God did that

Let's learn about light!

How are you able to read this? You might say knowing how to read or a computer, but the most basic of all things you need is light.

Name all the lights of which you can think.

God Did That

Did you know light was the very first thing God spoke into existence? Without light, there could be nothing else.

A red light on the street means you are to do what? What does it mean when the light turns green? What is the most important light there is?

The sun is a very important light in the sky. Before clocks were invented, the sun told people what time it was. When the sun rose, it was time to get up. When it was directly overhead, it was time for lunch. People even created a type of clock called a sundial that used sunlight and shadow to tell the time!

The opposite of light is darkness. Darkness is the absence of light. You cannot create a darkness lamp that makes things dark. You can only make things dark when you eliminate the light.

Light moves very fast. It is faster than sound. That's why we see lightning before we hear thunder, which is the compression wave lightning creates.

Some things make the speed of light slow slightly. Are you curious about what can slow light down?

God Did That

God has no darkness in Him at all!

Let's experiment!

Let's do some experiments about light and see what we discover.

Remember to take careful notes.

- **You will Need:**
- **Two sheets of white paper**
- **Clear glass of water**
- **Two rulers, Pencil, or other long objects**
- **Flashlight**
- **Globe or ball**
- **Paper plate, tack, and pen.**

Let's experiment!

The sun is a very important light in the sky. Before clocks, people would use a sundial to tell the time. You can make your own very easily. You will need a paper plate, some tack, a pencil and a pen.

- Tack the pencil upright in the middle of a paper plate.
- Place in a sunny location. On the hour, mark the shadow line and write the time.
- Set timer for one hour and make another mark.
- Repeat hour by hour.

Have you ever wondered why the moon changes shape? Sometimes, it is perfectly round and other times it is barely there. The moon does not have light of its own. Instead, the moon reflects the light of the sun and makes it look like it possesses its own light. If the moon is reflecting light, do you think the shape of the moon might be affected by something blocking the light? Can you think of something that might block part of the light from the sun? Set up the globe in a darkened room, and pull out your flashlight. Shine the flashlight at the globe and move it around, closer, farther, and so on. Ask yourself—

- What creates the shadow on the moon?
- Can you create shadows that looks like the phases of the moon?
- What have you learned about shadows?
- What have you learned about light?

People use the phrase "traveling at the speed of light" to mean something is going super-fast. Light travels faster than sound. Scientists says that light always travels at the same speed in a vacuum. That means in space, it will always go at the same speed, but some things can slow it down just a little. Put two clear glass cups on the counter. Put a pencil in each cup. Ask yourself—

- Do the knives look the same?
- Now, pour water into one of the glasses.
- What happened?
- Do the knives look different now?
- Why do you think the knife looks different underwater?

This is called refraction. Can you think of other times this happens?

- After Noah's flood, God put a promise into the sky that He would never again destroy the earth with water. When it rains and the sun shines just right, you see this promise. Can you guess what it is? A rainbow! White light is actually created from all the colors of the rainbow mixed together. When the sunlight hits a raindrop, it slows, bends, and reflects off the inside of the raindrop. When it comes out, the light has been divided into the individual colors that make up the white light. Would you like to create your own rainbow? Here's how—

    - Fill a clear glass a little over halfway with water.
    - Set it on the edge of a stack of books with almost half the glass hanging over the edge. Be careful it doesn't fall!
    - Place white paper on the ground below the glass.
    - Now, shine your flashlight through the glass and onto the paper. You may have to move the light around, but you'll soon see a rainbow reflected on the paper!

- You can also experiment with refraction using an old CD.
    - Look at the CD. What color is it?
    - Use a flashlight to shine over a CD.
    - What different colors can you see?
    - Why do you think that happens?

Review:

As the first thing God created, light is very important. What is the opposite of light?

What makes a shadow?

Is white light really just white?

God put the rainbow in the sky as a promise He would never again do what?

What is refraction, and how does it affect objects seen under water?

God Did That

Jesus said, "I am the Light of the World." John 8:12

Bible Link:

There are many verses in the Bible talk about light.

Jesus said He was the light of the world (John 8:12, Revelations 22:5, John 9:5).

Believers are told to be lights in the world (Matthew 5:14-16).

The Bible says that God's word is a light to our path (Psalm 119:105).

What happens if we walk around in the dark? