Name: _____ Date: _____

Telling Time When the Sun Hid

Circle group

A sundial tells time with a shadow. But what if the sky is cloudy? What if it is night? A sundial cannot help. So people in ancient Egypt, Greece, and other lands built clocks that ran on water.

A simple water clock was a bowl with a tiny hole near the bottom. The bowl was filled with water. Drip by drip, the water leaked out at a steady speed. Marks were drawn inside the bowl. When the water went down past a mark, people knew time had passed.

Water clocks were used in many ways. In ancient Greece, courts used them. Each speaker got the same time to talk. When the bowl was empty, the speaker had to stop.

Water clocks were not perfect. But they worked at night and on cloudy days. They kept people on time for hundreds of years.

Questions

1. Why does a sundial not work at night?

_____

_____

2. What did a simple water clock look like?

_____

_____

3. How could people tell that time had passed?

_____

_____

4. How did courts in ancient Greece use water clocks?

_____

_____

5. Why was a water clock better than a sundial on a cloudy day?

_____

_____

6. Why did the water need to leak out at a steady speed?

_____

_____

Words to know

sundial: a clock that uses a shadow to tell the time
shadow: a dark shape made when something blocks light
steady: staying the same, not speeding up or slowing down
ancient: from a very long time ago
courts: places where people go to settle arguments by law

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: _____

Telling Time When the Sun Hid

Triangle group

A sundial tells time with a shadow. But what if the sky is cloudy? What if it is night? A sundial cannot help then. So people in ancient Egypt, Greece, and other lands built clocks that ran on water.

A simple water clock was a bowl with a tiny hole near the bottom. The bowl was filled with water. Drip by drip, the water leaked out at a steady speed. Marks were drawn inside the bowl. As the water went down past each mark, people could tell how much time had passed.

Water clocks were used for many jobs. In ancient Greece, they were used in courts to make sure each speaker had the same amount of time to talk. When the bowl was empty, the speaker had to stop.

Water clocks were not perfect. Still, they worked at night, indoors, and on cloudy days. They kept people on time for hundreds of years, until clocks with gears took their place.

Questions

1. Why does a sundial not work at night?

_____

_____

2. What did a simple water clock look like?

_____

_____

3. How could people tell how much time had passed?

_____

_____

4. How did courts in ancient Greece use water clocks?

_____

_____

5. Why was a water clock better than a sundial on a cloudy day?

_____

_____

6. Why did the water need to leak out at a steady speed?

_____

_____

Words to know

sundial: a clock that uses a shadow to tell the time
shadow: a dark shape made when something blocks light
steady: staying the same, not speeding up or slowing down
ancient: from a very long time ago
courts: places where people go to settle arguments by law

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: _____

Telling Time When the Sun Hid

Square group

A sundial tells the time by means of a shadow, but what happens when the sky is overcast, or when night has fallen? In those conditions a sundial is useless, which is why the people of ancient Egypt, Greece, and other lands invented clocks that ran on water.

A simple water clock was a bowl with a tiny hole near the bottom. When the bowl was filled, the water leaked out drop by drop at a steady speed. Marks were drawn on the inside of the bowl, and as the water sank past each mark, people could tell how much time had gone by.

Water clocks served many purposes. In ancient Greece, they were used in courts to make certain that every speaker was given exactly the same amount of time to talk, and once the bowl was empty, the speaker had to stop.

Water clocks were far from perfect. Nevertheless, they worked at night, indoors, and on cloudy days, and they kept people on time for hundreds of years, until clocks with gears eventually took their place.

Questions

1. Why is a sundial useless at night?

_____

_____

2. What did a simple water clock look like?

_____

_____

3. How could people tell how much time had gone by?

_____

_____

4. How were water clocks used in the courts of ancient Greece?

_____

_____

5. Why was a water clock more useful than a sundial on a cloudy day?

_____

_____

6. Why did the water need to leak out at a steady speed?

_____

_____

Words to know

sundial: a clock that uses a shadow to tell the time
shadow: a dark shape made when something blocks light
steady: staying the same, not speeding up or slowing down
ancient: from a very long time ago
courts: places where people go to settle arguments by law

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: Telling Time When the Sun Hid

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

Circle: Telling Time When the Sun Hid

Easier · 142 words · Flesch-Kincaid grade 2.5

1. It needs sunlight to make a shadow.
2. A bowl with a tiny hole near the bottom.
3. They watched the water go down past marks drawn inside the bowl.
4. To give each speaker the same time to talk.
5. It did not need the sun.
6. If it leaked unevenly, the marks would not show the right time.

Triangle: Telling Time When the Sun Hid

This passage · 161 words · Flesch-Kincaid grade 3.1

1. It needs sunlight to make a shadow.
2. A bowl with a tiny hole near the bottom.
3. They watched the water go down past marks drawn inside the bowl.
4. To give each speaker the same amount of time to talk.
5. It did not need the sun.
6. If it leaked unevenly, the marks would not show the right time.

Square: Telling Time When the Sun Hid

Harder · 178 words · Flesch-Kincaid grade 8

1. It needs sunlight to make a shadow.
2. A bowl with a tiny hole near the bottom.
3. They watched the water sink past marks drawn on the inside of the bowl.
4. To give every speaker exactly the same amount of time to talk.
5. It did not need the sun.
6. If it leaked unevenly, the marks would not show the right time.