Materials List

Personal white boards

(T) 1-liter beaker (S) Pitcher of water (1 per group), empty 2-liter bottle with top cut off (1 per group), 1 plastic cup pre-measured and labeled at 100 mL, 1 permanent marker, Problem Set

Eureka Math

3rd Grade
Module 2
Lesson 10

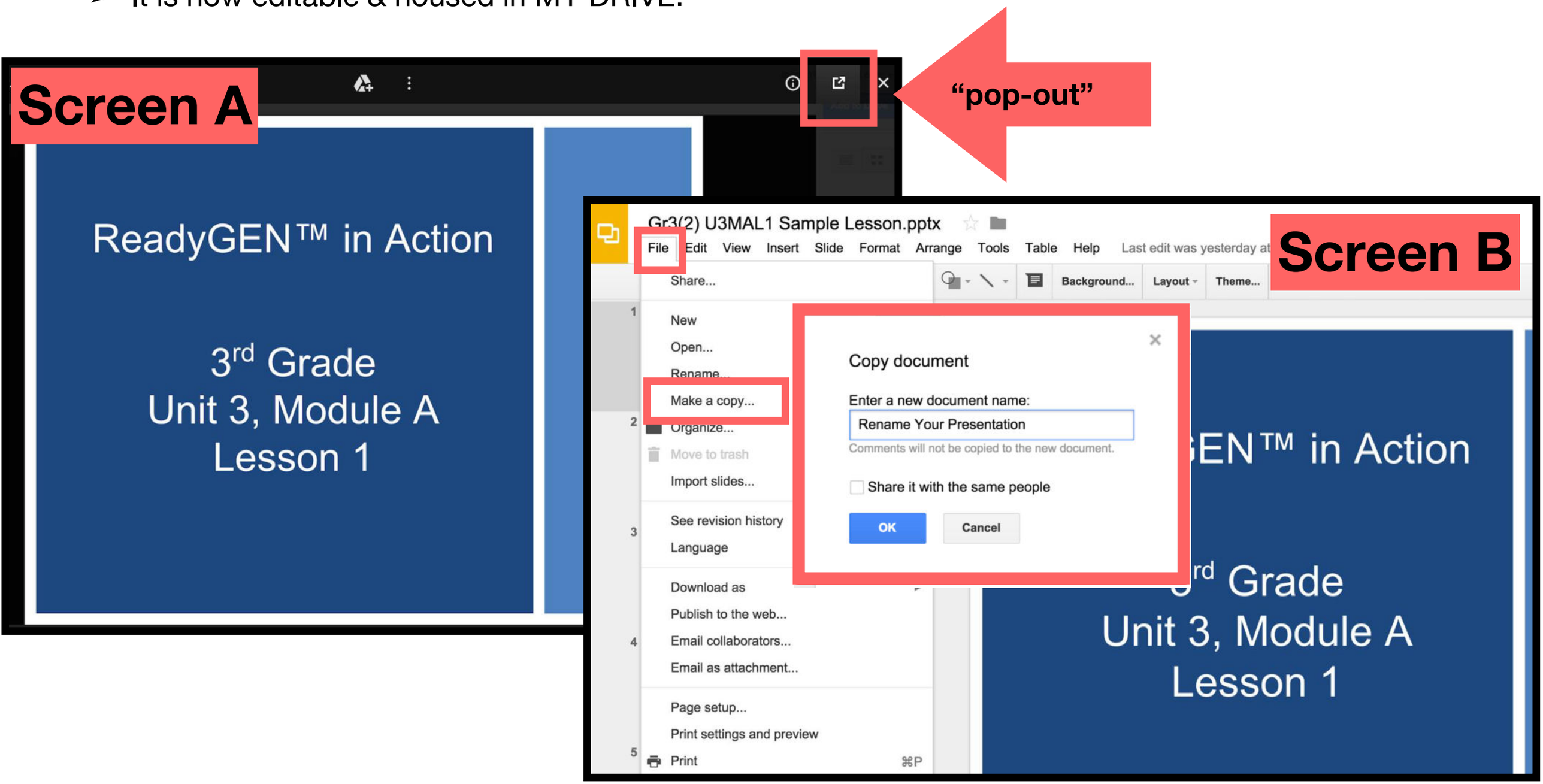
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

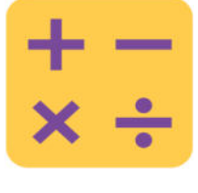
Read, Draw, Write

Learning Target

Personal White Board

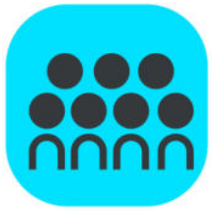
Problem Set

Manipulatives Needed



Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

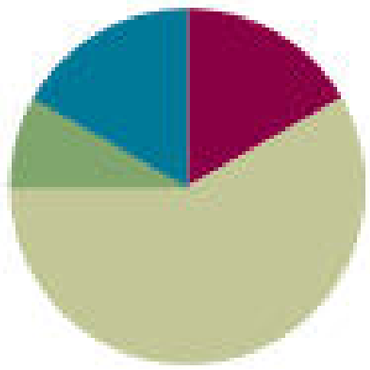
Small Group Time

Lesson 10

Objective: Estimate and measure liquid volume in liters and milliliters using the vertical number line.

