

Name _____

Use the paragraph below and your Sun Fact File to answer the questions.

The Sun is made of gases that create heat and light. The surface of the Sun is very active. There are huge explosions called solar flares, and hot gases sometimes shoot up for thousands of miles. Sun spots are dark areas on the surface of the Sun.

1. What gas is the Sun mostly made of? (Circle the answer)

helium

hydrogen

2. Is the Sun hotter at the surface or the center?

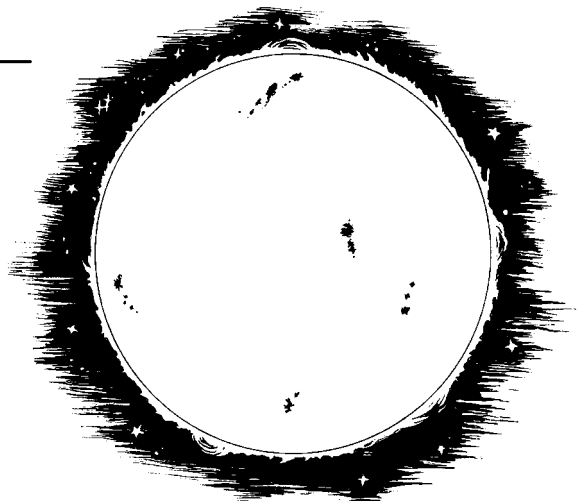
3. What are solar flares?

4. What is the Sun the center of?

Milky Way

solar system

5. Circle the sun spots on the Sun.

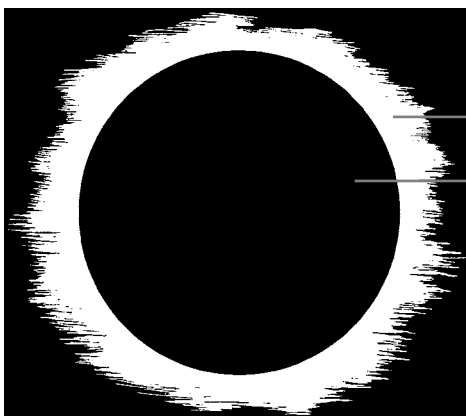
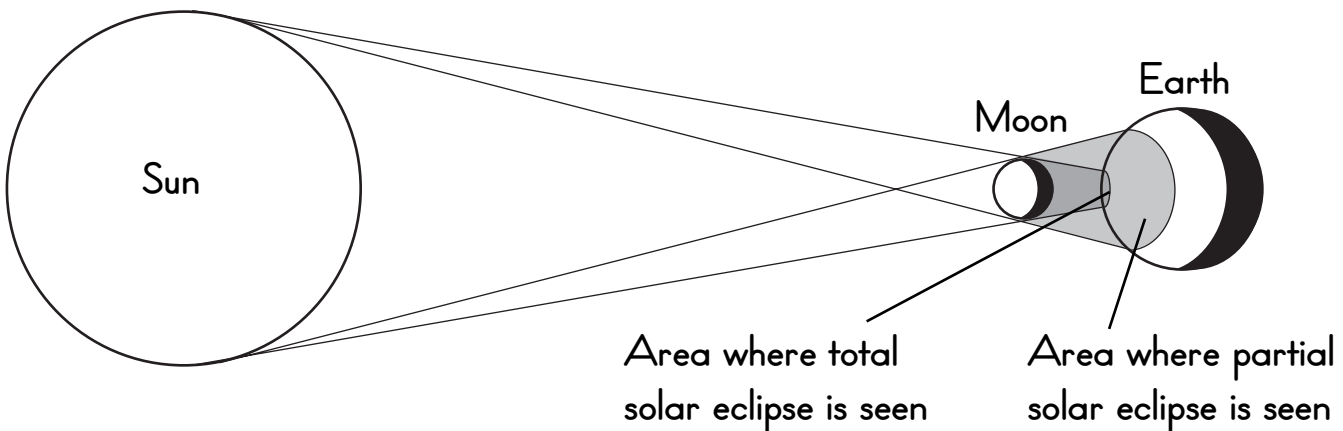


Name _____

A total solar eclipse happens when the moon passes between the Sun and the Earth. When the Moon is in this position, it blocks the light of the Sun. During a total solar eclipse, the outer layer of the Sun, called the corona, is the only part that is visible.

