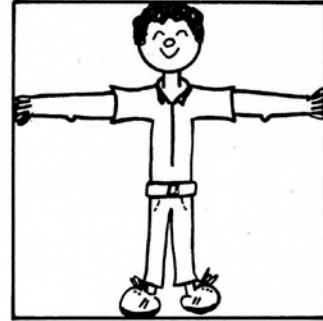


# ARE YOU A SQUARE?



## I. Topic Area

Measurement/Human Body

## II. Introductory Statement

Students will discover how their height is related to their arm span.

## III. Math Skills

Estimating  
Measuring Length  
Graphing

## Science Processes

Gathering & Recording Data  
Classifying  
Interpreting Data

## IV. Materials

Metric wall chart and two meter sticks OR four meter sticks for each measuring area desired (tape two vertically for the height measure and two horizontally about student's shoulder height).

## V. Key Question

Are you a square?

## VII. Management

1. This activity may take 45 to 60 minutes.
2. Use groups of three; two help measure the third person.

## VIII. Procedure

1. Discuss how to measure accurately. Measure twice to double-check. Shoes are a variable and should be taken off to measure height.
2. Determine how close measurements have to be to make a square -1 cm? -2 cm? To what unit should measurements be rounded?  $\frac{1}{2}$  cm? nearest cm?
3. Help students record on their personal graph (L-shaped).
4. The class graph can be filled by having the squares stand to be counted, then each of the other groups. A class graph with colored paper squares can also be made. Another option is to use the second worksheet to record all results.

## IX. What the Students Will Do

1. Students will predict whether they are a square, tall rectangle, or wide rectangle.
2. Groups of three will measure each other's height and arm span.

3. Students will record their own information and fill in the L-shaped bar.
4. Students will decide which shape they are and record.
5. Students will trade papers to check if they made the right decision.
6. As all the squares stand, students will count and record on the class results graph. (Optional — Use second worksheet to record all results.)
7. Repeat for tall and wide rectangles.
8. Students will write two statements about the graph. (most common, least common, etc.)

## X. Discussion

1. How close do the measurements have to be to make a square? (within 1 cm? 2 cm?)
2. Should we round our measurements? To what unit?
3. What is the most common shape in our room?
4. Which is most rare?
5. Do you have a twin?
6. Do you think age has anything to do with the results?
7. Would another class have the same results? (See EXTENSIONS)

## XI. Extensions

1. Measure another class or adults at school. Compare results. Use the second worksheet to record.
2. Measure your family. Does the same shape run in the family?

## XII. Curriculum Coordinates

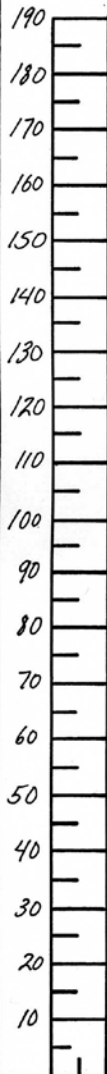
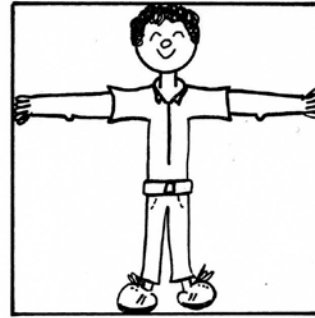
Art — 1. Outline students' bodies and have them paint life-size replicas or draw their heart, lungs, etc.  
2. Create a square, tall rectangle, or wide rectangle picture, design, or collage with construction paper. Use only your shape.

Computer — Do a stick-figure version of yourself using LOGO commands.

Writing — Write to athletes, actors, etc. and ask them to measure and send their arm length and height.

NAME \_\_\_\_\_

# ARE YOU A SQUARE?



HOW DOES YOUR HEIGHT COMPARE  
WITH YOUR ARM LENGTH?

PREDICT \_\_\_\_\_

ACTUAL \_\_\_\_\_  
(SQUARE, TALL RECTANGLE, WIDE RECTANGLE)

HEIGHT

\_\_\_\_\_ CM

## CLASS GRAPH

WHAT DOES THE CLASS GRAPH SHOW?

\_\_\_\_\_

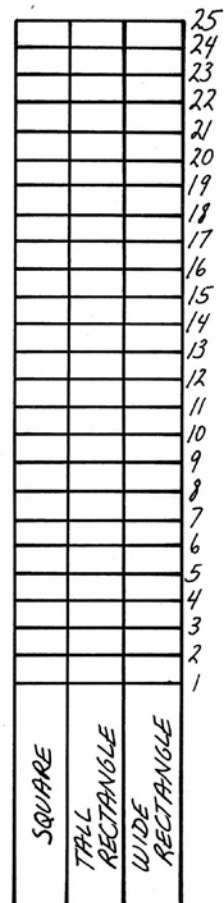
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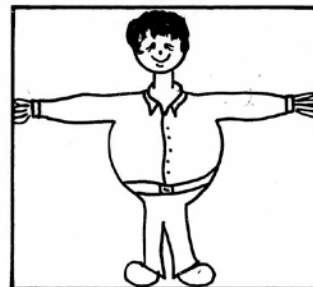
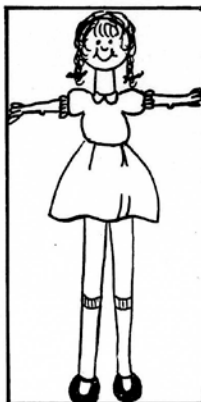
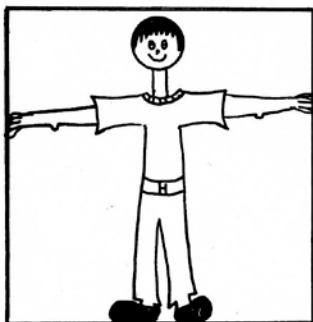
\_\_\_\_\_

\_\_\_\_\_

ARM LENGTH \_\_\_\_\_ CM



NAME \_\_\_\_\_



CHECK ONE

[illegible]