Name: _____ Date: _____

How to Read the Squiggly Lines on a Hill Map

Circle group

Hikers often carry a topographic map. It is a flat picture that shows how high and steep the land is. The most important part is a set of curvy lines called contour lines. When you know how to read them, a flat paper turns into a hill you can almost see.

Each contour line joins all the places at the same height above sea level. Picture walking along one line. You would never go up or down. Every step stays at the same level. The same number of meters separates one line from the next, and the map tells you the number. Every fifth line is usually darker and has its height written on it.

Here is how to use the lines. First, check the spacing. When lines are close together, the ground rises fast. It is steep. When they are far apart, the land is gentle and flat. Second, look for small circles inside other circles. They mark a hilltop or a peak. The smallest circle is the highest point. Third, look for lines shaped like a V. The point of the V aims uphill. It shows where a stream runs down a valley.

With practice, you can plan a route that avoids the steepest slopes before you put on your boots.

Questions

1. What does a contour line join?

_____

_____

2. What do lines that are close together tell you?

_____

_____

3. What does a small circle inside other circles mark?

_____

_____

4. How can you tell the difference in height between lines?

_____

_____

5. Why would you never go uphill when walking along one contour line?

_____

_____

6. How can a hiker use contour lines before starting out?

_____

_____

Words to know

topographic: showing the shape and height of the land
contour: a line on a map joining places of equal height
steep: rising or falling very sharply
peak: the pointed top of a mountain
valley: low land between hills or mountains

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: _____

How to Read the Squiggly Lines on a Hill Map

Triangle group

Hikers often carry a topographic map, a flat picture that shows how high and steep the land is. The most important feature on it is a set of curvy lines called contour lines. Once you know how to read them, a flat sheet of paper turns into a hill you can almost see.

Each contour line connects all the places that are at the same height above sea level. Imagine walking along one line. You would never go uphill or downhill, because every step would stay at the same level. A set number of meters separates one line from the next, and the map tells you what that number is. Every fifth line is usually drawn darker and labeled with its height.

Here is how to use the lines. First, look at the spacing. When the lines are close together, the ground rises quickly, so the slope is steep. When they are far apart, the land is gentle and flat. Second, look for small circles inside other circles. Those mark a hilltop or a peak, and the smallest circle is the highest point. Third, look for lines that form a V shape. The point of the V aims uphill and shows where a stream runs down a valley.

With practice, you can plan a route that avoids the steepest slopes before you ever put on your boots.

Questions

1. What does a contour line connect?

_____

_____

2. What do closely spaced contour lines tell you?

_____

_____

3. What does a small circle inside other circles mark?

_____

_____

4. How can you tell what the difference in height is between lines?

_____

_____

5. Why would you never go uphill while walking along one contour line?

_____

_____

6. How could a hiker use contour lines before starting out?

_____

_____

Words to know

topographic: showing the shape and height of the land
contour: a line on a map joining places of equal height
steep: rising or falling very sharply
peak: the pointed top of a mountain
valley: low land between hills or mountains

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: _____

How to Read the Squiggly Lines on a Hill Map

Square group

Experienced hikers frequently carry a topographic map, a flat illustration that reveals how high and how steep the terrain is. Its most significant feature is a collection of curving lines known as contour lines. Once you understand how to interpret them, a flat sheet of paper transforms into a hillside that you can nearly picture in three dimensions.

Each contour line connects every location that sits at the same elevation above sea level. Imagine strolling along one such line: you would never climb or descend, because each step would remain at an identical height. A fixed number of meters separates one line from the next, and the map states what that number is. Every fifth line is typically drawn darker and labeled with its elevation.

Here is a method for using the lines. First, examine the spacing. When the lines are crowded closely together, the ground rises rapidly, which means the slope is steep, whereas widely spaced lines indicate gentle, nearly level land. Second, search for small circles nested inside larger ones. These mark a hilltop or a peak, and the innermost circle is the highest point. Third, watch for lines forming a V shape. The point of the V aims uphill and reveals where a stream flows down a valley.

With practice, you can plan a route that bypasses the steepest slopes long before you lace up your boots.

Questions

1. What does a contour line connect?

_____

_____

2. What do lines that are crowded closely together indicate?

_____

_____

3. What does a small circle nested inside larger circles mark?

_____

_____

4. How can you find out the difference in height between neighboring lines?

_____

_____

5. Why would you never climb or descend while walking along a single contour line?

_____

_____

6. How might a hiker use contour lines before starting out?

_____

_____

Words to know

topographic: showing the shape and height of the land
contour: a line on a map joining places of equal height
steep: rising or falling very sharply
peak: the pointed top of a mountain
valley: low land between hills or mountains

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: How to Read the Squiggly Lines on a Hill Map

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

Circle: How to Read the Squiggly Lines on a Hill Map

Easier · 213 words · Flesch-Kincaid grade 3.2

1. All the places at the same height above sea level.
2. The ground is steep.
3. A hilltop or peak.
4. The map tells you the number.
5. Every point on the line is at the same height.
6. To plan a route that avoids the steepest slopes.

Triangle: How to Read the Squiggly Lines on a Hill Map

This passage · 227 words · Flesch-Kincaid grade 4.9

1. All the places that are at the same height above sea level.
2. The ground is steep.
3. A hilltop or peak.
4. The map tells you the number.
5. Every point on the line is at the same height.
6. To plan a route that avoids the steepest slopes.

Square: How to Read the Squiggly Lines on a Hill Map

Harder · 230 words · Flesch-Kincaid grade 7.9

1. Every location at the same elevation above sea level.
2. The ground rises rapidly and the slope is steep.
3. A hilltop or a peak.
4. The map states the number of meters.
5. Every point on that line is at an identical height.
6. To plan a route that bypasses the steepest slopes.