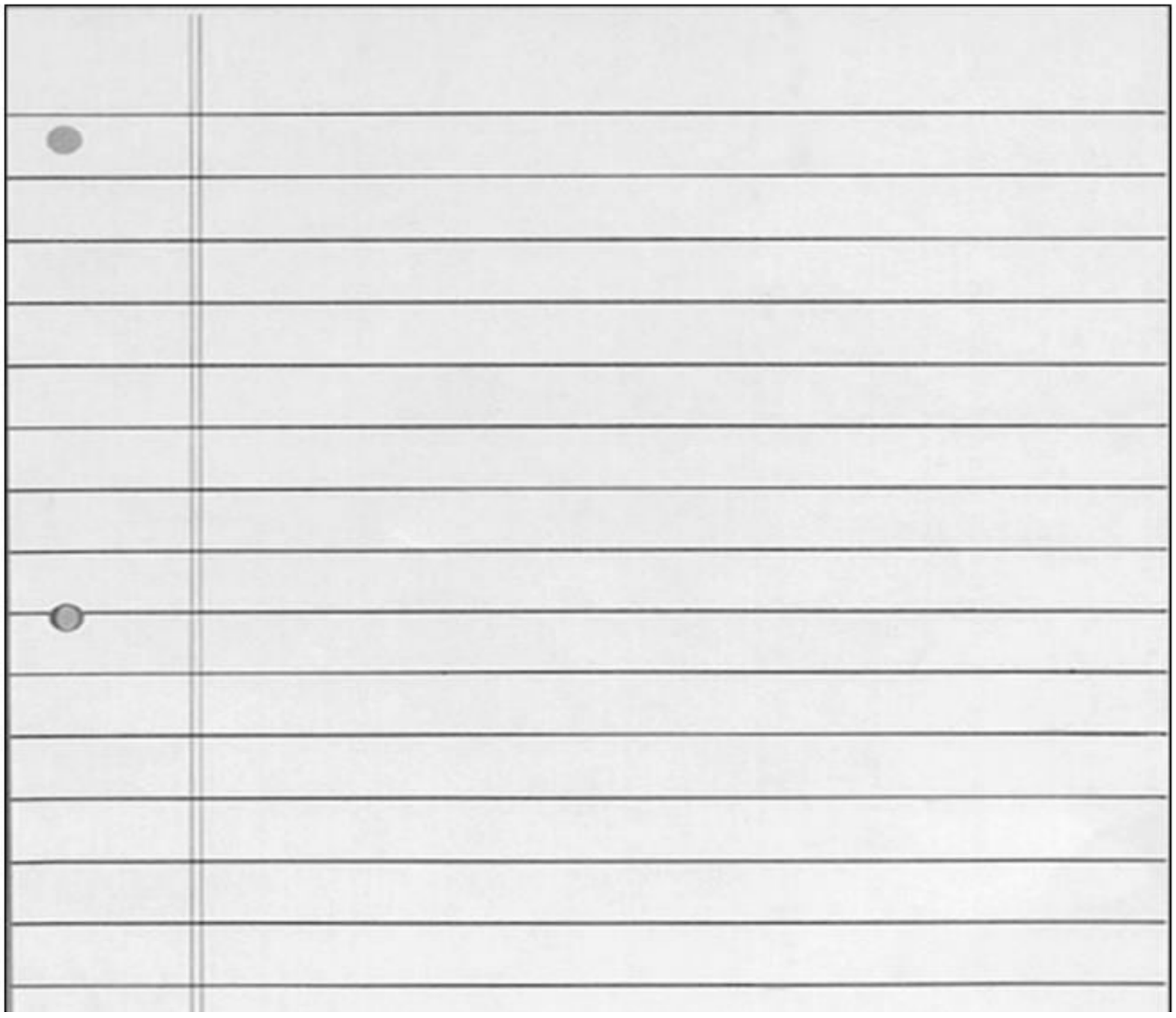
Concept Development

Think back on our lessons. Talk to your partner about how to partition a number line into thirds.

