Name: _____ Date: _____

Why Orion Rules Only the Winter Sky

Circle group

Look south on a cold winter evening. You may see three bright stars in a short, straight row. They make the belt of Orion. But on a warm summer evening, you will not find Orion. The stars did not go away. Earth moved.

Earth goes around the sun once a year. The stars stay in place, but our view of them changes. At night, we face away from the sun. So we see the part of the sky that is opposite the sun. In winter, that part holds Orion. For people in the northern half of the world, Orion climbs up in the evening and stays up for much of the night.

By summer, Earth is on the other side of the sun. Now Orion is in the same direction as the sun. It is up during the day. Bright sunlight hides it. Other stars take its place at night.

This is why each season has its own stars.

Questions

1. What three stars make the belt of Orion?

_____

_____

2. Why can you not find Orion on a summer evening?

_____

_____

3. How long does Earth take to go around the sun?

_____

_____

4. Do the stars go away in summer?

_____

_____

5. Which part of the sky do we see at night?

_____

_____

6. How can the stars show Earth's trip around the sun?

_____

_____

Words to know

belt: a band or line, like the one you wear around your waist
direction: the way something points or moves
season: one of the four parts of the year, such as winter

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: _____

Why Orion Rules Only the Winter Sky

Triangle group

If you look south on a cold winter evening, you may spot three bright stars in a short, straight row. They make the belt of Orion, a famous group of stars. But go outside on a warm summer evening and look for Orion, and you will not find it. The stars have not gone anywhere. Earth has moved.

Earth travels around the sun once every year. The stars stay in place, but our view of them changes as we go. At night, we face away from the sun, so we see the part of the sky that is opposite to it. In winter, that part of the sky holds Orion. For people in the northern half of the world, it climbs into view in the evening and stays up for much of the night.

By summer, Earth is on the other side of the sun. Now Orion lies in the same direction as the sun. It rises and sets with the sun during the day, and the bright sunlight hides it from us completely. Other groups of stars take its place in the night sky, such as the Summer Triangle.

This is why each season has its own stars. If you watch the sky through the year, you can see Earth's journey around the sun, one new group of stars at a time.

Questions

1. What three stars make the belt of Orion?

_____

_____

2. Why can you not find Orion on a summer evening?

_____

_____

3. How often does Earth travel around the sun?

_____

_____

4. Do the stars move away in the summer?

_____

_____

5. Which part of the sky do we see at night?

_____

_____

6. How can watching the stars through the year show Earth's journey?

_____

_____

Words to know

belt: a band or line, like the one you wear around your waist
famous: known by many people
direction: the way something points or moves
season: one of the four parts of the year, such as winter
journey: a long trip from one place to another

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: _____

Why Orion Rules Only the Winter Sky

Square group

If you gaze toward the south on a cold winter evening, you may notice three brilliant stars arranged in a short, straight row. Together they form the belt of Orion, one of the most recognizable star groups in the sky. Yet if you search for Orion on a warm summer evening, you will come up empty-handed. The stars have not disappeared. It is Earth that has moved.

Earth travels around the sun once every year, and although the stars remain fixed in place, our view of them gradually changes as we go. At night we face away from the sun, so we see the part of the sky that lies opposite to it. In winter, that region of the sky contains Orion. For people in the northern half of the world, the constellation climbs into view in the evening and remains overhead for much of the night.

By summer, Earth has arrived on the other side of the sun, and Orion now lies in the same direction as the sun itself. It rises and sets during the daytime, and the glare of sunlight conceals it entirely. Other star groups, such as the Summer Triangle, take its place in the night sky.

That is why every season has its own stars. If you watch the sky throughout the year, you can follow Earth's journey around the sun, one new group of stars at a time.

Questions

1. Which stars make up the belt of Orion?

_____

_____

2. Why is Orion impossible to find on a summer evening?

_____

_____

3. How frequently does Earth travel around the sun?

_____

_____

4. Have the stars disappeared in summer?

_____

_____

5. Which part of the sky is visible to us at night?

_____

_____

6. How does watching the stars across the year reveal Earth's journey?

_____

_____

Words to know

belt: a band or line, like the one you wear around your waist
direction: the way something points or moves
season: one of the four parts of the year, such as winter
journey: a long trip from one place to another

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: Why Orion Rules Only the Winter Sky

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

Circle: Why Orion Rules Only the Winter Sky

Easier · 159 words · Flesch-Kincaid grade 2.3

1. Three bright stars in a short, straight row.
2. Orion is in the same direction as the sun, so sunlight hides it.
3. One year.
4. No. The stars stay in place, but Earth moves and our view changes.
5. The part opposite the sun.
6. Each season brings new stars into the night sky as Earth moves.

Triangle: Why Orion Rules Only the Winter Sky

This passage · 223 words · Flesch-Kincaid grade 4.3

1. Three bright stars in a short, straight row.
2. Orion is in the same direction as the sun, so sunlight hides it.
3. Once every year.
4. No. The stars stay in place, but Earth moves, so our view of the night sky changes.
5. The part that is opposite the sun.
6. Each season brings a new group of stars into the night sky as Earth moves around the sun.

Square: Why Orion Rules Only the Winter Sky

Harder · 235 words · Flesch-Kincaid grade 6.9

1. Three bright stars arranged in a short, straight row.
2. Orion lies in the same direction as the sun, so sunlight conceals it.
3. Once every year.
4. No. The stars stay in place, but Earth moves, so our view of the night sky changes.
5. The part that lies opposite the sun.
6. Each season brings a new group of stars into the night sky as Earth moves around the sun.