

Lesson Title: Predicting from Data Patterns		Pre 6.3
Utah State Core Standard and Indicators Pre-algebra Standard 2 Process Standards 1-5		
Summary		
In this lesson, students graph data about pinto bean plant growth and shoe sizes. They analyze the graphs and make predictions.		
Enduring Understanding	Essential Questions	
We can organize data and graph it. We use the graphs to help us analyze the data and make predictions.	How do you organize and analyze data to make predictions and solve problems?	
Skill Focus	Vocabulary Focus	
<ul style="list-style-type: none"> • Graphing data • Analyzing data and making predictions 		
Assessment		
Materials		
Launch		
Explore		
Summarize		
Apply		

Directions:

This activity should definitely be done in student cooperative groups!

Growing Pinto Beans

Imagine that we planted a pinto bean in class three weeks ago and have collected the following data about its growth so far.

Week 1:

Day of week	Monday	Tuesday	Wednesday	Thursday	Friday
Length of stem (in cm)	0	0	1	3.5	7

Week 2:

Day of week	Monday	Tuesday	Wednesday	Thursday	Friday
Length of stem (in cm)	19	24	27.5	29.5	31

Week 3:

Day of week	Monday	Tuesday	Wednesday	Thursday	Friday
Length of stem (in cm)	35	36	37	38.5	39

1) Plot the length of the stem versus time to show how the plant has grown over the past three weeks. Be certain to label the axes and create a scale for the measurements.

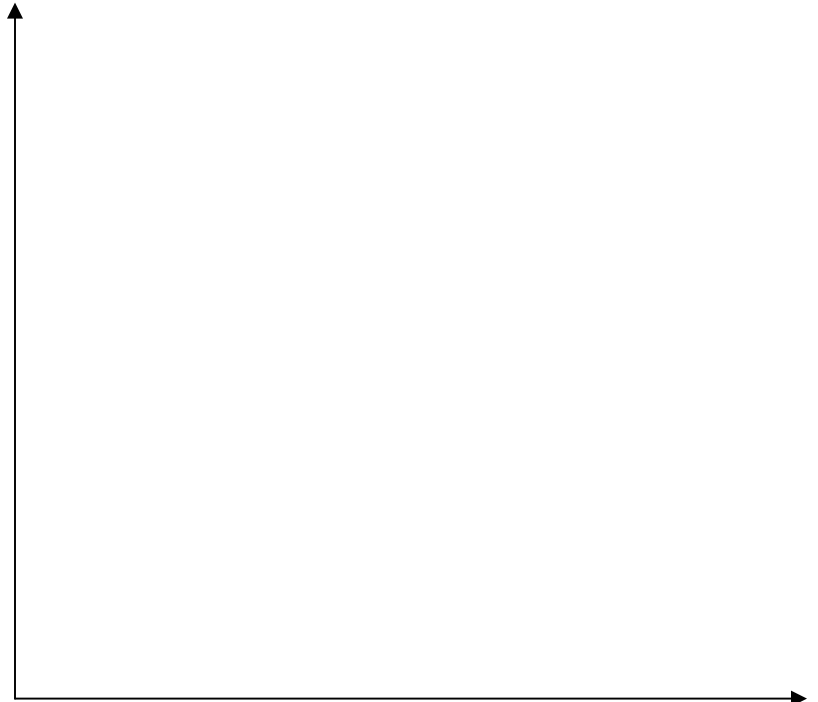
2) Does it make sense to connect the points you plotted? Why or why not?

3) If you think it makes sense to connect the points you plotted, is it better to connect them with straight lines or with curves? Explain your reasoning.

4) When do you think the growth of the primary stem was growing the fastest? Explain your reasoning.

5) When do you think the growth of the primary stem started to slow down? Explain your reasoning.

6) Predict what you think the graph will look like if data were collected and graphed during the fourth week.

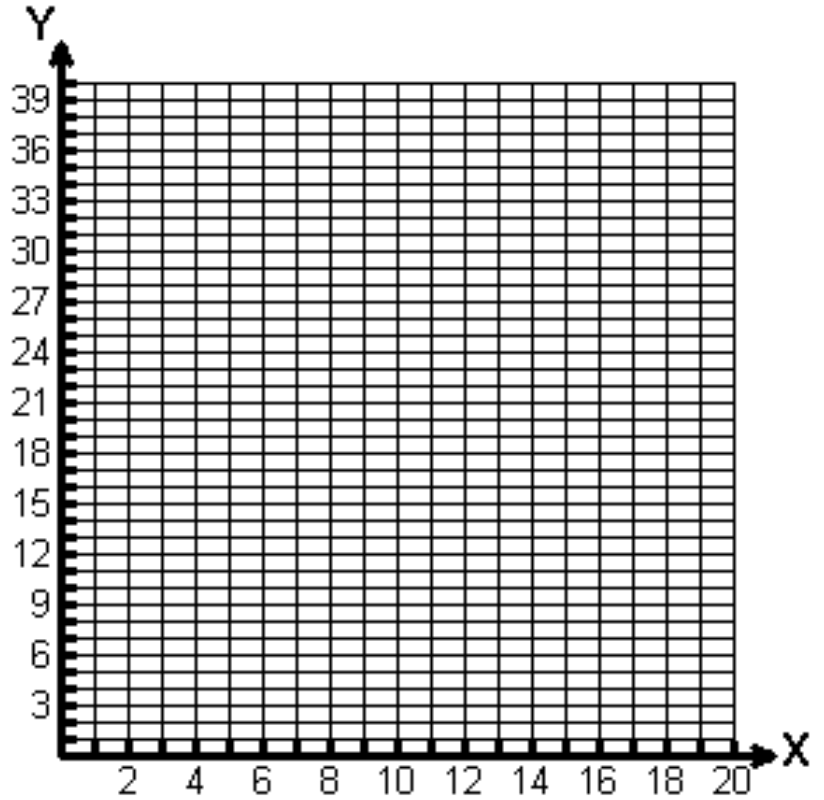


How Big are Size 18's

1) Graph the following.

Shoe Size	Length (cm)
7.5	27.2
8	27.4
8.5	28.1
9	28.6
9.5	28.8
10	29.3
11.5	30
12	31.1

2) Describe what the graph shows about growth in shoe size as related to foot length. Be specific.



3) Use the pattern to predict foot length for a size 18 shoe.