Eureka Math

3rd Grade
Module 6
Lesson 7

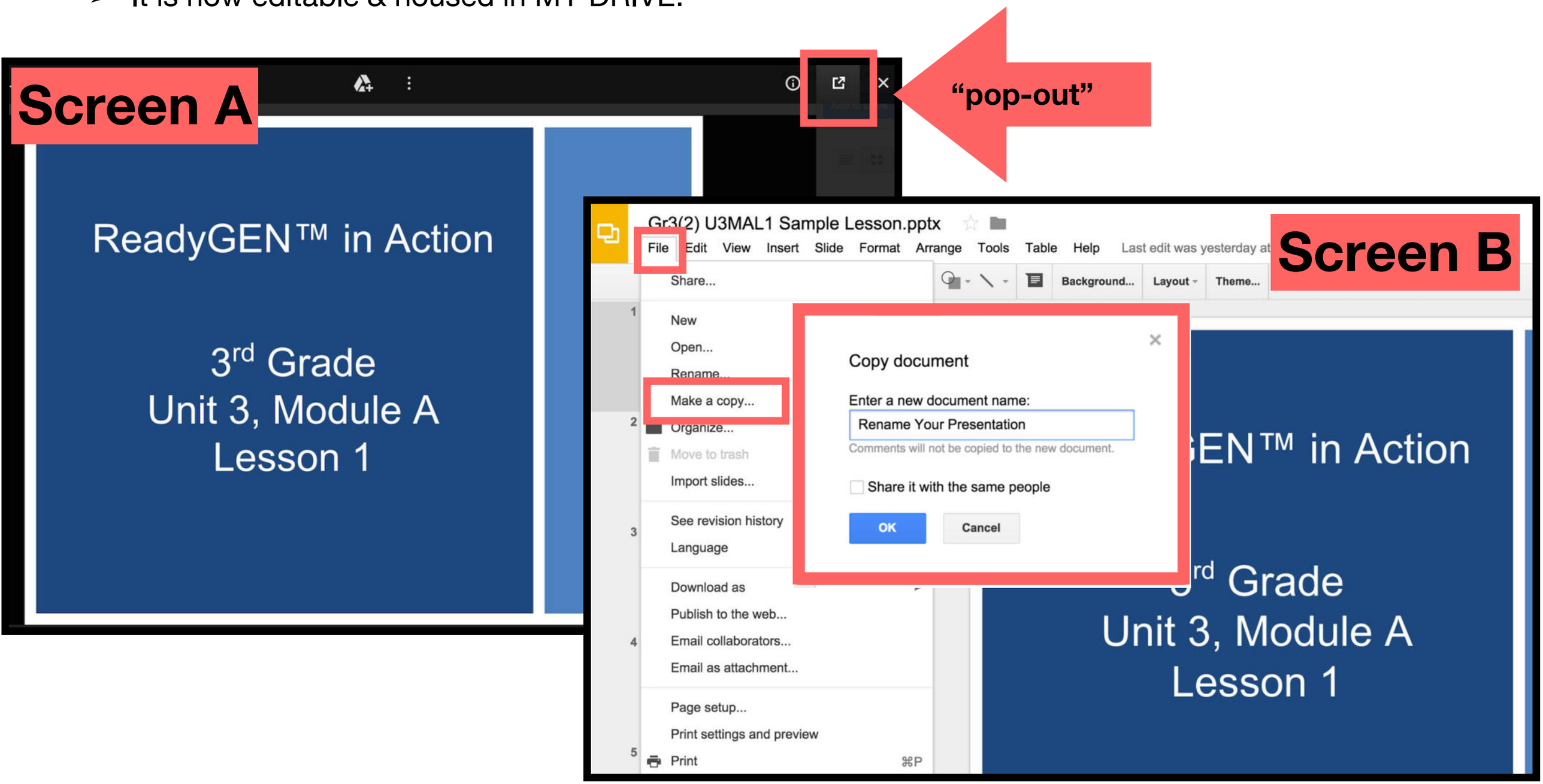
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

