Objective: Represent Measurement Data with Line Plots

Count by 8’s to 80

Watch me, when my thumbs up, count up, hands together, pause, thumbs down, count down.

3 X 8 =

What is the value of 3 eights? Count by eights if you aren’t sure.

3 X 8 = 24

6 X 8 =

What is the value of 6 eights? Count by eights if you aren’t sure.

6 X 8 = 48

8 X 8 =

What is the value of 8 eights? Count by eights if you aren’t sure.

8 X 8 = 64

Dividing

What is 24 ÷ 8 ? Count by 8 if you are unsure.

24 ÷ 8 = 3

What is 56 ÷ 8 ? Count by 8 if you are unsure.

56 ÷ 8 = 7

What is 72 ÷ 8 ? Count by 8 if you are unsure.

72 ÷ 8 = 9

Count by 9’s to 90

Watch me, when my thumbs up, count up, hands together, pause, thumbs down, count down.

2X 9=

What is the value of 2 nines? Count by sevens if you aren’t sure.

2 X 9 = 18

6 X 9 =

What is the value of 6 nines? Count by nines if you aren’t sure.

6 X 9 = 54

8 X 9 =

What is the value of 8 nines? Count by nines if you aren’t sure.

8 X 9 = 72

Dividing

What is 45 ÷ 9 ? Count by 9 if you are unsure.

45 ÷ 9 = 5

What is 63 ÷ 9 ? Count by 9 if you are unsure.

63 ÷ 9 = 7

What is 81 ÷ 9 ? Count by 9 if you are unsure.

81 ÷ 9 = 9

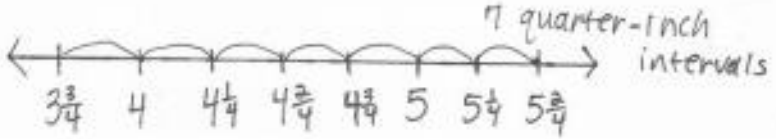
Pattern Sheet - Multiply by 7

TIMER

Application Problem

Timer - 5 minutes

Mrs. Byrne's class is studying worms. They measure the lengths of the worms to the nearest quarter inch. The length of the shortest worm is $3\frac{3}{4}$ inches. The length of the longest worm is $5\frac{2}{4}$ inches. Kathleen says they need 8 quarter-inch intervals to plot the lengths of the worms on a line plot. Is she right? Why or why not?



No, Kathleen is not right because they will need 7 quarter-inch intervals, not 8.

Let’s do it! Let’s use the data in the chart to make a graph.

What data is shown in the chart?

The height of plants.

Turn and talk to your elbow partner. How does the measurement data in this chart compare to the measurement data we plotted yesterday?

THERE IS SO MUCH MORE DATA!!!!!!!!

Discuss with your partner the steps you should take to create a line plot of the data.

Steps to Make A Line Plot

Draw a line - That's why it is called a line plot !

Determine the scale - what intervals will you use?

Give your Line Plot a Title

Give Your Line Plot a Key...X = ?

Specify the units….Inches?

The tricky part - Determine the scale

Look at the sunflower data. Find and record the smallest and largest measurements. These will be the endpoints.

What will the first tick mark on the line plot be?

60 inches because it is the smallest measurement.

What will the last tick mark be?

64 inches because it is the biggest measurement.

Draw a line, label the beginning 60 and the end 64.

Tricked you! That wasn’t tricky, this is….

What interval will you use and how many tick marks will you need?

Remember, the interval is the value in between each tick mark. The intervals need to be the same. In this case ½ inch because it is a common unit in the data chart.

Your line should look like this…..

Now finish making your line plot, remember to mark off data as you record it. Don’t forget the title, the key and the unit label. You have 5 minutes - TIMER

Interpreting the graph

Tell me a true statement about the heights of the sunflower plants in Mrs. Schaut's garden.

The most common height is 62 ½ inches, There is only 1 plant that is 60 inches tall. 61, 61 ½, and 63 ½ inches all have the same number of plants.

How does having the data displayed as a line plot instead of a chart help you to think and talk about the data?

Write a number sentence on your template to show how many plats do not measure 62, 62 ½ or 63 inches.

30-16 = 14

What do you notice about the location of the three most frequent measurement on the line plot?

They are right next to each other. The most frequent measurement is in between the second and third most Frequent measurements.

What do you notice about the location of the three most frequent measurement on the line plot?

It goes 1,2, 3, 3

What do you notice about the data after the three most frequent measurements?

It goes 3,2 - back down!

Erase the X’s on your line plot - yep, do it!

Now, plot only the first three rows of data instead of all the rows. You have 5 minutes! Timer

What are the three most frequent measurement now?

How did using less data change how we can talk about the heights of most of the sunflowers?
How did the shape of the line plot change when we used less data?

When we use less data, it changed the most frequent measurements.

The height of the line plot changed because with more data most X's recorded was 7, but with less data, the most was 3.

Not recording enough data, or recording data incorrectly can really change how a reader interprets a graph and thinks about outcomes!

Problem set - 12 minute timer

Debrief

How has learning about fractions helped you to create line plots?

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