A partial solar eclipse is when part of the Sun can still be seen. Notice that whether you see a total eclipse or a partial eclipse depends on your position on Earth.

Use the pictures and the information to answer the questions on the next Funsheet.



corona

moon

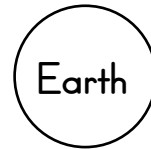
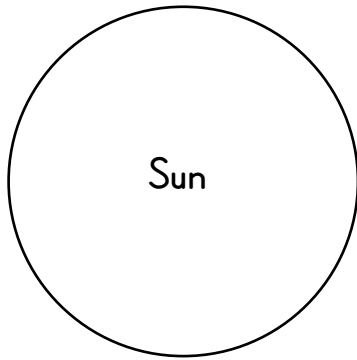
A total solar eclipse of the sun

Name _____

Use the pictures and information on the previous
Funsheet to answer the questions.

1. Where does the Moon have to be to create a total solar
eclipse?

2. Draw where the Moon needs to be to create a solar eclipse.



2. What part of the Sun is visible during a total solar eclipse?

3. Are your chances better for seeing a total or partial solar
eclipse? (Hint: Which area is bigger?)

4. What is a partial solar eclipse?

Name _____

Use your Solar System Fact File to answer the questions.

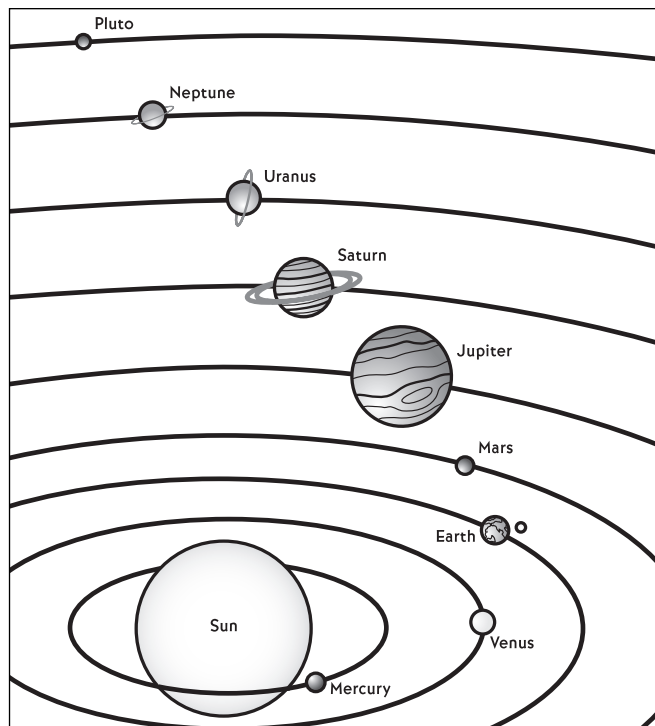
1. How many planets are in our solar system?

2. What do the planets orbit?

3. Where is our solar system located?

4. How old is our solar system?

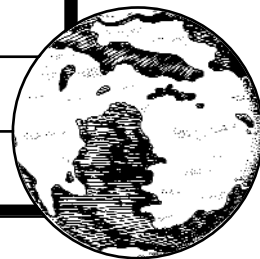
5. What holds the solar system together and causes the planets to orbit?



Name _____

The nine planets orbit the sun in the same direction.
A year is the time it takes a planet to orbit once
around the sun. As a planet travels around the sun,
it rotates. The time it takes to rotate once is called a
day. Use the chart below to help answer the questions.

	Length of year	Length of day (rotation)
Mercury	88 days	59 days
Venus	225 days	243 days
Earth	365.25 days	24 hours
Mars	687 days	24 hours and 37 minutes
Jupiter	12 years	10 hours
Saturn	29 years	11 hours
Uranus	84 years	18 hours
Neptune	165 years	19 hours
Pluto	248 years	6.4 days



1. Which planet has the longest day? _____
2. Which planet has the longest year? _____
3. How many times does a planet orbit the Sun in two years?