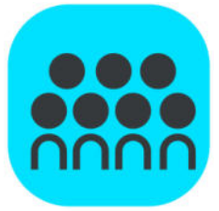
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

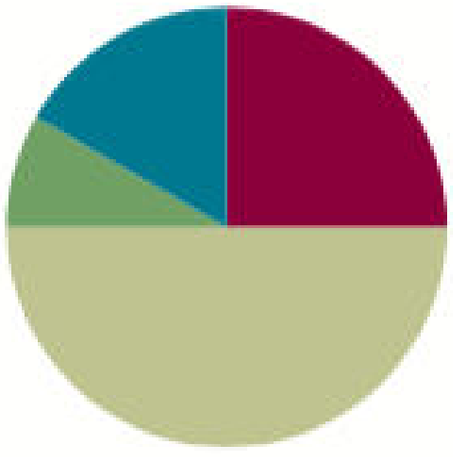
Small Group Time

Lesson 7

Objective: Represent measurement data with line plots.

Suggested Lesson Structure

Fluency Practice	(15 minutes)
Application Problem	(5 minutes)
Concept Development	(30 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can represent measurement data with line plots.

Fluency Practice

Group Counting (3 min.)

Count by sevens to 70.

7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

4 × 7 = ?

What is the value of 4 sevens? Count by sevens if you are unsure.

Say the multiplication sentence.

4 × 7 = 28

Fluency Practice

Group Counting (3 min.)

Count by sevens to 70.

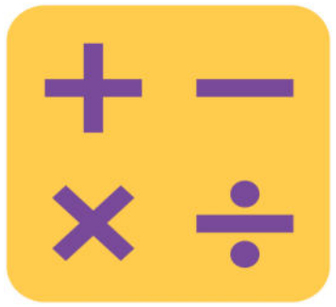
7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

6 × 7 = ?

What is the value of 6 sevens? Count by sevens if you are unsure.

Say the multiplication sentence.

6 × 7 = 42



Fluency Practice

Group Counting (3 min.)

Count by sevens to 70.

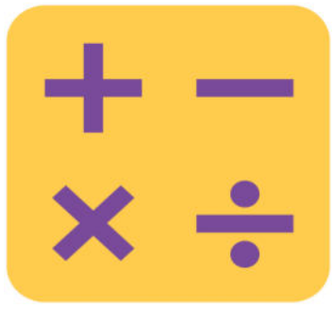
7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

8 × 7 = ?

What is the value of 8 sevens? Count by sevens if you are unsure.

Say the multiplication sentence.

8 × 7 = 56



Fluency Practice

Group Counting (3 min.)

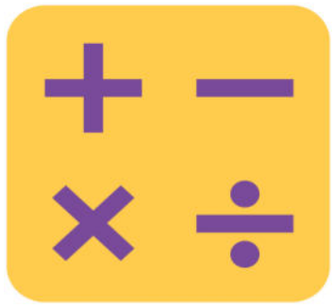
7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

21 ÷ 7 = ?

Count by sevens if you are unsure.

Say the division sentence.

21 ÷ 7 = 3



Fluency Practice

Group Counting (3 min.)

7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

35 ÷ 7 = ?

Count by sevens if you are unsure.

Say the division sentence.

35 ÷ 7 = 5

Fluency Practice

Group Counting (3 min.)

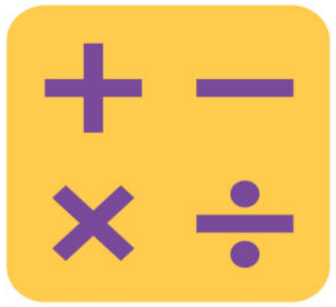
7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

49 ÷ 7 = ?

Count by sevens if you are unsure.

Say the division sentence.

49 ÷ 7 = 7



Fluency Practice

Group Counting (3 min.)