Suggested Lesson Structure

Fluency Practice	(10 minutes)
Application Problem	(5 minutes)
Concept Development	(35 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



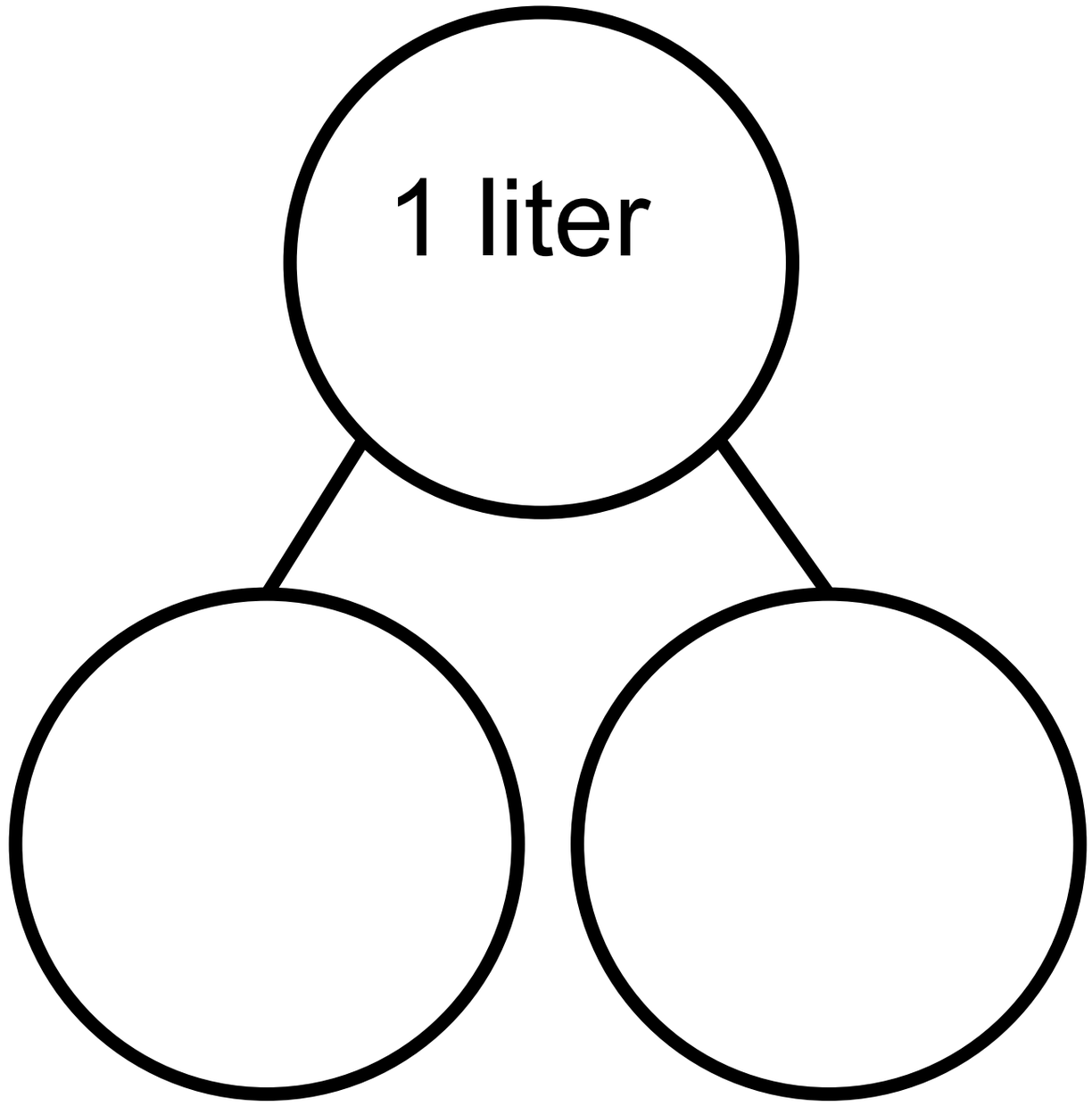
I can estimate and measure liquid volume in liters and milliliters using the vertical number line.

Milliliter Counting

There are 1,000 milliliters in 1 liter.

Count by 100 milliliters to 1 liter.

Decompose 1 Liter (4 minutes)



Group Counting

Count forward and backward, occasionally changing the direction of the count:

Threes to 30

Fours to 40

Sixes to 60

Sevens to 70

Eights to 80

Application Problem

Application Problem (5 minutes)

Subha drinks 4 large glasses of water each day. How many large glasses of water does she drink in 7 days?

Concept Development

Part 1: Create a vertical number line marked at 100 mL intervals.

Each group will measure liquid volume to make a measuring bottle that contains 1 liter of water, similar to the one we used yesterday. Each group member has a job. One person will be the measurer, one will be the pourer, and the other will be the marker. Take 30 seconds to decide on jobs.