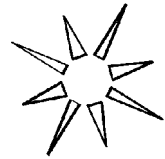
4. What is a day? _____
5. Do the planets orbit in the same direction? _____

Name _____

The four planets closest to the Sun are made mostly of rock. The next four planets are made of gases.

Pluto is made of ice and rock. Unlike the other rocky planets, it is always very cold.

Use the sentences above and your Fact Files to answer the questions.



1. List the planets that are made of rock.

2. List the planets that are made of gas.

3. Are the gas planets bigger or smaller than the rocky planets?

4. What makes Pluto different from the other rocky planets?

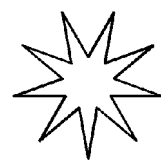
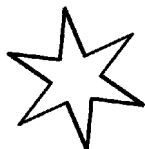
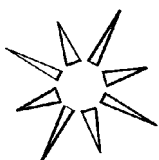
5. Put Mercury, Venus, Earth, and Mars in order from hottest to coldest. Use their daytime temperatures.

1. _____

2. _____

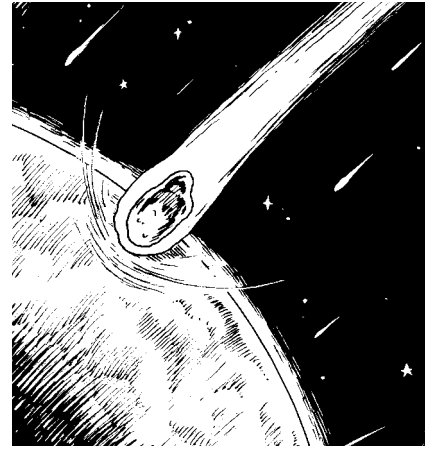
3. _____

4. _____



Name _____

A meteoroid is a piece comet, asteroid, or other space debris. If a meteoroid enters Earth's atmosphere (gases surrounding the planet), it burns up and causes a streak of light. This is called a meteor. If a meteor makes it through the atmosphere and hits Earth, it is called a meteorite. Shooting stars are meteors, not stars.



1. What is a meteor called when it hits the ground?

2. When does a meteor become a meteorite?

3. Name two places a meteoroid can come from.

1. _____

2. _____

4. What is a shooting star?

5. What is a meteor?

Name _____

Draw a line from the comet to the statements that are true. Use your Fact Files.

Comets have two tails.

Comets orbit the Moon.

A comet is like a giant snowball.

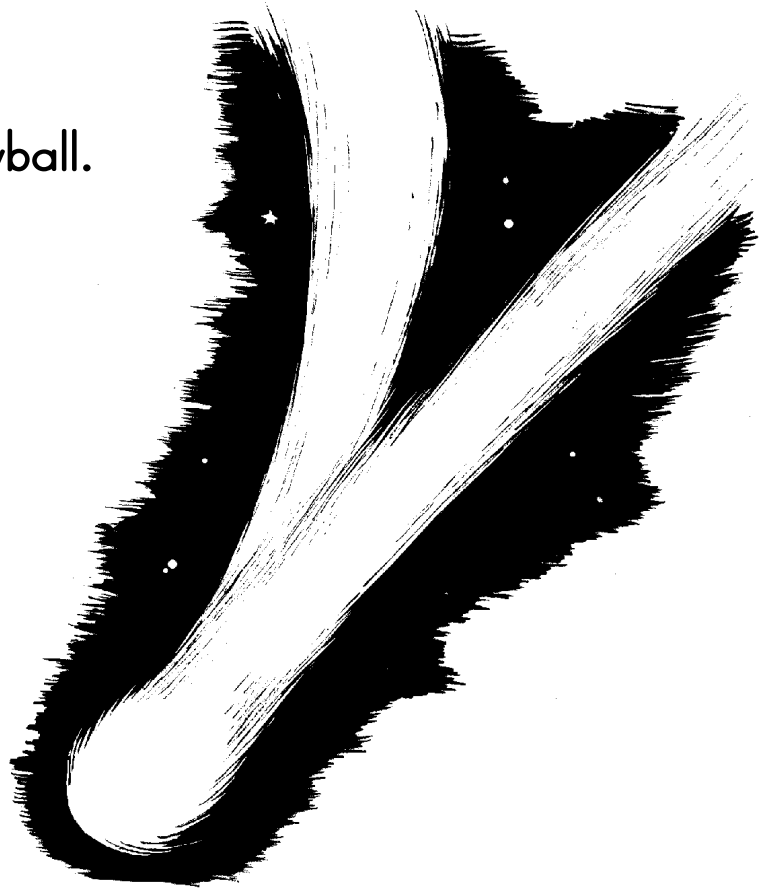
Comets are red.