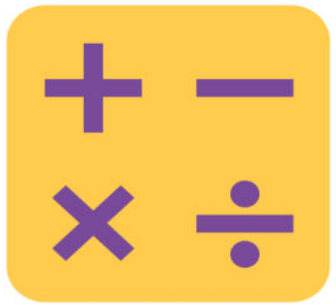
7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

63 ÷ 7 = ?

Count by sevens if you are unsure.

Say the division sentence.

63 ÷ 7 = 9



Fluency Practice

Group Counting (3 min.)

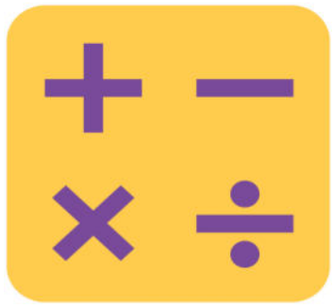
7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

63 ÷ 7 = ?

Count by sevens if you are unsure.

Say the division sentence.

63 ÷ 7 = 9



Fluency Practice

Group Counting (3 min.)

7, 14, 21, 28, 35, 42, 49, 56, 63, 70.

63 ÷ 7 = ?

Count by sevens if you are unsure.

Say the division sentence.

63 ÷ 7 = 9

Fluency Practice

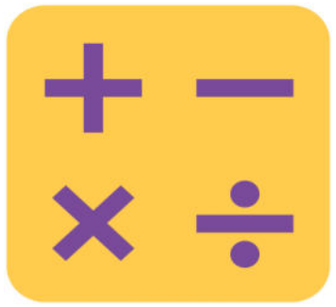
Multiply by 6 (7 minutes)

7 × 6 = ____

Let’s skip-count up by sixes to find the answer.

6, 12, 18, 24, 30, 36, 42.

7 x 6 = 42



Fluency Practice

Multiply by 6 (7 minutes)

7 × 6 = ____

Let’s see how we can skip-count down to find the answer, too.

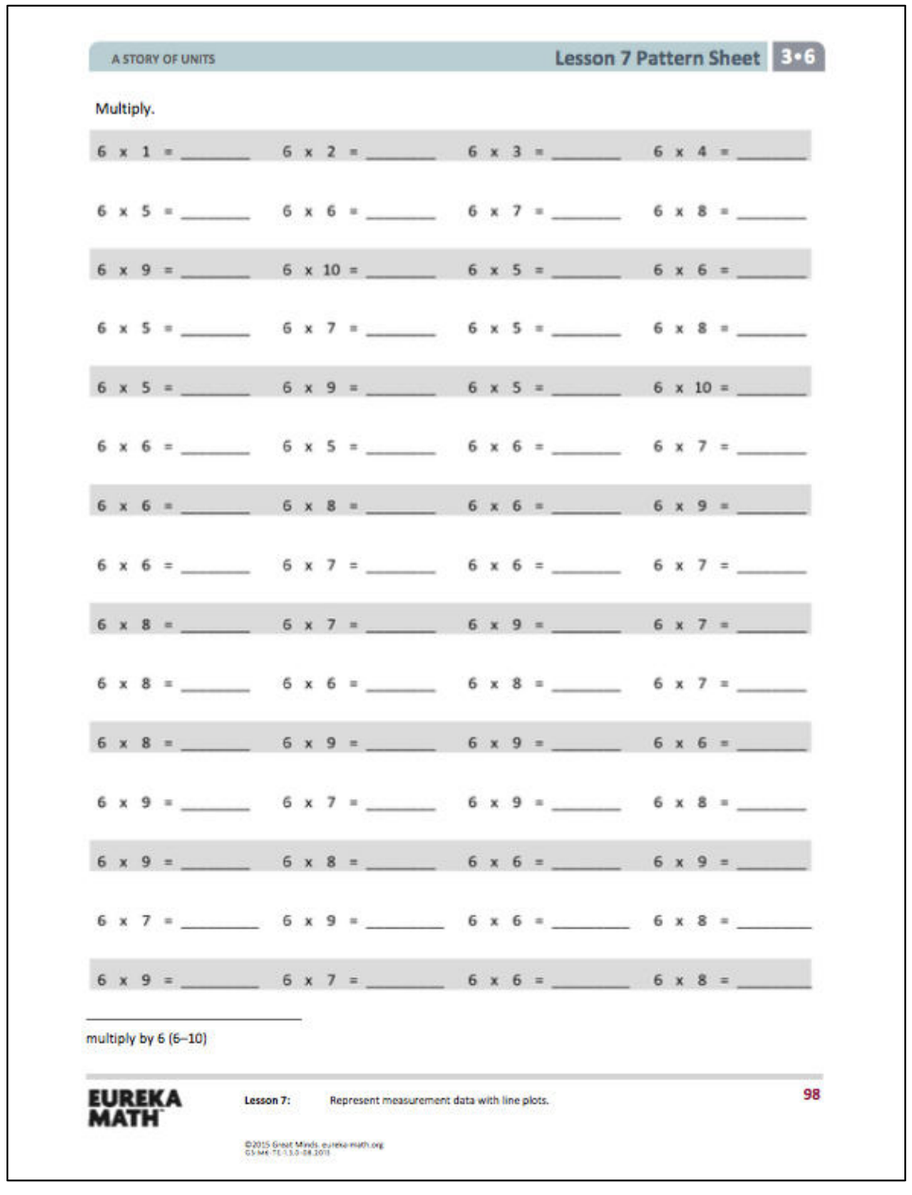
Start at 60 with 10 fingers, 1 for each six.

