Name: _____ Date: _____

A Weather Buoy Floats at Zero and Zero

Circle group

Every place on Earth can be named with two numbers. One number tells how far north or south of the equator you are. This is latitude. The other number tells how far east or west of a line called the prime meridian. This is longitude. The prime meridian goes through Greenwich, near London in England.

The equator is at zero degrees latitude. The prime meridian is at zero degrees longitude. So what is at zero and zero, where the two lines cross?

Look at a globe. You may be surprised. It is not a city or a mountain. It is in the Atlantic Ocean, in a wide bay off West Africa. There is only open water.

Still, something floats there. Scientists put a weather buoy near the spot. A buoy is a floating machine. It measures wind, air temperature, and the temperature of the sea. It sends its numbers by satellite. They help people learn about ocean weather.

So the place with the simplest pair of numbers is a quiet patch of sea. One lonely machine bobs on the waves.

Questions

1. What does latitude tell you?

_____

_____

2. What does longitude tell you?

_____

_____

3. Where do the equator and the prime meridian cross?

_____

_____

4. What three things does the weather buoy measure?

_____

_____

5. How does the buoy send its numbers?

_____

_____

6. Why might a weather buoy be useful where there is only open water?

_____

_____

Words to know

latitude: a measure of how far north or south a place is
longitude: a measure of how far east or west a place is
buoy: a floating object that is anchored in the water
satellite: a machine that circles the Earth and sends back information

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 Weather Buoy Floats at Zero and Zero

Triangle group

Every place on Earth can be named with two numbers. One number tells you how far north or south of the equator you are. This is called latitude. The other tells you how far east or west of a line called the prime meridian. This is called longitude. The prime meridian runs through Greenwich, near London in England.

The equator is at zero degrees latitude. The prime meridian is at zero degrees longitude. So what is at zero and zero, where the two lines cross?

Look at a globe, and you may be surprised. The spot is not in a city or on a mountain. It is in the Atlantic Ocean, in a wide bay off the coast of West Africa. There is only open water.

Even so, something floats there. Scientists have anchored a weather buoy near the spot. A buoy is a floating machine with tools that measure wind, air temperature, and the temperature of the sea. It sends its readings by satellite, and the numbers help people understand ocean weather.

So the place named by the simplest pair of numbers on the map turns out to be a quiet patch of sea with one lonely machine bobbing on the waves.

Questions

1. What does latitude tell you?

_____

_____

2. What does longitude tell you?

_____

_____

3. Where do the equator and the prime meridian cross?

_____

_____

4. What three things does the weather buoy measure?

_____

_____

5. How does the buoy send its readings?

_____

_____

6. Why might a weather buoy be useful at a spot with only open water?

_____

_____

Words to know

latitude: a measure of how far north or south a place is
longitude: a measure of how far east or west a place is
buoy: a floating object that is anchored in the water
satellite: a machine that circles the Earth and sends back information

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 Weather Buoy Floats at Zero and Zero

Square group

Every location on Earth can be identified by a pair of numbers. The first indicates how far north or south of the equator the place lies, a measurement known as latitude. The second indicates how far east or west of an imaginary line called the prime meridian it lies, a measurement known as longitude. The prime meridian passes through Greenwich, which is near London in England.

The equator sits at zero degrees latitude, and the prime meridian sits at zero degrees longitude. So what can be found at zero and zero, the point where the two lines cross?

If you study a globe, the answer may surprise you. The spot is not in a city or on a mountaintop. It lies in the Atlantic Ocean, in a wide bay off the coast of West Africa, where there is nothing but open water.

Nevertheless, something floats there. Scientists have anchored a weather buoy close to the spot. A buoy is a floating machine equipped with instruments that measure the wind, the air temperature, and the temperature of the sea. It transmits its readings by satellite, and the numbers help people understand the weather over the ocean.

Thus the place named by the simplest pair of numbers on the map turns out to be a quiet stretch of sea, with a single lonely machine bobbing on the waves.

Questions

1. What does latitude measure?

_____

_____

2. What does longitude measure?

_____

_____

3. Where do the equator and the prime meridian cross?

_____

_____

4. What three things do the buoy's instruments measure?

_____

_____

5. How does the buoy transmit its readings?

_____

_____

6. Why would a weather buoy be valuable at a spot with nothing but open water?

_____

_____

Words to know

latitude: a measure of how far north or south a place is
longitude: a measure of how far east or west a place is
buoy: a floating object that is anchored in the water
satellite: a machine that circles the Earth and sends back information

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 Weather Buoy Floats at Zero and Zero

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

Circle: A Weather Buoy Floats at Zero and Zero

Easier · 180 words · Flesch-Kincaid grade 4.5

1. How far north or south of the equator a place is.
2. How far east or west of the prime meridian a place is.
3. In the Atlantic Ocean, in a wide bay off West Africa.
4. Wind, air temperature and the temperature of the sea.
5. By satellite.
6. There are no towns or weather stations there, so a floating machine is the way to learn the weather.

Triangle: A Weather Buoy Floats at Zero and Zero

This passage · 203 words · Flesch-Kincaid grade 5.4

1. How far north or south of the equator a place is.
2. How far east or west of the prime meridian a place is.
3. In the Atlantic Ocean, in a wide bay off the coast of West Africa.
4. Wind, air temperature and the temperature of the sea.
5. By satellite.
6. There are no towns or weather stations there, so a floating machine is the way to learn about the weather.

Square: A Weather Buoy Floats at Zero and Zero

Harder · 226 words · Flesch-Kincaid grade 8.4

1. How far north or south of the equator a place lies.
2. How far east or west of the prime meridian a place lies.
3. In the Atlantic Ocean, in a wide bay off the coast of West Africa.
4. The wind, the air temperature and the temperature of the sea.
5. By satellite.
6. There are no towns or weather stations there, so a floating machine is the only way to learn about the weather.