A comet's tail
is made of stars.

Comets orbit the Sun.

Solar winds push the
comet's tail away
from the Sun.

Ancient cultures thought
comets were good luck.



Name _____

Draw a line from the asteroids to the statements that are true. Use your Fact Files.

Most asteroids come from an asteroid belt between Mars and Jupiter.

Asteroids have tails.

Ceres was the first asteroid discovered.

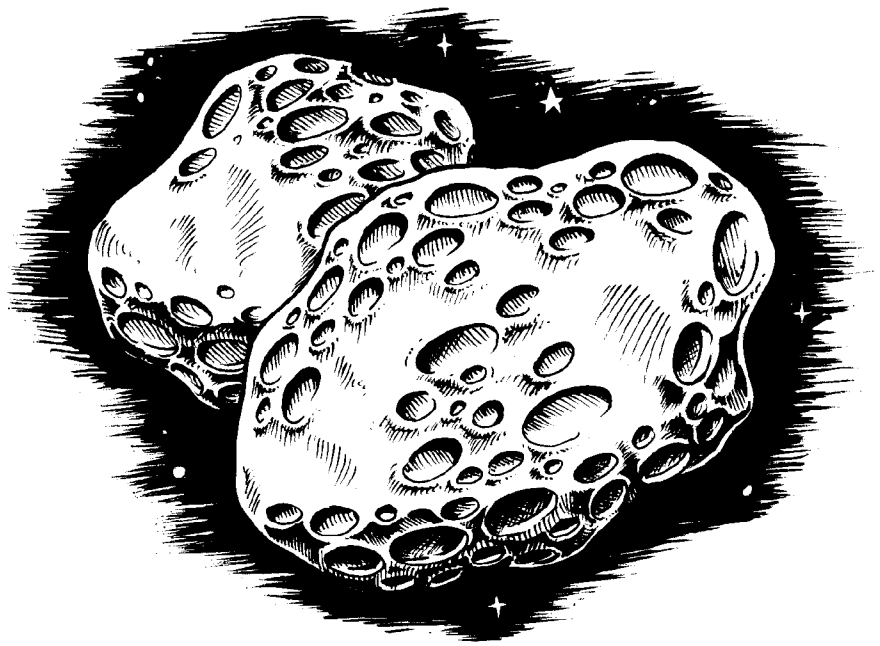
Asteroids are made of ice.

Asteroids orbit comets.

Some asteroids have moons.