60 (10 fingers), 54 (9 fingers), 48 (8 fingers), 42 (7 fingers).

Fluency Practice

Multiply by 6 (7 minutes)

Let’s practice multiplying by 6. Be sure to work left to right across the page.



A STORY OF UNITS — Lesson 7 Pattern Sheet 3•6

Multiply.

6 x 1 = _____	6 x 2 = _____	6 x 3 = _____	6 x 4 = _____
6 x 5 = _____	6 x 6 = _____	6 x 7 = _____	6 x 8 = _____
6 x 9 = _____	6 x 10 = _____	6 x 5 = _____	6 x 6 = _____
6 x 5 = _____	6 x 7 = _____	6 x 5 = _____	6 x 8 = _____
6 x 5 = _____	6 x 9 = _____	6 x 5 = _____	6 x 10 = _____
6 x 6 = _____	6 x 5 = _____	6 x 6 = _____	6 x 7 = _____
6 x 6 = _____	6 x 8 = _____	6 x 6 = _____	6 x 9 = _____
6 x 6 = _____	6 x 7 = _____	6 x 6 = _____	6 x 7 = _____
6 x 8 = _____	6 x 7 = _____	6 x 9 = _____	6 x 7 = _____
6 x 8 = _____	6 x 6 = _____	6 x 8 = _____	6 x 7 = _____
6 x 8 = _____	6 x 9 = _____	6 x 9 = _____	6 x 6 = _____
6 x 9 = _____	6 x 7 = _____	6 x 9 = _____	6 x 8 = _____
6 x 9 = _____	6 x 8 = _____	6 x 6 = _____	6 x 9 = _____
6 x 7 = _____	6 x 9 = _____	6 x 6 = _____	6 x 8 = _____
6 x 9 = _____	6 x 7 = _____	6 x 6 = _____	6 x 8 = _____

multiply by 6 (6–10)

EUREKA MATH — Lesson 7: Represent measurement data with line plots. 98

Fluency Practice

Count by Halves and Fourths (4 minutes)

Count by halves to 12 halves as I write. Please do not count faster than I can write.

(Write in fractional form as students count.)

Say 2 halves as a whole number.

Count by halves. Say whole numbers when you arrive at whole numbers. Try not to look at the board.

Fluency Practice

Count by Halves and Fourths (4 minutes)

Count by fourths to 12 fourths as I write. Please do not count faster than I can write.

(Write in fractional form as students count.)

Say 4 fourths as a whole number.

Count by fourths. Say whole numbers when you arrive at whole numbers. Try not to look at the board.

