

SCIENCE

Scientific Data Assignment

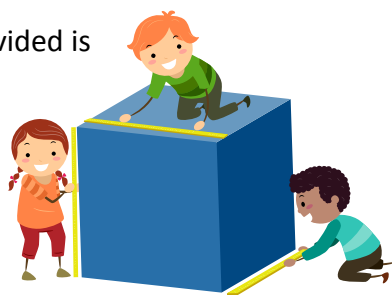
1) For each of the measurements below, decide if the unit provided is appropriate.

If it is, write YES, and explain why it is appropriate.

If it is not, write NO, and explain why it is inappropriate.

Then, provide an appropriate SI unit for that measurement.

You may leave the remaining boxes for YES answers blank.



What is being measured?	Is the unit appropriate?	Rationale	Appropriate Unit
The length of a finger in meters (m)			
The weight of an elephant in grams (g)			
The height of a houseplant in inches (in)			
the temperature during a chemical reaction in °C			
the volume of a dropperful of liquid solvent in teaspoons (tsp)			

2) Read the description of the experiment. Then, answer the questions below. Be sure to show your work for math problems.

Mark wants to grow tomatoes during the summer in south Florida, but he has read that the intensity of the Sun in Florida can overwhelm the plants. He hypothesizes that if he reduces the sunlight intensity, his tomato plants will grow taller than those in full Sun. He decides to grow one of his plants in full Sun and one under fabric that reduces the Sun's intensity to 70% of its original strength. He measures the height of each plant every week for 8 weeks, as seen in the data table below.



Week	Height of Plant in Full Sun (cm)	Height of Plant in 70% Sun (cm)
1	10	10
2	12	13
3	13	15
4	15	16
5	15	18
6	15	20
7	16	22
8	17	25

a) Which amount of sunlight, full or 70%, produced the plant with the highest average height over the 8-week growing period?

b) What is the mode of each plant's height measurements over the 8-week period?

c) Which type of graph would be appropriate to compare the growth of each plant over the 8-week period? Why?

d) Which amount of sunlight, full or 70%, produced the plant with the highest median height over the 8-week growing period?

e) Which type of graph would be appropriate for comparing the height of each plant at the end of the growing period? Why?

f) Which type of graph would be appropriate for displaying the proportions of the types of soil used to fill the growing containers? Why?

g) Write a conclusion statement for this experiment. Is Mark's hypothesis supported or rejected by the results? Reference trends (patterns) in the data collected in your statement to support your conclusion.