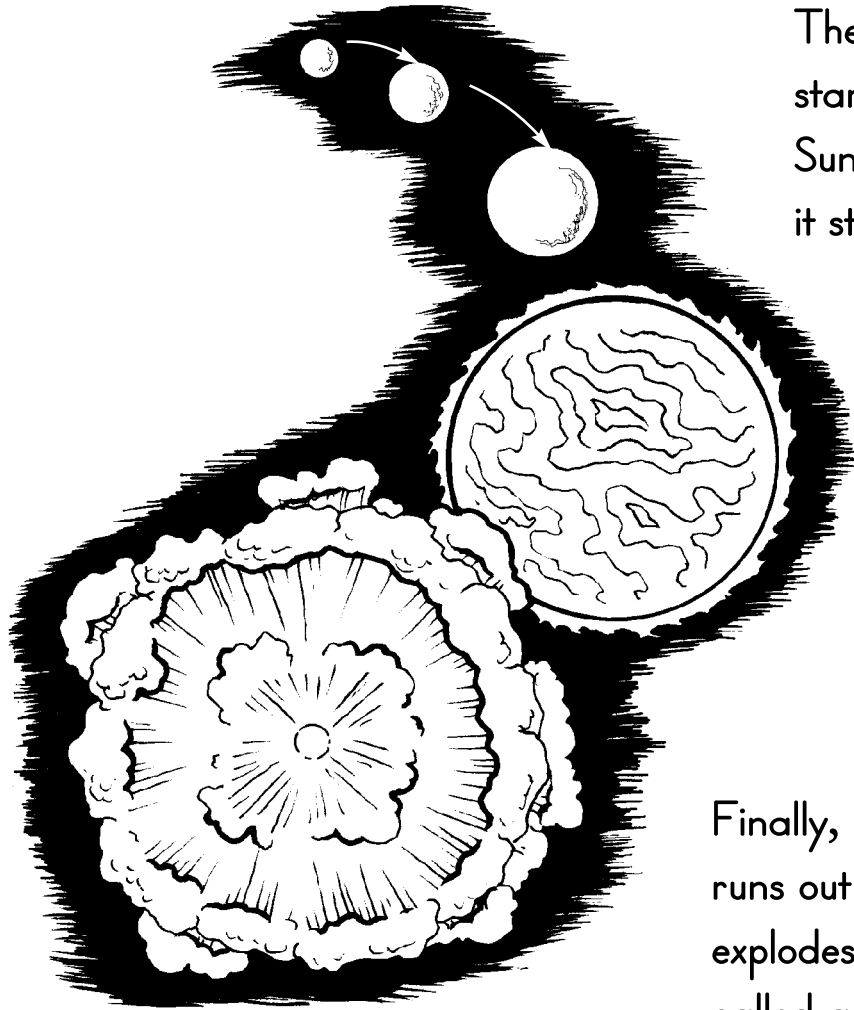
Asteroids are gold.

Asteroids can be over 500 miles in diameter.



Name _____

Use the information below and your Supernova Fact File to answer the questions.



The smallest sphere is a giant star 10 times as big as the Sun. At the end of its life, it starts to grow.

The giant star becomes a supergiant star.

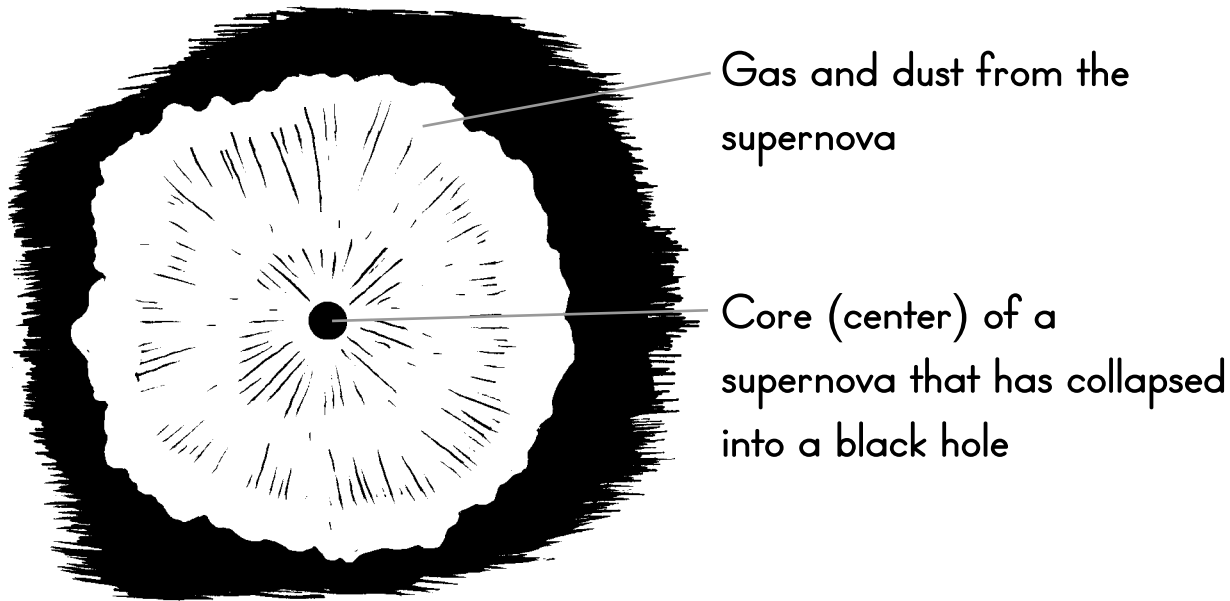
Finally, the supergiant star runs out of energy and explodes in a brilliant flash called a supernova.