Draw the line, and then estimate 3 equal parts. → Use your folded fraction strip to measure. → Measure a 3-inch line with a ruler, and then mark off each inch. → Or on a 6-inch line, 1 mark would be at each 2 inches. → Don't forget to mark 0. → Yes, you always have to start measuring from 0.

Let's explore a method to mark off any fractional unit precisely without the use of a ruler, just with lined paper.

Concept Development



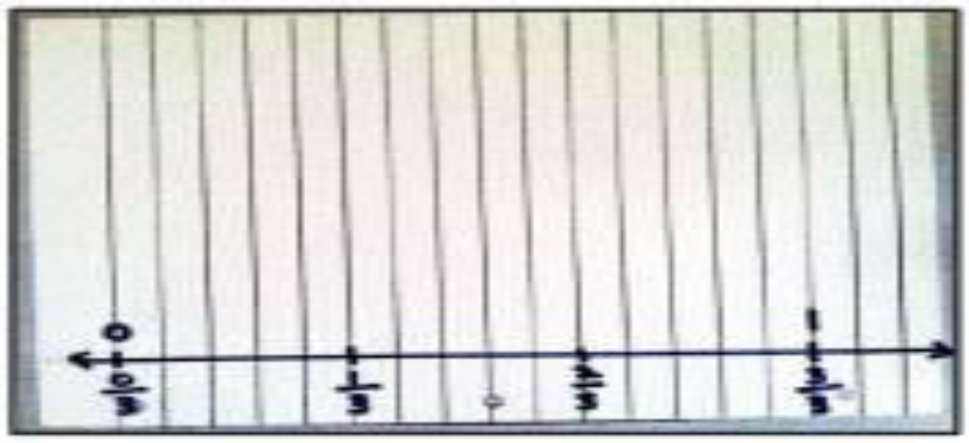
Concept Development

1. Draw a number line and mark the 0 endpoint.

- Turn your lined paper so the margin is horizontal.
- Draw a number line on top of the margin.
- Mark a 0 on the point where I do.
- How can we equally and precisely partition this number line into thirds? Discuss with partner.

Concept Development

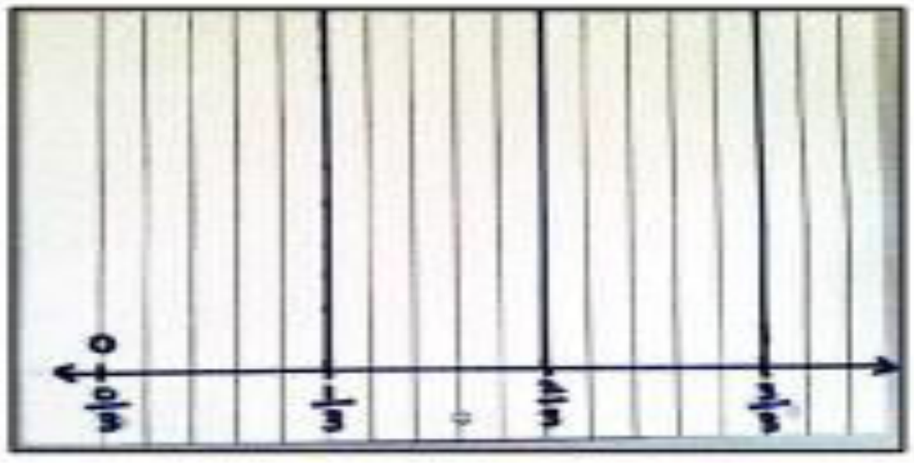
2. Measure equal units using the paper's lines.



- Use the paper's vertical lines to measure. Let's make each part 5 spaces long.
- Label the number line from 0 to 1 using 5 spaces for each third.
- Discuss with your partner how you know these are precise thirds.

Concept Development

3.Extend the equal parts to the top of the notebook paper with a line.