Concept Development

The marker should draw a straight, vertical line from top to bottom (pictured on the right). ⟶

These are the rest of the directions:

The measurer measures 100 milliliters of water by pouring from the pitcher into the plastic cup.

The pourer holds the plastic cup in place and helps the measurer know when to stop. Then the pourer pours the water from the cup into the bottle.

The marker makes horizontal lines to show each new water level on the side of the bottle. Each horizontal line should cross the vertical line. The horizontal lines should be about the same size, and one should be right above the other.

Concept Development

Repeat the process for the mark that shows the least liquid volume and label 100 mL.

Concept Development

You've made a tool that scientists and mathematicians use to measure liquid volume. It's called a beaker.

Work with your group to answer all three parts of Problem 1 on your Problem Set.

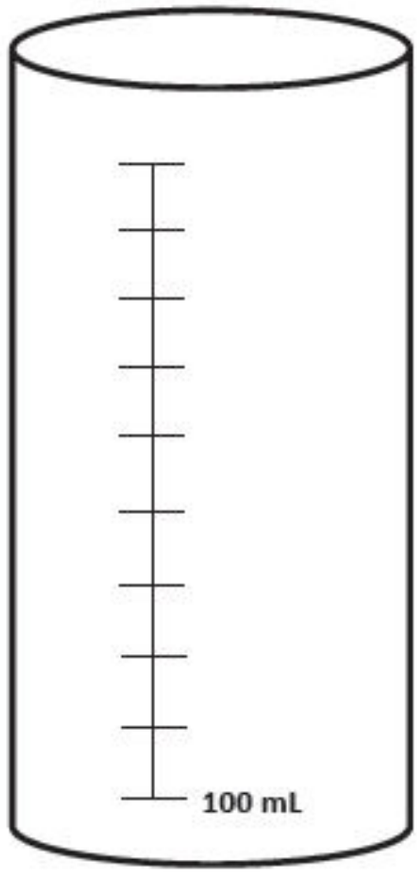
Name _____ Date _____

1. Label the vertical number line on the container to the right. Answer the questions below.

   a. What did you label as the halfway mark? Why?

   b. Explain how pouring each plastic cup of water helped you create a vertical number line.

   c. If you pour out 300 mL of water, how many mL are left in the container?



Concept Development

Part 2: Use the vertical number line to estimate and precisely measure liquid volume.

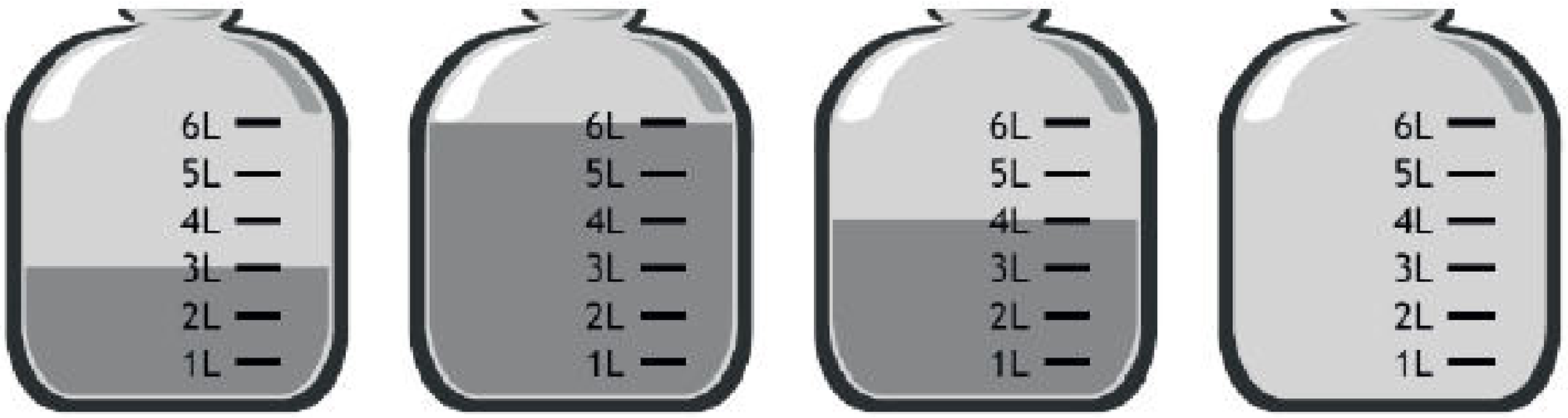
A small water bottle has about 200 milliliters of water inside. Let's see what 200 milliliters looks like. Pour from your pitcher to the measuring bottle to see the capacity of a small water bottle.

Problem Set

Problem Set (10 minutes)

Students should do their best to complete Problems 2–4 within the allotted 10 minutes. For some classes, it may be appropriate to modify the assignment by specifying which problems they work on first.

2. How much liquid is in each container?



_____ _____ _____ _____

Student Debrief

Student Debrief (10 minutes)

Lesson Objective: Estimate and measure liquid volume in liters and milliliters using the vertical number line.

Exit Ticket

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.

Name _____ Date _____

1. Use the number line to record the capacity of the containers.

Container	Capacity in Liters
A	
B	
C