Name: _____ Date: _____

Telling Time With a Stick and a Shadow

Circle group

Long ago, people had no clocks. They used the sun to tell time. They used a stick and its shadow.

Here is how a sundial works. Push a stick straight into the ground in a sunny spot. The sun shines on the stick. The stick makes a shadow on the ground.

All day, the sun seems to move across the sky. It is really Earth that turns. As the sun seems to move, the shadow moves too. In the morning, the shadow is long. Near noon, it is short. In the afternoon, it is long again.

Set a small stone at the end of the shadow each hour. Then you can tell time by the shadow.

Questions

1. What did people use to tell time long ago?

_____

_____

2. Where do you put the stick for a sundial?

_____

_____

3. When is the shadow shortest?

_____

_____

4. What really makes the sun seem to move?

_____

_____

5. Would a sundial work on a cloudy day?

_____

_____

Words to know

shadow: a dark shape made when something blocks light
sundial: a tool that tells time by the shadow of the sun
noon: twelve o'clock in the middle of the day

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 With a Stick and a Shadow

Triangle group

Before clocks were made, people looked to the sun for the time. A simple stick can do the job.

Here is how a sundial works. Push a stick straight into the ground in a sunny spot. Sunlight hits the stick, and a dark stripe appears on the ground behind it. That stripe is the shadow.

All day, the sun seems to move across the sky. It is really Earth that is turning. As the sun seems to move, the stripe moves too. It is long in the morning. Around noon, it is short. Then it grows long again in the afternoon.

Every hour, set a small stone where the stripe ends. Soon you will have a clock made of stones.

Questions

1. What did people use to tell time long ago?

_____

_____

2. Where should you put the stick for a sundial?

_____

_____

3. When is the shadow shortest?

_____

_____

4. What really makes the sun seem to move across the sky?

_____

_____

5. Would a sundial work on a cloudy day?

_____

_____

Words to know

shadow: a dark shape made when something blocks light
sundial: a tool that tells time by the shadow of the sun
noon: twelve o'clock in the middle of the day
turning: moving around in a circle

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 With a Stick and a Shadow

Square group

Long ago, people did not have clocks, so they used the sun to tell the time. All they needed was a stick and its shadow.

Here is how a sundial works. Push a stick straight into the ground in a sunny spot. When the sun shines on the stick, it casts a shadow across the ground.

All day long, the sun appears to travel across the sky, although it is really Earth that is turning. As the sun appears to move, the shadow moves along with it. In the morning, the shadow is long. Around noon, it becomes short. Then it stretches out long again in the afternoon.

You can place a small stone at the end of the shadow every hour. After that, you will be able to tell the time by where the shadow falls.

Questions

1. What did people use to tell the time long ago?

_____

_____

2. Where should you push the stick to make a sundial?

_____

_____

3. When does the shadow become shortest?

_____

_____

4. What is really happening when the sun appears to travel across the sky?

_____

_____

5. Would a sundial be useful on a cloudy day?

_____

_____

Words to know

shadow: a dark shape made when something blocks light
sundial: a tool that tells time by the shadow of the sun
noon: twelve o'clock in the middle of the day
turning: moving around in a circle

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 With a Stick and a Shadow

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

Circle: Telling Time With a Stick and a Shadow

Easier · 116 words · Flesch-Kincaid grade 1.1

1. The sun, a stick and its shadow.
2. Straight into the ground in a sunny spot.
3. Near noon.
4. Earth is turning.
5. No, because it needs sunshine to make a shadow.

Triangle: Telling Time With a Stick and a Shadow

This passage · 120 words · Flesch-Kincaid grade 1.7

1. The sun, a stick and its shadow.
2. Straight into the ground in a sunny spot.
3. Around noon.
4. Earth is turning.
5. No, because it needs sunshine to make a shadow.

Square: Telling Time With a Stick and a Shadow

Harder · 137 words · Flesch-Kincaid grade 3.5

1. The sun, along with a stick and its shadow.
2. Straight into the ground in a sunny spot.
3. Around noon.
4. Earth is turning.
5. No, because it needs direct sunshine to cast a shadow.