

Grade 2 · Picture Graphs, Bar Graphs and Line Plots · Lesson

Common Core 2.MD.D.9, 2.MD.D.10 · mathovore.fr

A line plot shows measurement data on a number line, with one X above each measurement. A picture graph uses pictures to show how many are in each category, and a bar graph uses bars. Read the title, labels, and scale, then count to answer put-together, take-apart, and compare questions.

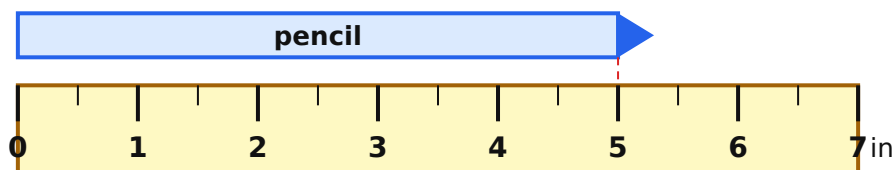
Grade 2 Common Core: 2.MD.D.9 · 2.MD.D.10

Key facts:

- Measure to the nearest whole unit, starting at 0 on the ruler.
- On a line plot, each X stands for one measurement.
- In a picture graph, read the key to learn what each picture means.
- In a bar graph, the top of each bar tells the number.
- Add to put together, subtract to take apart or compare.

How do you measure for a line plot?

Line up one end of the object with the 0 on the ruler. Then look at where the other end stops. Read the closest whole number. Use the unit, such as inches, when you write the length.

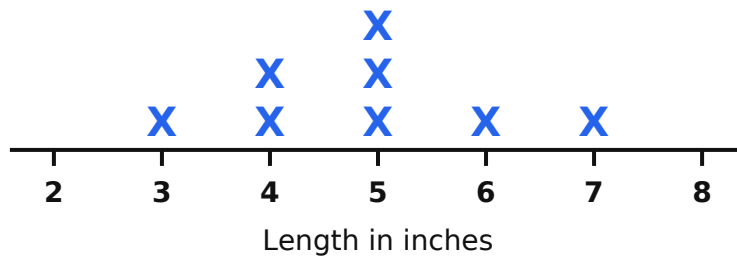


The pencil starts at 0 and ends at the 5 inch mark. It is 5 inches long.

What is a line plot?

A line plot shows data on a number line. Each measurement gets one X above its number. Taller stacks of X marks mean more objects with that length.

Lengths of 8 pencils



Each X is one pencil. Three pencils are 5 inches long.

Line plot

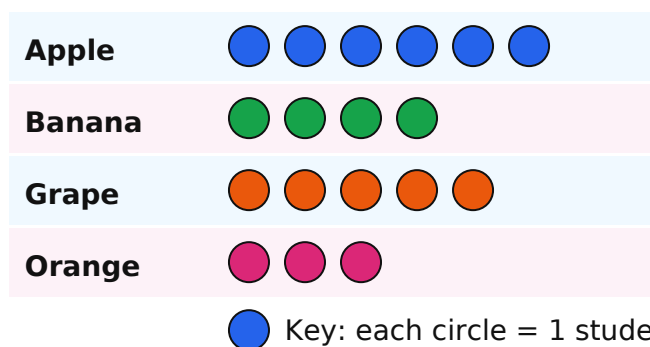
A **line plot** uses a number line and X marks. The title tells what was measured. The label under the line tells the unit. Count the X marks to find how many objects have each length.

The plot has 8 X marks, so 8 pencils were measured. The longest pencil is 7 inches. The shortest is 3 inches. The difference is $7 - 3 = 4$ inches.

How do you read a picture graph?

A picture graph uses small pictures to show how many. Each row is a category. Read the key first. Here each circle means 1 student. Count the circles in a row to find the number.

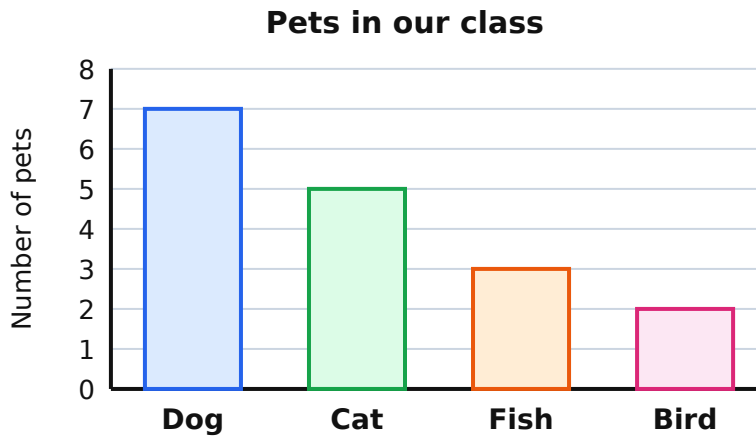
Favorite fruit



The Apple row has 6 circles, so 6 students chose apples.

How do you read a bar graph?

A bar graph uses bars. The bottom shows the categories. The side shows the numbers. Find the top of a bar and look across to the number on the side.

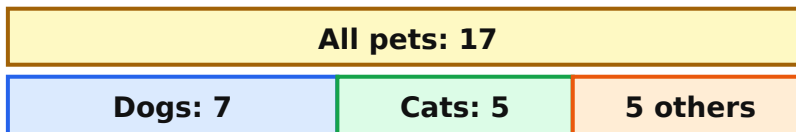


The Dog bar reaches 7. The Cat bar reaches 5.

How do you solve graph problems?

Questions about graphs ask you to put numbers together, take them apart, or compare them.

Type	What to do	Example from the bar graph
Put together	Add	Dogs and cats: $7+5=12$
Take apart	Subtract the known part	All pets 17, dogs 7: $17-7=10$ are not dogs
Compare	Subtract the smaller from the larger	How many more dogs than cats: $7-5=2$



Put together: add the numbers from the bars.

Example: How many pets are there in all? Add all four bars: $7+5+3+2=17$. There are **17 pets**. Check it by counting on from 7: 12, 15, 17.

Picture Graphs, Bar Graphs and Line Plots: frequently asked questions

What does each X on a line plot mean?

Each X shows one measurement of one object. If there are 3 X marks above the 5, three objects measured 5 units. Count all the X marks to find how many objects were measured.

How do you measure with a ruler?

Put one end of the object at the 0 mark. Look at the other end and read the closest whole number on the ruler. Write the number with the unit, like 5 inches.

What is the difference between a picture graph and a bar graph?

A picture graph uses small pictures, and you count the pictures in each row. A bar graph uses bars, and you read the number at the top of each bar from the scale on the side.

How do you find how many more?

Compare the two numbers on the graph and subtract the smaller from the larger. If dogs are 7 and cats are 5, then $7 - 5 = 2$, so there are 2 more dogs.

Why is the key important in a picture graph?

The key tells you what each picture stands for. In this chapter each picture is 1 student. You must read the key before you count so your answer matches the data.