1. At the ends of its life, a giant star grows and becomes a _____.
2. When does a star finally become a supernova?

3. A supernova can shine brighter than an entire _____.

Name _____

Use your Black Holes Fact File to answer
the questions.



1. What color is a black hole? _____
2. Can light escape from a black hole? _____
3. Would a person be very light or very heavy inside a black hole? _____
4. A black hole collapses so much it becomes smaller than _____.
5. What makes a supernova's core (center) collapse?

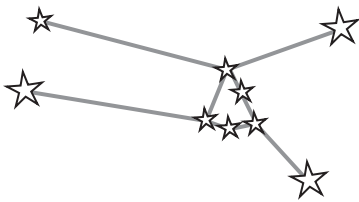
expansion

gravity

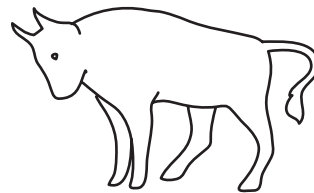
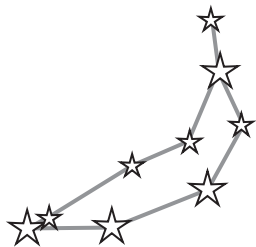
Name _____

Groups of stars that have been named are called constellations. The zodiac is made up of 12 constellations.

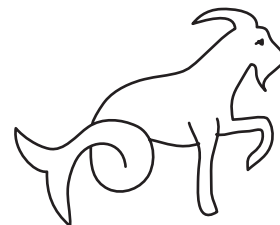
Draw a line from the constellation to its picture.
Write the name. Use your Zodiac Fact File.



Name _____



Name _____



Name _____

Name _____

A galaxy is a huge group of stars and their satellites.

A satellite is an object that orbits a larger object.

Our Sun is in a galaxy called the Milky Way.

Use the Milky Way Fact File to help answer the questions.



1. What is a galaxy? _____

2. Is the Sun part of the Milky Way? _____

3. What are the Sun's satellites?

other stars planets

3. Where is the Sun in the Milky Way?

in one of the spiral arms in the center

4. Are all the stars seen with the naked eye part of the Milky Way? _____

Name _____

Comets orbit the sun. When a comet is far from the Sun, it is a clump of ice and dust and has no tail. As the comet nears the Sun, it is heated and gases form around it. Some of the comet's dust and gases form two long tails. One tail is made of dust, and one is made of gas.

The dust tail is sometimes curved. Its color is yellowish or white.

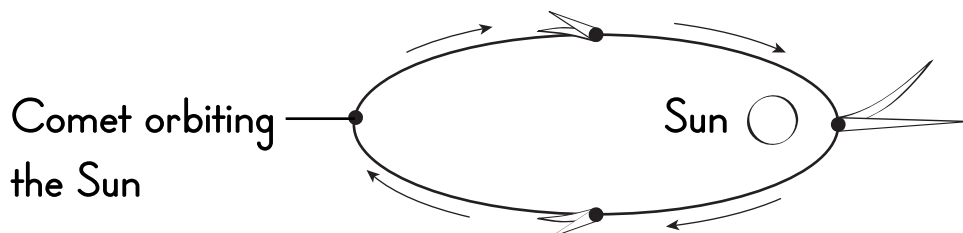
The gas tail is straight. Its color is bluish. The gas tail always points away from the Sun.

Write each fact from the list under the tail it describes.

is straight	is curved	is yellowish or white	is bluish
Dust tail		Gas tail	

1. Which tail always points away from the Sun? _____

2. When a comet is far from the Sun, does it have a tail?



Name _____

This is the constellation Aries.