Application Problem

Straw Lengths (in Inches)				
3	4	$4\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{3}{4}$
$3\frac{3}{4}$	$4\frac{1}{2}$	$3\frac{1}{4}$	4	$4\frac{3}{4}$
$4\frac{1}{4}$	5	3	$3\frac{1}{2}$	$4\frac{1}{2}$
$4\frac{1}{2}$	4	$3\frac{1}{4}$	5	$4\frac{1}{4}$

The chart shows the lengths of straws measured in Mr. Han's class.

a. How many straws were measured? Explain how you know.

Application Problem

Straw Lengths (in Inches)				
3	4	$4\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{3}{4}$
$3\frac{3}{4}$	$4\frac{1}{2}$	$3\frac{1}{4}$	4	$4\frac{3}{4}$
$4\frac{1}{4}$	5	3	$3\frac{1}{2}$	$4\frac{1}{2}$
$4\frac{1}{2}$	4	$3\frac{1}{4}$	5	$4\frac{1}{4}$

b. What is the smallest measurement on the chart? The greatest?

c. Were the straws measured to the nearest inch? How do you know?

Concept Development

Let’s represent the straw data from Mr. Han’s class using a line plot.

Straw Lengths (in Inches)				
3	4	$4\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{3}{4}$
$3\frac{3}{4}$	$4\frac{1}{2}$	$3\frac{1}{4}$	4	$4\frac{3}{4}$
$4\frac{1}{4}$	5	3	$3\frac{1}{2}$	$4\frac{1}{2}$
$4\frac{3}{4}$	4	$3\frac{1}{4}$	5	$4\frac{1}{4}$

Concept Development

Straw Lengths (in Inches)				
3	4	$4\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{3}{4}$
$3\frac{3}{4}$	$4\frac{1}{2}$	$3\frac{1}{4}$	4	$4\frac{3}{4}$
$4\frac{1}{4}$	5	3	$3\frac{1}{2}$	$4\frac{1}{2}$
$4\frac{3}{4}$	4	$3\frac{1}{4}$	5	$4\frac{1}{4}$

First, we need to determine the scale for our line plot. The first measurement on the line plot should be the smallest measurement in the chart.

What is the smallest measurement?

Concept Development

Straw Lengths (in Inches)				
3	4	$4\frac{1}{2}$	$2\frac{3}{4}$	$3\frac{3}{4}$
$3\frac{3}{4}$	$4\frac{1}{2}$	$3\frac{1}{4}$	4	$4\frac{3}{4}$
$4\frac{1}{4}$	5	3	$3\frac{1}{2}$	$4\frac{1}{2}$
$4\frac{3}{4}$	4	$3\frac{1}{4}$	5	$4\frac{1}{4}$

What do you think will be the last measurement on the line plot?

Turn and talk to your partner. Look over the data in the chart. How do you know what interval we should count by to create our scale?

Concept Development

To find out how many tick marks we need, we can count by fourths from 2 to 5. Each time we count, keep track with your fingers.

Let’s count.

Concept Development

Turn and talk to your partner. Look over the data in the chart. How do you know what interval we should count by to create our scale?

To find out how many tick marks we need, we can count by fourths from 2 ¾ to 5. Each time we count, keep track with your fingers.

How many tick marks do we need to draw altogether?

10 tick marks

Concept Development

I heard some count 3 2/4 and others count 3 ½ .
Who is correct? Talk to your partner.

Both fractions name the same length. In the data chart, it is written as 3 ½ , so it is best to label it the same way.

On the template, you see the chart from the Application Problem and an empty number line. We need to partition our number line into equal intervals and label our scale.

How can we use our ruler to create equal intervals?

Concept Development

Draw to show 10 marks. Then, label each mark from 2 ¾ to 5 inches.

Now, it is time to record the data on our line plot. Look at the first measurement in the chart. Look for that measurement on your line plot.

Plot that data on the line plot with an X.

How can we make sure that we plot the data only once?

