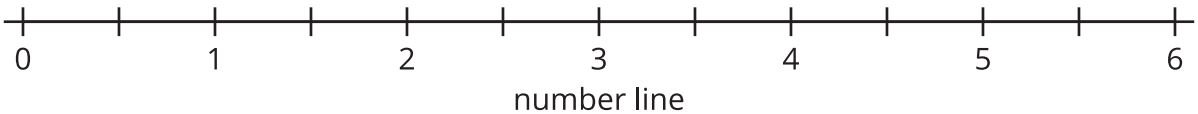
# Unit 6 Family Support Materials

# Measuring Length, Time, Liquid Volume, and Weight

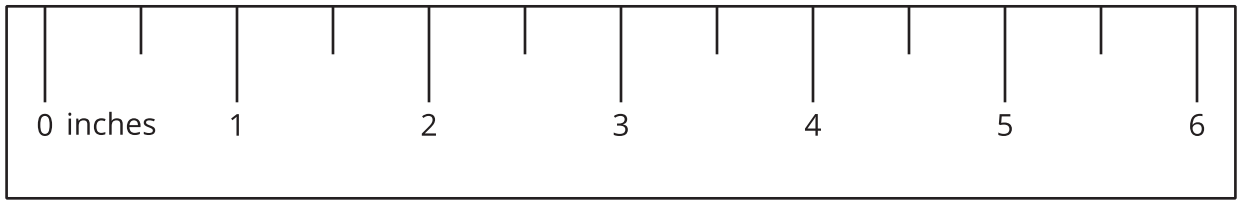
In this unit, students measure lengths, in halves and fourths of an inch, and represent measurement data on line plots. They learn about units for measuring weight, liquid volume, and time. They then use the four operations to solve problems involving measurement.

## Section A: Measurement Data on Line Plots

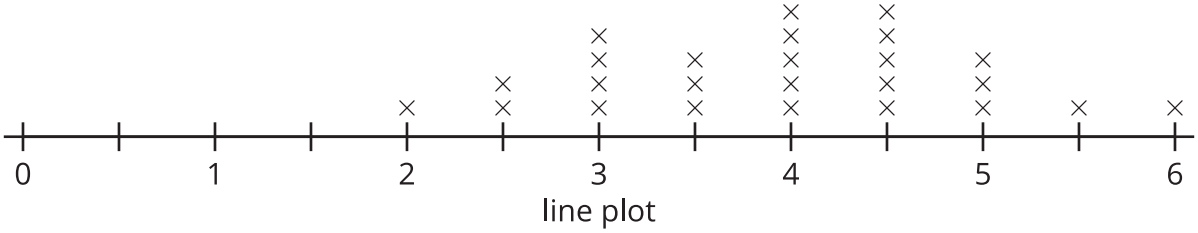
In this section, students measure in halves and fourths of an inch, learn to use mixed numbers to represent lengths greater than 1, and interpret and create line plots that represent lengths.



number line



ruler



line plot

Students relate the fractions on a ruler to those on a number line. The work


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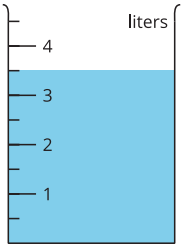
here reinforces the idea that whole numbers can be expressed as fractions.

## Section B: Weight and Liquid Volume

In this section, students learn to estimate and measure weight (in grams and in kilograms) and liquid volume (in liters).

Students make sense of grams and kilograms by holding objects that are about 1 gram and about 1 kilogram. They see, for example, that a paper clip weighs about 1 gram and a cantaloupe weighs about 1 kilogram.

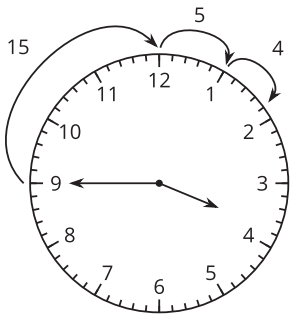
To make sense of liters, students engage in activities that require pouring water into containers. They also estimate the volumes of liquid in everyday objects, such as a bottle, a bucket, and a sink.




Students also analyze the scale on liquid measuring tools, as shown here, and make sense of fractional units of liquid volume.

## Section C: Problems Involving Time

In this section, students learn to tell and to write time to the nearest minute. They solve elapsed-time problems in which the start time, the end time, or the duration is unknown.




To reason about time, students use representations that make sense to them, including drawings, tables, equations, and words.

For example, the clock shows how students could think about 24 minutes after 3:45.

## Section D: Explore the Fair

In this section, students apply what they learned in this unit to solve problems that involve measurements. All the activities use the context of a state or county fair. The work here gives students many opportunities to make sense of problems, use all four operations, and think carefully about their strategies and solutions.

## Try it at home!

Near the end of the unit, ask your third grader to find the following measurements of objects around your home:

- Length, measured to the nearest quarter inch.
- Weight, measured in kilograms or grams.
- Liquid volume, in liters.

Questions that may be helpful as they work:

- Before you measure, estimate the object's length, weight or volume. Why do you think it will be that measurement?
- Can you create a line plot of your data for length, weight, or volume?

Solution: Answers may vary.
Sample response:

- I think the spoon is about 7 to 8 inches long because my pencil was about 5 inches and the spoon is longer than my pencil. I think this orange weighs about 100 to 150 grams because I know that an apple weighs around 100 to 200 grams, so I think this orange will be about the same. I think this large pot can hold about 5 liters of water because I know that a large bottle can hold about 1 liter and I think I could pour liquid from that bottle about 5 times to fill up the pot.
- A line plot that shows the lengths of different objects, to the nearest quarter inch.