

Lesson 17: Measuring Length

Purpose: To measure the lengths of objects using Fraction Bars and number lines

Materials: Fraction Bars, paper and pencils, students' Number Lines (from Lesson 16), objects for measuring length and scissors

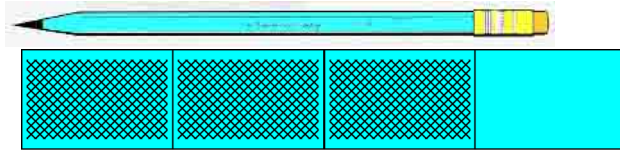
TEACHER MODELING/STUDENT COMMUNICATION

Activity 1 Measuring lengths less than one whole bar

Fraction
Bars

1. Pass out decks of bars. Hold up an object whose length is less than the length of one whole bar, such as a pencil.

- Pick out one of your bars whose shaded part is close to the length of this pencil. Select a few students to place their bar under your pencil, lining up the left end of the bar with the left end of the pencil, as shown in this example.



- What can you say about the length of the pencil as compared to the length of the shading on the bar?

Discuss student responses. Use descriptions for the length of the pencil such as "more than a $\frac{3}{4}$ bar and less than 1 whole bar" to show that giving approximate measurements is acceptable. If students suggest using a different bar, such as a red bar with 5 parts shaded or an orange bar with 11 parts shaded, try measuring with some of their bars.

Fraction
Bars

2. Pass out some small objects such as pencils, erasers, chalk, crayons, paperclips, etc., whose lengths are less than the length of one whole bar.

small objects

- Use your bars to measure the length of your object. Remember, you can use words like "a little less than" or "a little more than." Write the measurement on your paper.

Paper and
pencils

Ask a few volunteers to describe their object and the bar used for its measurement. Discuss these measurements and reinforce such language as: "close to" or "just over" or "between two measurements."

Repeat this activity by having each student use a different object.

Student's
number
lines

Activity 2 Measuring lengths using the number line

1. Pass out each students' Number Line from Lesson 16 and objects whose lengths are more than the length of one whole bar and less than the length of two whole bars.