Name: _____ Date: _____

A Backyard Map With a Scale

Circle group

Mapmakers have a problem. The places they draw are much bigger than a sheet of paper. A backyard may be 60 feet wide, but the map must fit on a page. The answer is a scale.

A scale tells how a distance on the map matches a distance in real life. Say a map says 1 inch equals 5 feet. Each inch on the paper means 5 feet on the grass.

Let us try it. On the map, the oak tree is 6 inches from the shed. How far apart are they in the yard? Each inch is 5 feet, so multiply. Six times 5 is 30. They are 30 feet apart.

You can go the other way. A 10-foot sandbox is 10 divided by 5, which is 2. Draw it 2 inches long.

Scales can be different. A map of a city may use 1 inch for a mile or more. Look for the scale first. It lets you measure a map.

Questions

1. What problem do mapmakers have?

_____

_____

2. What does a scale tell you?

_____

_____

3. How many feet is 1 inch on the sample map?

_____

_____

4. How far apart are the oak tree and the shed in the yard?

_____

_____

5. How long do you draw a 10-foot sandbox on the map?

_____

_____

6. Why should you look for the scale first?

_____

_____

Words to know

scale: a rule that shows how map sizes match real sizes
distance: the amount of space between two places
equals: is the same amount as

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: _____

A Backyard Map With a Scale

Triangle group

Mapmakers have a problem. The places they draw are far bigger than any sheet of paper. A backyard may be 60 feet wide, yet a map of it must fit on a page. The solution is a scale.

A scale tells you how a distance on the map matches a distance in real life. Suppose a backyard map says that 1 inch equals 5 feet. That means every inch you measure on the paper stands for 5 feet on the grass.

Now let us use it. On the map, the oak tree is 6 inches from the garden shed. How far apart are they in the yard? Each inch is worth 5 feet, so you multiply. Six times 5 is 30. The tree and the shed are 30 feet apart.

You can also work backward. If you want to know how a 10-foot sandbox should look on the map, divide 10 by 5. The answer is 2, so you draw it 2 inches long.

Scales are not always the same. A map of a whole city might use 1 inch for a mile or more. A small scale lets you see a huge place. A large scale shows a small place with more detail. When you read any map, look for the scale first. It turns a flat drawing into a guide you can measure.

Questions

1. What problem do mapmakers have?

_____

_____

2. What does a scale tell you?

_____

_____

3. On the sample map, how many feet does 1 inch stand for?

_____

_____

4. How far apart are the oak tree and the shed in the yard?

_____

_____

5. How long should a 10-foot sandbox be drawn on the map?

_____

_____

6. Why should you look for the scale first when you read a map?

_____

_____

Words to know

scale: a rule that shows how map sizes match real sizes
distance: the amount of space between two places
equals: is the same amount as
detail: a small part that you can see clearly

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: _____

A Backyard Map With a Scale

Square group

Mapmakers face an interesting difficulty. The places they want to draw are enormously bigger than any sheet of paper. A backyard might measure 60 feet across, yet a map of it has to fit on a single page. The solution that mapmakers rely on is called a scale.

A scale explains how a distance measured on the map corresponds to a distance in real life. Suppose a backyard map states that 1 inch equals 5 feet. That means every inch you measure on the paper represents 5 feet on the actual grass.

Now let us put it to work. On the map, the oak tree sits 6 inches from the garden shed. How far apart are they in the yard? Since each inch is worth 5 feet, you multiply, and 6 times 5 is 30. The tree and the shed are therefore 30 feet apart.

You can also work in reverse. To learn how a 10-foot sandbox should appear on the map, divide 10 by 5. The answer is 2, so you would draw the sandbox 2 inches long.

Scales are not always the same, of course. A map of an entire city might use 1 inch for a mile or more. A small scale lets you see a huge place, while a large scale shows a small place with extra detail. Whenever you read a map, look for the scale first, because it transforms a flat drawing into a guide you can measure.

Questions

1. What difficulty do mapmakers face?

_____

_____

2. What does a scale explain?

_____

_____

3. On the sample map, how many feet does 1 inch represent?

_____

_____

4. How far apart are the oak tree and the garden shed in the yard?

_____

_____

5. How long should a 10-foot sandbox be drawn on the map?

_____

_____

6. Why should you look for the scale first whenever you read a map?

_____

_____

Words to know

scale: a rule that shows how map sizes match real sizes
distance: the amount of space between two places
equals: is the same amount as
detail: a small part that you can see clearly

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: A Backyard Map With a Scale

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

Circle: A Backyard Map With a Scale

Easier · 149 words · Flesch-Kincaid grade 1.7

1. The places they draw are much bigger than a sheet of paper.
2. How a distance on the map matches a distance in real life.
3. 5 feet.
4. 30 feet.
5. 2 inches long.
6. It lets you measure real distances from the map.

Triangle: A Backyard Map With a Scale

This passage · 211 words · Flesch-Kincaid grade 2.5

1. The places they draw are far bigger than any sheet of paper.
2. How a distance on the map matches a distance in real life.
3. 5 feet.
4. 30 feet.
5. 2 inches long.
6. It lets you measure real distances from the drawing, so you can tell how big places really are.

Square: A Backyard Map With a Scale

Harder · 229 words · Flesch-Kincaid grade 4.9

1. The places they want to draw are enormously bigger than any sheet of paper.
2. How a distance on the map corresponds to a distance in real life.
3. 5 feet.
4. 30 feet.
5. 2 inches long.
6. It lets you measure real distances from the drawing, so you know how big places truly are.