

## SECTION 2: THE SUN

### Words to Know:

**Absorb:** To absorb means to take in or soak up like a sponge soaks up water and objects absorb light waves.

**Annular eclipse** (an' yuh ler): An annular eclipse of the sun is when the edge of the sun remains visible as a bright ring around the moon. This sometimes happens when the moon is farther away from Earth during an eclipse, and therefore it cannot always completely hide the sun.

**Atmosphere** (at' muh sfear): The atmosphere is the blanket of gases surrounding Earth and other planets or cosmic bodies. "Atmos" comes from the Greek language and means "vapor." "Sphere" comes from the Latin language and means "ball." Atmosphere is vapor wrapped around our sphere shaped planets.

**Auroras** (uh roar' uhs): Colorful electrical lights in Earth's ionosphere caused by an interaction of charged solar flare emissions, Earth's magnetic field, and atmospheric gases. In the Northern Hemisphere this phenomenon is called the aurora borealis or the northern lights. In the Southern Hemisphere it is called the aurora australis or southern lights.

**Bailey's Beads:** Bailey's Beads are little points of bright lights that reflect off the gigantic craters of the moon during a solar eclipse.

**Celestial body:** A celestial body is a non-living space object that God-made and put outside of Earth's atmosphere. Examples are planets, moons, stars, and the other objects God has created and put in space.

**Clouds:** Earth's clouds are visible masses of condensed water vapor floating in the atmosphere, typically high above the ground.

**Drought** (drou): A drought is a prolonged period of time when there is not as much rainfall as normal.

**Equator** (ih' kway tur): An equator is an imaginary line that divides the surface of a spherical object into two equal halves.

**Mass:** The quantity of matter that a body contains, as measured by its acceleration under a given force or by the force exerted on it by a gravitational field.

**Orbit:** When something is moving in a circular or elliptical path around another object, such as the way Earth orbits the sun, it is said to orbit or revolve around that object.

**Partial eclipse** (ee klips'): A partial eclipse happens when the moon is only partially between the sun and Earth.

**Retina:** The retina is a layer at the back of the eyeball containing photosensitive cells called rods and cones where visual images are formed which triggers nerve impulses that pass through the optic nerve to the brain. The plural of retina can be retinae or retinas.

**Revolution:** Revolution is the time it takes for one body, such as a planet, to move around another, such as the sun. It takes Earth 365 and 1/4 days to revolve around the sun. We call this amount of time one year.

**Revolve:** When something is moving in a circular or elliptical path around another object, such as the way Earth circles the sun, it is said to orbit or revolve around that object.

**Rotating:** When an object spins it is said to be rotating. Planets rotate on their axis as they orbit the sun. Earth's rotation of the sun is about 24 hours. This rotation gives us day and night.

**Solar eclipse:** A solar eclipse happens when the moon is positioned in the path between Earth and the sun. Since sunlight does not bend, the light waves are blocked by the moon and we see the moon's shadow on Earth.

**Solar flare:** Solar flares are sudden flashes of brightness coming off of the sun, sometimes projecting millions of miles out into space.

**Sphere:** A sphere is a round solid figure shaped like a ball. "Sphere" comes from the Latin language and means "ball."

**Star:** A star is a huge sphere of very hot, glowing gas that produces its own light and energy by a process called thermonuclear fusion.

**Sunspots:** Sunspots are little dark spots on the sun that are cooler than the rest of the sun. Even though sunspots are smaller and cooler relative to the sun, they are still bigger than Earth and very hot. God designed our sun with sunspots to help Earth stay at the right temperature.

**Thermonuclear fusion** (thur' moh new' klee ur): Thermonuclear fusion is the process in which a star produces its own light, heat, and energy. This happens at the core of the star. The core is superheated to many millions of degrees Fahrenheit. This heat travels towards the surface and radiates out into the universe. Through this thermonuclear process, stars "burn" a fuel known as hydrogen.

**Total eclipse:** A total eclipse is when the whole of the disk of the sun or moon is hidden.

**Note:** Revolving and rotating sound similar so we need to be clear of their meaning. To revolve means to go all the way around an object like planets orbiting our sun. To rotate means to spin. For example, planets and other celestial bodies rotate on their axes turning from day into night.

### Fascinating Facts about the Sun

1. Read the fact.
2. Trace the fact.
3. Make sure your letters are the same shapes and sizes as the examples.
4. Read the fact again.

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