Plot the rest of the data with care, either crossing or checking off each measure you plot.

Concept Development

Let’s give this line plot a title that tells what it shows. What data is represented on the line plot?

Lengths of different straws.

Let’s title our line plot Straw Lengths. Add the title to your graph.

Let’s add a key to show what each X represents. What does each X represent?

A straw!

Concept Development

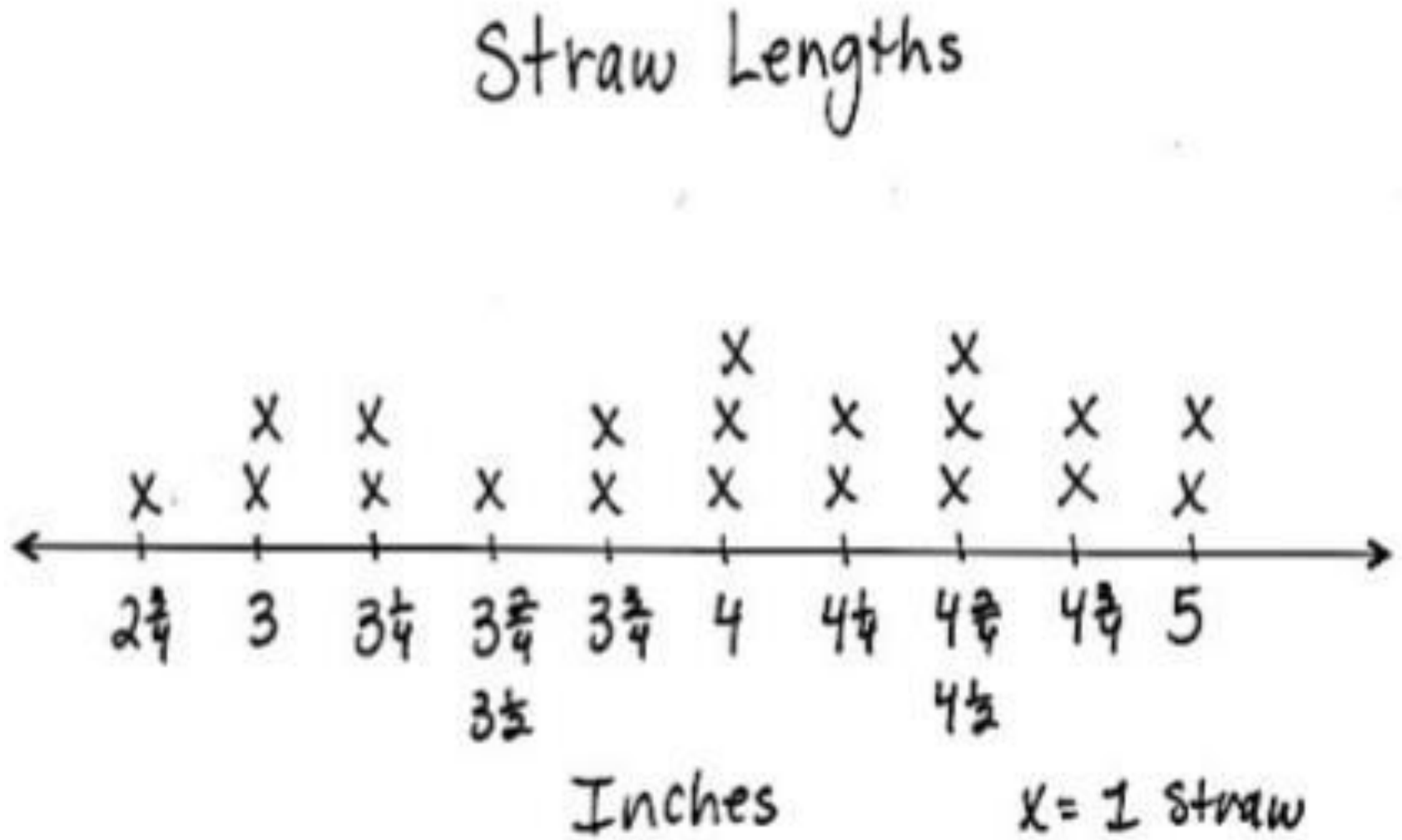
Add a key to your line plot.

