

Grade 3 - Scaled Graphs and Line Plots - Lesson

Common Core 3.MD.B.3, 3.MD.B.4 · maths-pdf.fr/en/

This **graphs lesson** for 3rd Grade covers scaled graphs and line plots (Common Core 3.MD.B.3, 3.MD.B.4), with a free PDF to print.

A scaled graph uses a key or scale where one symbol or one grid line stands for more than one. Read the key first, multiply to find each value, and subtract to compare. A line plot puts an X above a ruler measurement to the nearest half inch or fourth inch so you can see which lengths appear most often.

Grade 3 · Common Core State Standards: **3.MD.B.3, 3.MD.B.4**

Key facts in this graphs lesson

Key facts

- The key tells what one symbol is worth; a half symbol is worth half.
- On a bar graph, read the scale before reading a bar.
- A bar halfway between two lines is halfway between their values.
- A ruler is marked in inches, halves, and fourths.
- On a line plot, each X is one measurement.

What is a scaled picture graph?

A picture graph uses symbols to show data. In a **scaled** picture graph, one symbol stands for more than one item. The **key** tells you how many.

Key

The key shows what one symbol is worth. A half symbol is worth half as much.

Muffins Sold at the Bake Sale

Friday	★ ★ ★
Saturday	★ ★ ★ ★ ★
Sunday	★ ★ ★
Monday	★ ★

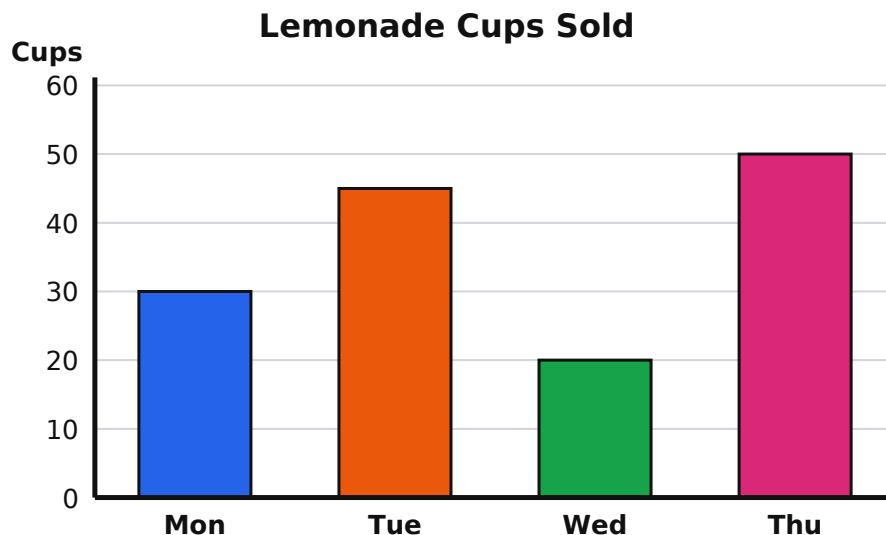
★ Key: each star = 6 muffins; half star = 3 muffins

Each star is worth 6 muffins, so a half star is worth 3.

Example: Saturday has 4 whole stars and 1 half star. $4 \times 6 = 24$ and $24 + 3 = 27$. Saturday sold 27 muffins. Friday sold 15, so Saturday sold $27 - 15 = 12$ more muffins.

How do you read a scaled bar graph?

A bar graph uses the height of bars. Look at the numbers on the side. They are the **scale**. This scale counts by 10s, so a bar that stops halfway between two lines is worth 5 more.



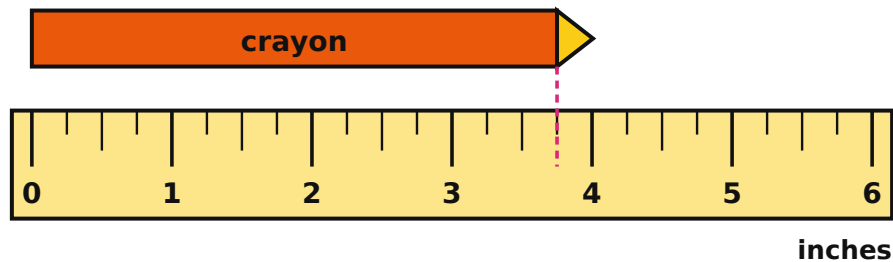
Tuesday's bar is halfway between 40 and 50, so it shows 45 cups.

1. Read the title and the labels.
2. Find the scale and how it counts.
3. Follow the top of the bar to the number on the side.
4. To compare, subtract the smaller value from the larger.

Example: Thursday is 50 and Wednesday is 20, so Thursday sold $50 - 20 = 30$ more cups.

How do you measure to the half inch and fourth inch?

A ruler has long marks for inches, medium marks for halves, and short marks for fourths. Line up the end of the object with 0. Read the mark at the other end.



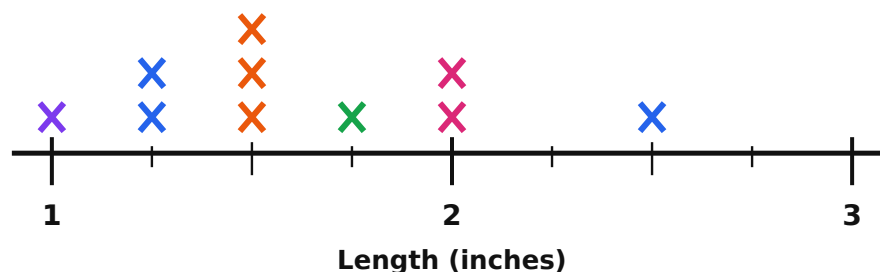
The crayon ends 3 fourth-inch marks after 3, so it is $3 \frac{3}{4}$ inches long.

The crayon ends at the third short mark after 3. It is $3 \frac{3}{4}$ inches long. Remember that $\frac{2}{4} = \frac{1}{2}$.

What is a line plot?

A **line plot** shows data above a number line. Each X is one measurement. Make one by drawing a number line with marks for fourths, then putting an X above each length.

Leaf Lengths



10 leaves were measured. The tallest stack is above $1 \frac{1}{2}$, with 3 leaves.

Example: The tallest stack of Xs is above $1 \frac{1}{2}$, so that length appears most often (3 leaves). Count the Xs to find the total: 10 leaves.

Graphs lesson: questions and answers

What does the key in a picture graph mean?

The key tells how many items one symbol stands for. If one star is 6 muffins, 4 stars is 24 muffins and a half star adds 3 more.

How do you read a bar that is between two lines?

Find the two scale numbers on each side of the bar top. A bar halfway between 40 and 50 shows 45. Count the spaces if the scale is not by tens.

How do you find how many more on a bar graph?

Read both values and subtract the smaller from the larger. If Thursday is 50 and Wednesday is 20, then $50 - 20 = 30$ more.

How do you measure to the nearest fourth of an inch?

Put the end of the object at 0 and read the closest mark at the other end. Short marks are fourths, medium marks are halves, and long marks are whole inches.

What does a line plot show?

A line plot shows how many times each measurement appears. Each X sits above its length on a number line, so tall stacks show the most common lengths.

How to use this graphs lesson

Read the definitions first, then follow the worked method line by line and redo the example on paper without looking. When every step makes sense, move on to the worksheet, then check yourself with the quiz.

Download the graphs lesson as a PDF with the button below and keep it with your notes.