Name: _____ Date: _____

Reading a Bean Plant's Line Graph

Circle group

A line graph is a picture that shows how something changes over time. Time goes along the bottom. That is the horizontal axis. The thing being measured goes up the side. That is the vertical axis. A dot marks each measurement. A line joins the dots.

Say a class grew a bean plant. They measured it at the end of each week. The heights were 2 centimeters, 5, 11, 18, 19, and 19. Put these on a line graph and the shape tells a story.

At first the line rises a little. In week two the plant grew only 3 centimeters. Then the line climbs more steeply. The steepest part is between weeks three and four. The plant grew 7 centimeters. A steep line means fast change.

Then the line goes almost flat. Between weeks four and five, the plant grew only 1 centimeter. In the last week the line is level. The height did not change at all. A flat line means no change. If a plant were cut back, the line would slope down. A falling line means the measure got smaller.

You do not need to read every number. Ask if the line goes up, down, or stays level. Ask how steeply. The slope tells the story of change.

Questions

1. What does a line graph show?

_____

_____

2. What goes along the horizontal axis?

_____

_____

3. During which weeks did the plant grow the most?

_____

_____

4. What does a flat line mean?

_____

_____

5. What would a line sloping down tell you?

_____

_____

6. Why can you understand a line graph without reading every number?

_____

_____

Words to know

axis: one of the two lines that mark the sides of a graph
steeply: rising or falling very sharply
slope: how much a line slants up or down

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Reading a Bean Plant's Line Graph

Triangle group

A line graph is a picture that shows how something changes over time. Time goes along the bottom, which is called the horizontal axis. The thing being measured goes up the side, which is the vertical axis. A dot marks each measurement, and a line connects the dots.

Suppose a class grew a bean plant and measured it at the end of each week. The heights were 2 centimeters, 5, 11, 18, 19, and 19. If you plot these on a line graph, the shape tells a story.

At first the line rises gently, because the plant grew only 3 centimeters in week two. Then it climbs more steeply. The steepest part comes between weeks three and four, when the plant grew 7 centimeters. A steep line means fast change.

Then something interesting happens. Between weeks four and five, the line is almost flat, because the plant added only 1 centimeter. In the last week, the line stays perfectly level, which means the height did not change at all. A flat line means no change. If a plant had been cut back, the line would slope downward, and a falling line means the measurement got smaller.

You do not have to read every number to understand a line graph. Just ask whether the line goes up, down, or stays level, and how steeply. The slope shows the story of change.

Questions

1. What does a line graph show?

_____

_____

2. What goes along the horizontal axis?

_____

_____

3. During which weeks did the bean plant grow the most?

_____

_____

4. What does a flat line mean on a line graph?

_____

_____

5. What would a line sloping downward tell you?

_____

_____

6. Why can you understand a line graph without reading every number?

_____

_____

Words to know

axis: one of the two lines that mark the sides of a graph
plot: to mark points on a graph
steeply: rising or falling very sharply
slope: how much a line slants up or down

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

Name: _____ Date: _____

Reading a Bean Plant's Line Graph

Square group

A line graph is a visual display that shows how something changes as time passes. Time runs along the bottom of the graph, which is called the horizontal axis, while the quantity being measured runs up the side, which is the vertical axis. A dot marks each measurement, and a line connects the dots in order.

Suppose a class grew a bean plant and measured its height at the end of each week. The heights were 2 centimeters, 5, 11, 18, 19, and 19. When these measurements are plotted on a line graph, the shape of the line tells a story.

At first the line rises gently, because the plant grew only 3 centimeters during the second week. Afterward it climbs far more steeply. The steepest section lies between weeks three and four, when the plant grew a full 7 centimeters. A steep line indicates rapid change.

Then something interesting occurs. Between weeks four and five, the line is nearly flat, since the plant added just 1 centimeter. During the final week, the line stays perfectly level, which means the height did not change whatsoever. A flat line indicates no change. Had the plant been trimmed back, the line would have sloped downward, and a falling line means the measurement decreased.

You do not have to read every number to grasp a line graph. Simply ask whether the line climbs, falls, or stays level, and how sharply it does so. The slope reveals the whole story of change.

Questions

1. What does a line graph display?

_____

_____

2. What runs along the horizontal axis?

_____

_____

3. During which weeks did the bean plant grow the most?

_____

_____

4. What does a flat line on a line graph indicate?

_____

_____

5. What would a line that slopes downward tell you?

_____

_____

6. Why is it possible to grasp a line graph without reading every number?

_____

_____

Words to know

axis: one of the two lines that mark the sides of a graph
plot: to mark points on a graph
steeply: rising or falling very sharply
slope: how much a line slants up or down

Talk together (every group has these)

1. Find one fact that every group read. How did your sheet say it?
2. What did your sheet tell you that you think another group's did not? Ask them.
3. What is one question about this topic that none of the sheets answered?

For the teacher: Reading a Bean Plant's Line Graph

Each student sheet carries a shape, not a level. The same topic and facts, written three ways.

Circle: Reading a Bean Plant's Line Graph

Easier · 203 words · Flesch-Kincaid grade 2

1. How something changes over time.
2. Time.
3. Between weeks three and four, when it grew 7 centimeters.
4. There was no change.
5. The measure got smaller.
6. The slope shows if things go up, down, or stay level, and how fast.

Triangle: Reading a Bean Plant's Line Graph

This passage · 221 words · Flesch-Kincaid grade 4.5

1. How something changes over time.
2. Time.
3. Between weeks three and four, when it grew 7 centimeters.
4. There was no change.
5. The measurement got smaller.
6. The slope shows whether things rise, fall, or stay level, and how fast.

Square: Reading a Bean Plant's Line Graph

Harder · 239 words · Flesch-Kincaid grade 6

1. How something changes as time passes.
2. Time.
3. Between weeks three and four, when it grew a full 7 centimeters.
4. No change.
5. The measurement decreased.
6. The slope shows whether things climb, fall, or stay level, and how sharply.