

Objective

Choose the appropriate unit to measure length.

Skills

- Identifying length
- Comparing length
- Choosing a unit to measure length

NCTM Expectations**Measurement**

- Select an appropriate unit and tool for the attribute being measured.
- Measure with multiple copies of units of the same size, such as paper clips laid end to end.
- Use repetition of a single unit to measure something larger than the unit, for instance, measuring the length of a room with a single meterstick.
- Use tools to measure.

Measurement**Choosing a Unit**

Choosing the appropriate unit requires children to use judgment in terms of the length of the object before they measure it. This judgment will improve as children gain experience with length. Another important part of cultivating judgment about units is exploring and understanding the relationship between units.

Try It! Perform the Try It! activity on the next page.

Talk About It

Discuss the Try It! activity.

- **Ask:** *What units would you use to measure a chalkboard eraser? Why? What units would you use to measure a chair? Why?* Allow volunteers to measure both an eraser and a chair using the appropriate units.
- **Say:** *You can often decide before you measure an object which units to use.*
Ask: *Which units would you use to measure the height of the door?*
- Ask children to think of examples of things at home or in school that they might measure using inches. Then have them think of things they might use feet to measure.

Solve It

With children, reread the problem. Have children identify the correct units for measuring the box for paper clips and the poster. Children may practice using Inchworms™ to measure a paper clip and the Inchworms™ Ruler to measure a piece of poster board. Then on one side they can make their own posters with drawings of things that can be measured with inches, and on the other side things that can be measured with feet.

More Ideas

For other ways to teach about choosing units to measure length—

- Have children think of classroom objects that are best measured using a combination of both feet and inches. Then have groups use Inchworms and Inchworms Rulers to take measurements and compare data for accuracy.
- Ask children to compare the Inchworms Ruler to the lengths of their own feet. Have children see if real feet like theirs are 12 inches long like the measurement unit called a foot. Children should conclude that their feet vary in size and are usually less than 12 inches, or 1 foot, long.

Standardized Practice

Have children try the following problem.

Which unit is best to measure your bed?

- A. Inches B. Feet C. Snap Cubes®

Try It! 30 minutes | Pairs

Here is a problem about choosing the appropriate unit.

Bryan wants to see if he can fit paper clips into a small box. He also wants to find out if a rolled-up poster will fit in his desk. He needs to measure the length of both the paper clips and the poster to see if they will fit where he wants to put them. What units should he choose to measure these objects?

Introduce the problem. Then have children do the activity to solve the problem.

Distribute Inchworms™, Inchworms™ Rulers, Measurement Recording Sheets (BLM 13), and pencils. Remind children that each Worm is 1 inch long and each Ruler is 12 inches, or 1 foot, long.

Materials

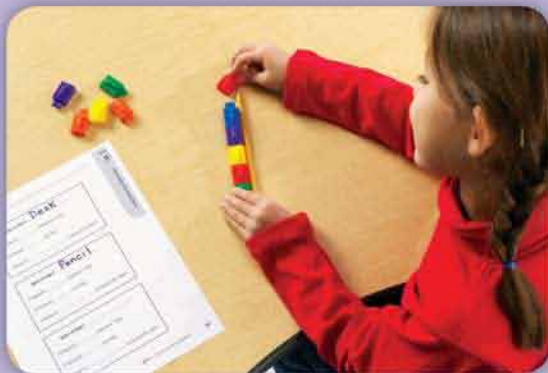
- Inchworms™ (12 per pair)
- Inchworms™ Rulers (1 per pair)
- Measurement Recording Sheet (BLM 13; 1 per pair)
- pencil, 6–8 inches long (1 per pair)



1. Have partners use one Worm to measure the length of the teacher's desk, turning the Worm from head to toe as they measure. Have one partner record their measurement in the first box on the recording sheet.



2. Have partners use the Ruler to remeasure the desk. Have them record the measurement in feet on their recording sheet. When they have finished recording, ask: *When we measure a long object, is it better to use inches or feet?*



3. Have children measure the pencil in inches and feet. Ask: *When we measure a short object, is it better to use inches or feet?*

! Look Out!

Children may have trouble choosing the appropriate unit. Remind children to consider whether the object they want to measure is less than or greater than a foot. If the object is less than a foot, they should use inches. If the object is greater than a foot, they may want to use feet or a combination of feet and inches.