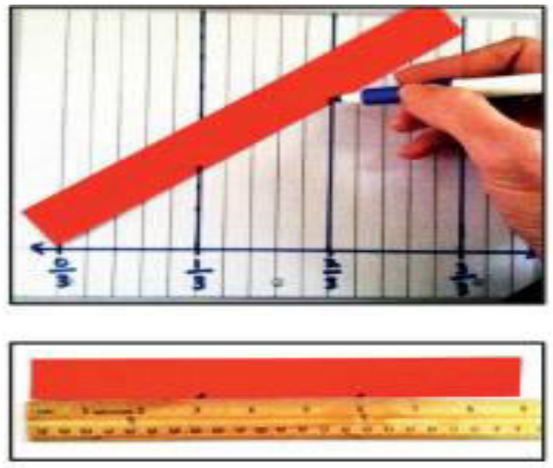


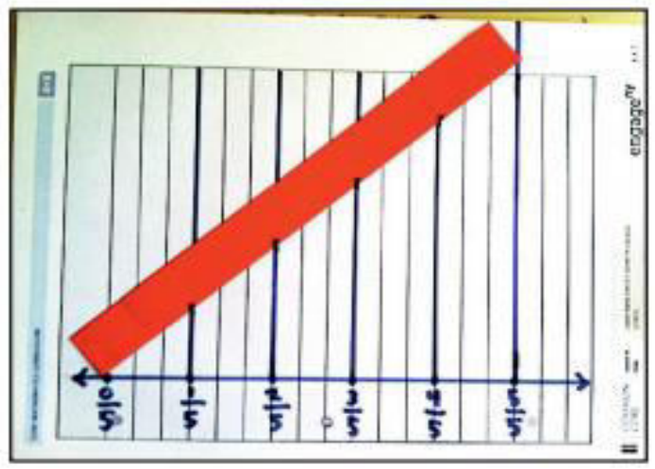
- Draw vertical lines up from your number line to the top of the paper at each third.
- Using a red strip, talk to your partner about how you might use these lines to partition the red strip into thirds.
- Partition the red strip precisely into thirds. The left end is 0 and the right end is 1.

Concept Development

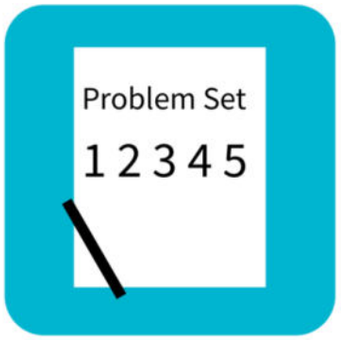
4. Angle the red strip so that the left end touches the 0 endpoint on the original number line. The right end touches the line at 1.

5. Mark off equal units, which are indicated by the vertical extensions of the points on the original number line.





- Do your units look equal?
- Verify that they are equal with your ruler.
- Measure the full length of the red strip in inches. Measure the equal parts.
- I made this strip 9 inches long just so you could verify that our method partitions precisely.



Problem Set

There is no Problem Set sheet for this lesson. In cooperative groups, challenge students to use the same process to precisely mark off other red strips into halves, fourths, etc. It is particularly exciting to partition fifths, sevenths, ninths, and tenths since those are so challenging to fold.

Debrief

- (Possibly present a meter strip.) Could we use this method to partition strips of any length? Talk to your partner about how we could partition this longer strip. Model partitioning the meter strip by using the same method. Simply tape additional lined papers above the lined paper with the thirds. This allows you to make a sharper angle with the meter strip.
- This long strip (the meter strip), shorter strip (the red strip), and number line (the one at the base of the paper) were all partitioned during our work. What is the same and different about them?
- Why do you think this method works? Why are the fractional units still equal when we angle the paper? Do you need to measure to check that they are?
- How might having this skill be helpful in your lives or math class?

Exit Ticket (3 minutes)

Exit Ticket

There is no Exit Ticket sheet for this lesson. Instead, assess students by circulating and taking notes. Consider the following:

- Is the student able to generalize the method to partition into other fractional units?
- The quality of the new efforts and what mistakes a student made either conceptually (not understanding the angling of the strip) or at a skill level (such as not using the paper's lines properly to partition equal units).
- The role students take within cooperative groups for the Problem Set. Which students articulate directions? Explanations? Which students execute well but silently?