Let’s also put a label beneath the number line to tell the unit our line plot shows. What unit did we use to measure?

Let’s add the word Inches underneath the numbers on the number line.

Now that our line plot has a title, a key, and a unit label, anybody who looks at the line plot will know what it is showing.

Concept Development

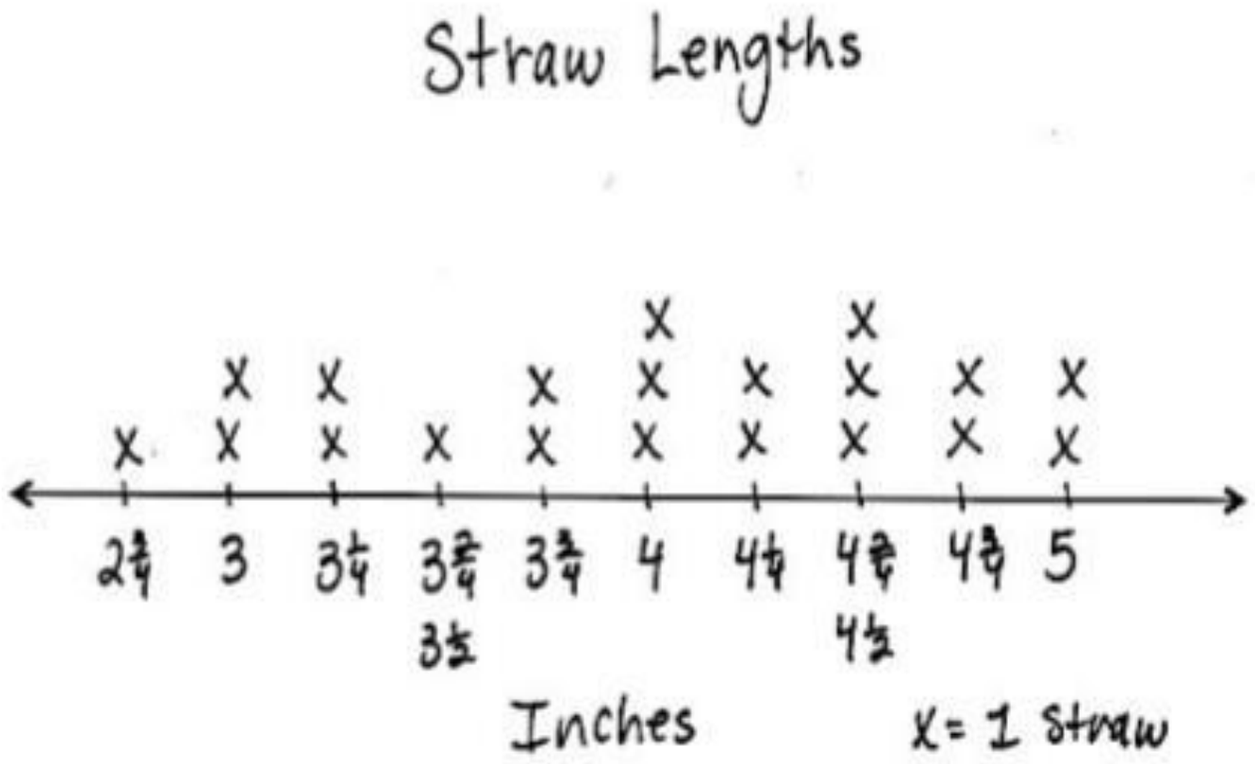


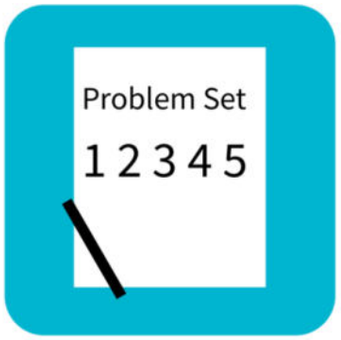
Concept Development

How many straws were at least ___ inches tall?

