The sun unevenly heats the Earth. The poles are cold and the equator is hot because the sun hits the equator more directly.

The polar ice cap is located at the top of the world (Point A). It is farthest away from the equator (where the light and heat from the sun hit the Earth most directly). This explains why it is so cold at the polar ice cap!

The sun is larger than any other star or planet in our solar system. It is different from other parts of the solar system because it produces most of the light and heat in the solar system.

If the earth moved farther away from the sun, its weather would become much colder because its source of light and heat would be farther away.

The motion of Earth around the sun mostly affects the cycle of the seasons.

It takes 365 days for the Earth to revolve around the sun.

This picture best shows that the earth revolves around the sun as the moon revolves around the earth.

Copernicus - first introduced the idea that the Earth and planets revolve around the sun.

The moon revolves around the Earth.

The path an object takes as it revolves around another object is called an orbit.
The rotation of the Earth on its axis causes **day and night**.

One full spin of an object on its axis is called a **rotation**.

Many things can rotate! When a ballerina spins in place on her toe, she is **rotating**!

The sun appears to rise each day because **the earth rotates toward and away from the sun**.

It takes the Earth **24 hours to rotate on its axis**.

Remember: The reason Earth’s day is 24 hours long is because it takes the Earth **24 hours to rotate on its axis**!

When the Earth is seen from outer space, it looks mainly blue because most of the Earth is covered with **oceans**.

Sometimes we are able to see the moon during the daytime. Even though it may look the same size as the sun, it is really only 1/400 the size of the sun. **This picture shows the real size of the moon compared to the size of the sun**! In other words, you could fit 400 moons inside the sun.

If you look at these phases of the moon, the next phase would look like this. Notice the pattern. The moon is rotating to the **left**. The darkness will **increase**, and the light will **decrease**!

If you look at these phases of the moon, the next phase would look like this. Notice that the pattern is the same as in the pictures above. The moon is rotating to the **left**, but this time the darkness will **decrease**, and the light will **increase**.

When no moon is visible in a clear sky, this is called a **new moon**.

When the sun lights up half of the moon, the phase of the moon is called a **quarter moon**.
When the moon is seen from the Earth as a whole circle, it is called a **full moon**.

**Galileo** – the first person to record what the moon looked like through a telescope. He was able to see that the moon had many **craters**.

If you had to choose one of the following descriptions to go in area 3 of this Venn diagram, which one would you chose?

- Rocky Surface
- Active Volcanoes
- Water
- Oxygen in atmosphere

You should have chosen: **Rocky Surface**.

Only the Earth has active volcanoes, water, and oxygen in the atmosphere, but both the moon and the Earth have a very rocky surface!

The best description of a solar system is...a **star and its planets and moons**.

**Ptolemy** – An Egyptian astronomer of Greek decent believed that the planets and the sun orbited the Earth.

All planets are held in orbit by **gravity**.

The Earth is different from all of the other planets because it has a **breathable atmosphere**.

Here is a list relating to the size of the Earth, moon, sun, and solar system from **smallest to largest**.

**Moon** – **Earth** – sun – solar system

Although Venus and Earth are very alike, the greatest difference between them is the **surface temperature**. The temperature on Venus can get almost 8 times hotter than the temperature on Earth!