

# BODY GEOMETRY LAB

## [CCSS.Math.Content.8.SP.A.1](#)

Construct and interpret scatter plots for bivariate measurement data to investigate patterns of association between two quantities. Describe patterns such as clustering, outliers, positive or negative association, linear association, and nonlinear association.

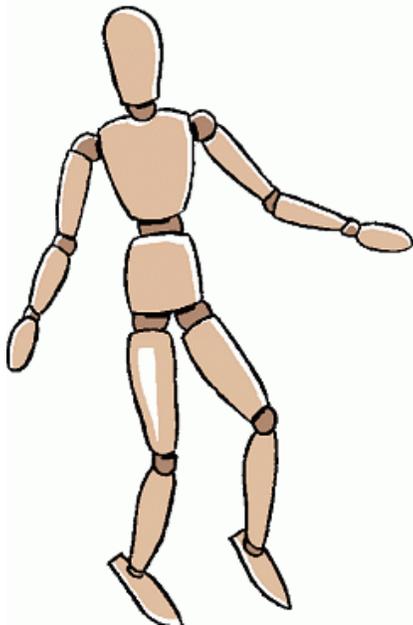
## [CCSS.Math.Content.8.SP.A.2](#)

Know that straight lines are widely used to model relationships between two quantitative variables. For scatter plots that suggest a linear association, informally fit a straight line, and informally assess the model fit by judging the closeness of the data points to the line.

**1. With the help of a partner, measure each of the following lengths (in cm) on your body:**

- a. Height, from floor to the top of your head \_\_\_\_\_ cm
- b. Arm span, fingertip to fingertip, with arms outstretched \_\_\_\_\_ cm
- c. Head height, from bottom of chin to top of head \_\_\_\_\_ cm

**2. You are going to be analyzing your class data for the measurements that you took by plotting points that represent your data.**



a. The first graph will relate height to arm span, with height as the x-coordinate and arm span as the y-coordinate. Write the coordinate pair for your point on this first graph.

\_\_\_\_\_

b. When directed, plot your height vs. arm span point on the class graph.

c. The second graph will relate head height to height, with head height as the x-coordinate and height as the y-coordinate. Write the coordinate pair for your point on this second graph.

\_\_\_\_\_

d. When directed, plot your head height vs. height point on the class graph.

3. Examine the class graph that relates height to arm span. Describe any trends that you observe about the points on the graph.

---

---

---

4. If you were to sketch a line of best fit on the height vs. arm span graph, describe how the line would look.

---

---

---

5. After your teacher draws a line of best fit, calculate the approximate slope of the line. Show your work in the space below.

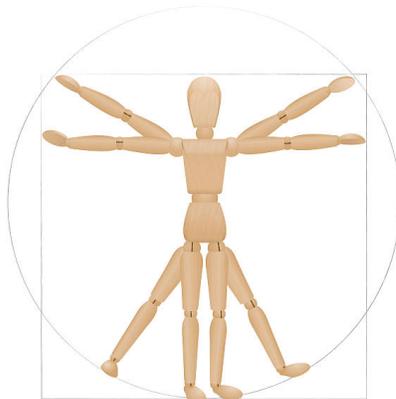
Slope: \_\_\_\_\_

6. Interpret the slope of the line. What does the slope tell you about height and arm span of humans?

---

---

---



7. Examine the class graph that relates head height to height. Describe any trends that you observe about the points on the graph.

---

---

---

8. If you were to sketch a line of best fit on the head height vs. height graph, describe how the line would look.

---

---

---

9. After your teacher draws a line of best fit, calculate the approximate slope of the line. Show your work in the space below.

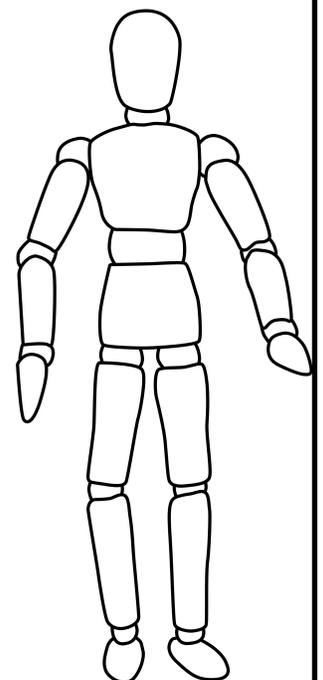
Slope: \_\_\_\_\_

10. Interpret the slope of the line. What does the slope tell you about head height and height of humans?

---

---

---



For more info about body ratio investigations, visit:

- <https://www.scientificamerican.com/article/human-body-ratios/>
- <http://www.bioedonline.org/lessons-and-more/lessons-by-topic/human-organism/fitness-and-physical-activity/human-body-ratios/>