The Zodiac constellations were named long ago when people used the sky as a calendar.

Pretend it is long ago and you are naming a constellation.
Make a new picture out of the Aries star pattern.
Give it a new name.



Name of constellation _____

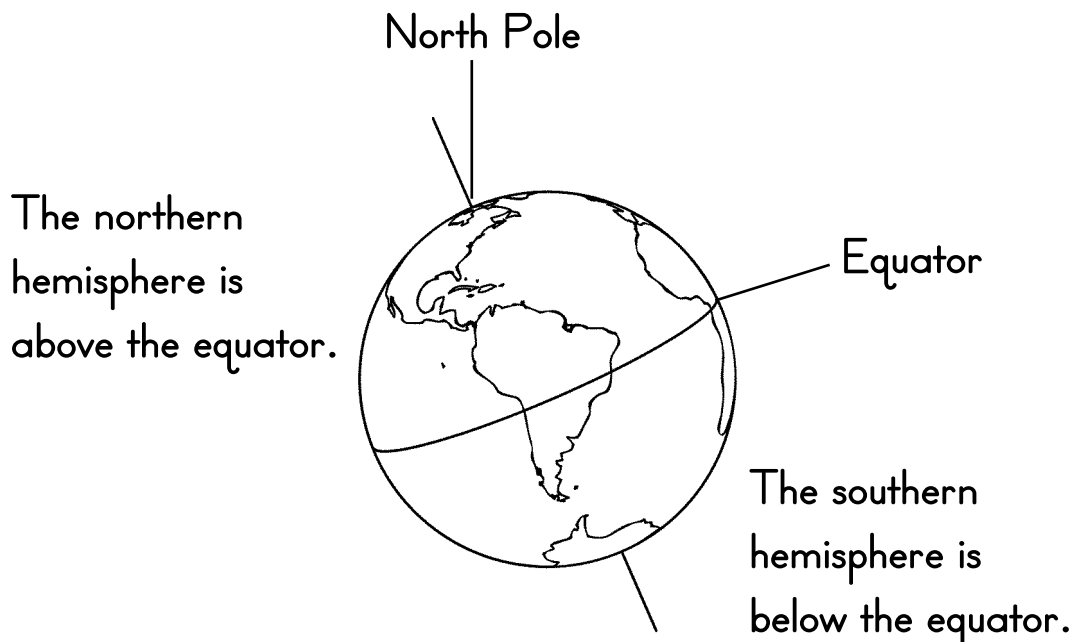
Name _____

The seasons are caused by the tilt of the Earth as it travels around the Sun.

When the North Pole is tilted toward the Sun, it is summer in the northern hemisphere and winter in the southern hemisphere. During the summer, the Sun's rays hit the Earth at a more direct angle, and the days are longer than the nights.