How many straws were taller/shorter than ____ inches?

Which measurements happened most/least frequently?





Problem Set

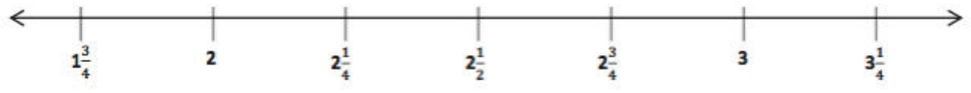
Name _____ Date _____

Mrs. Weisse's class grows beans for a science experiment. The students measure the heights of their bean plants to the nearest $\frac{1}{4}$ inch and record the measurements as shown below.

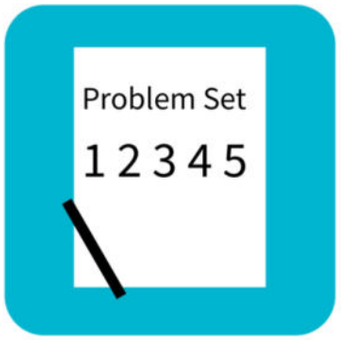
Heights of Bean Plants (in Inches)				
$2\frac{1}{4}$	$2\frac{3}{4}$	$3\frac{1}{4}$	$1\frac{3}{4}$	$1\frac{3}{4}$
$1\frac{3}{4}$	3	$2\frac{1}{2}$	$3\frac{1}{4}$	$2\frac{1}{2}$
2	$2\frac{1}{4}$	3	$2\frac{1}{4}$	3
$2\frac{1}{2}$	$3\frac{1}{4}$	$1\frac{3}{4}$	$2\frac{3}{4}$	2

a. Use the data to complete the line plot below.

Title: _____



Label: _____ X =



Problem Set

b. How many bean plants are at least $2\frac{1}{4}$ inches tall?

c. How many bean plants are taller than $2\frac{3}{4}$ inches?

d. What is the most frequent measurement? How many bean plants were plotted for this measurement?

e. George says that most of the bean plants are at least 3 inches tall. Is he right? Explain your answer.

f. Savannah was absent the day the class measured the heights of their bean plants. When she returns, her plant measures $2\frac{2}{4}$ inches tall. Can Savannah plot the height of her bean plant on the class line plot? Why or why not?

Debrief

What process did you use to complete the line plot in Problem (a)?

What other questions could be answered based on the Heights of Bean Plants data?

Debrief

Why do you think four of the bean plants were so short? What questions would you ask Mrs. Weisse's class about this?

In what ways is a line plot similar to a picture graph in how it displays data? Bar graph? In what ways is it different?

Debrief

Why is it important to create a scale before partitioning a number line?

In what ways did your knowledge of fractions help you create your line plots?

How did the Fluency Practice activities connect to today's new learning?

How did the Application Problem help you get ready for today's lesson?

Exit Ticket (3 minutes)

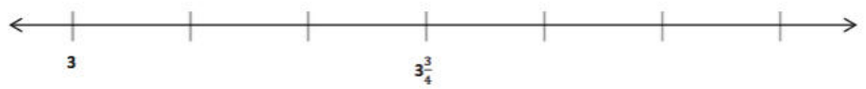
Name _____ Date _____

Scientists measure the growth of mice in inches. The scientists measure the length of the mice to the nearest $\frac{1}{4}$ inch and record the measurements as shown below.

Lengths of Mice (in Inches)				
$3\frac{1}{4}$	3	$3\frac{1}{4}$	$3\frac{3}{4}$	4
$3\frac{3}{4}$	3	$4\frac{1}{2}$	$4\frac{1}{2}$	$3\frac{3}{4}$
4	$4\frac{1}{4}$	4	$4\frac{1}{4}$	4

Label each tick mark. Then, record the data on the line plot below.

Title: _____



Label: _____ X = 1 mouse