

## Sec 1.2 Notes Measuring Length and Distance

### Construct Understanding

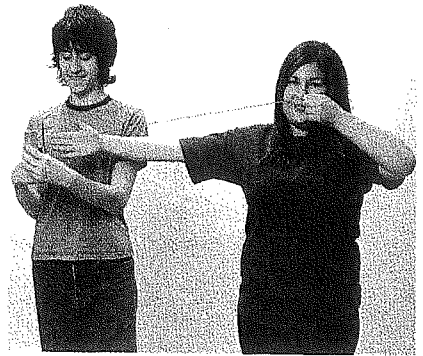
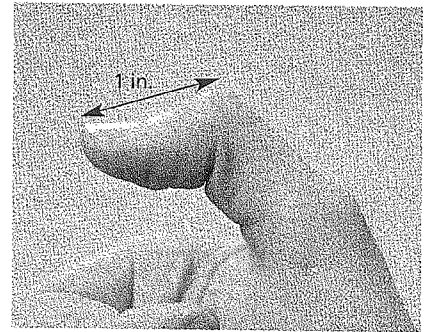
Many units in the imperial system are based on measurements of the human body.

#### TRY THIS

Work with a partner.

You will need a ruler and measuring tape with imperial units, string, and scissors.

- A. Use the length of your thumb from its tip to the first joint as a measuring instrument.  
Use your thumb to estimate then record the length of your pencil and the dimensions of your textbook, in thumb units.  
Use a ruler or measuring tape to measure each length.  
For which imperial unit could you use your thumb length as a referent?
- B. Use your foot length to estimate then record the length and width of a bookcase, in foot units.  
Use a ruler or measuring tape to measure each length.  
For which imperial unit could you use your foot length as a referent?
- C. Hold a piece of string from your nose to the longest finger of an outstretched arm. Have your partner cut the string to this length.  
Use this string to estimate then record the length and width of the classroom, in arm spans. Use a measuring tape to measure each length.  
For which imperial unit could you use your arm span as a referent?
- D. Determine approximately:
  - how many thumb lengths equal one foot length
  - how many foot lengths equal one arm span
  - how many thumb lengths equal one arm span
- E. Compare the measures in your personal units with those of your partner. Why is it necessary to have standard units of length?
- F. What other referents could be used for each length?
  - one inch
  - one foot
  - one yard



Item	Referent	Estimated Measurement	Actual Measurement
Length of Pencil			
Dimensions of Textbook			
Length of File Cabinet			
Width of File Cabinet			
Length of Classroom			
Width of Classroom			

Determine approximately:

- How many thumb lengths equal one foot length \_\_\_\_\_
- How many foot lengths equal one arm span \_\_\_\_\_
- How many thumb lengths equal one arm span \_\_\_\_\_

Compare the measures in your personal units with those of your partner. Why is it necessary to have standard units of length?

What other referents could be used for each length?

- One inch \_\_\_\_\_
- One foot \_\_\_\_\_
- One yard \_\_\_\_\_