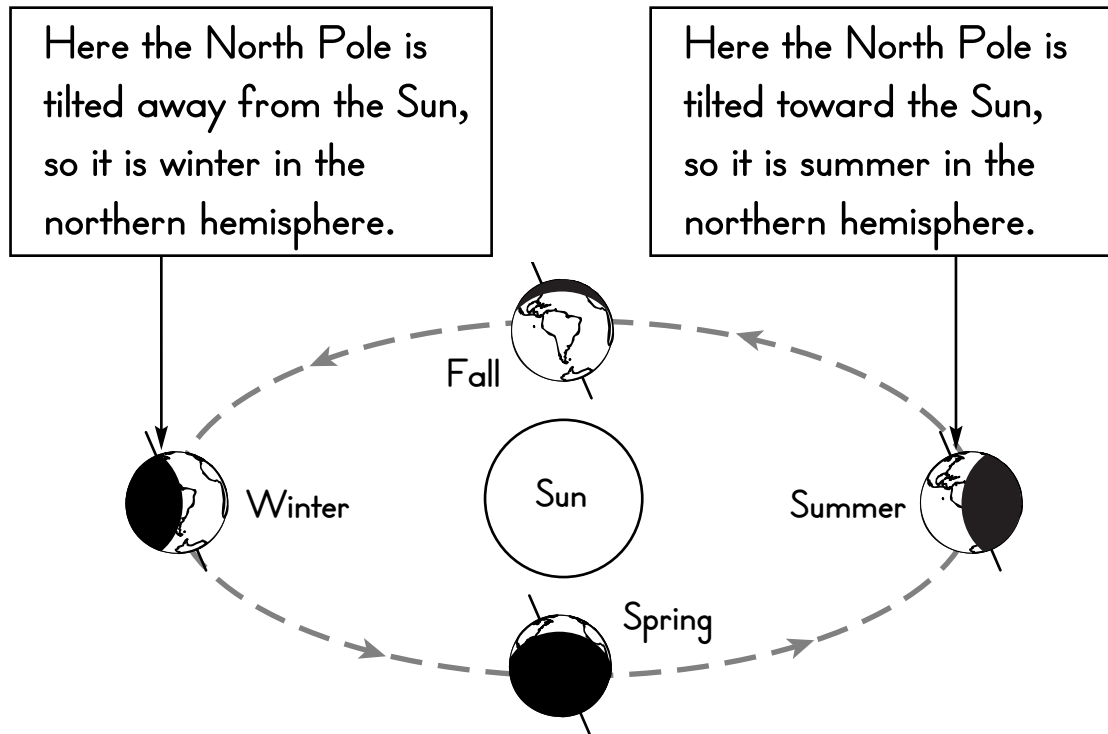
When the North Pole is tilted away from the Sun, it is winter in northern hemisphere and summer in the southern hemisphere. During the winter, the Sun's rays hit the Earth at a more extreme angle, and the nights are longer than the days.

Use the information above and the picture below to answer the questions on the next Funsheet.



Name _____

Use the picture and information on the previous
Funsheet to answer the questions.



1. What are the seasons caused by? _____

2. Is the northern hemisphere above or below the equator? _____

3. If the North Pole is titled away from the Sun, which season
is it in the northern hemisphere? _____

4. Are the days shorter or longer during the winter? _____

Name _____

List the nine planets and write their sizes next to them.

You can write the sizes in either miles or kilometers (km).

Planet	Size
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____

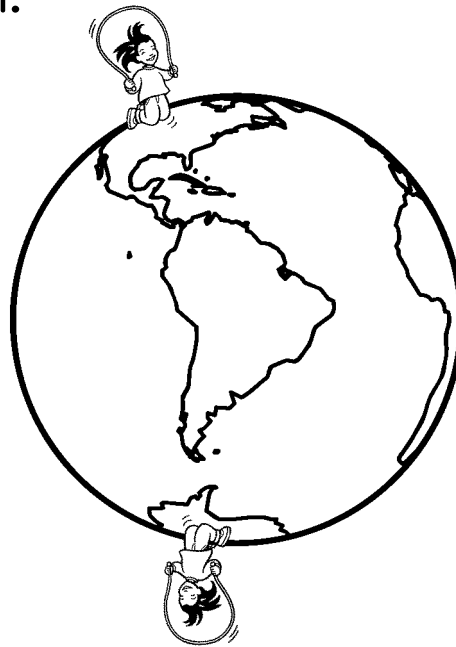
1. Which planet is the biggest? _____
2. Which planet is the smallest? _____
3. Which planet is almost the same size as Earth?

Name _____

We are all held onto the surface of the Earth by a force called gravity. The Moon has gravity, too. The Moon has less gravity than the Earth because it is smaller.

Gravity causes the Earth and Moon to pull on each other. The Moon orbits the Earth because the Earth's gravity pulls on it. The Moon's gravity pulls on the Earth and causes the ocean's tides to rise and fall.

The Earth's gravity
is always pulling us
toward its center.



1. What keeps us from flying off the Earth? _____
2. Do small objects have more or less gravity than large objects?

3. How does the Moon's gravity affect the Earth?

Name _____

Use your Big Dipper and Little Dipper Fact File to answer the questions.

1. How many stars are in each of the dipper constellations? _____
2. What is the name of the northern Pole Star?

3. Which constellation is it in?

4. Which hemisphere are the dipper constellations in?

5. Circle the pointer stars. Then draw a line to the northern Pole Star.

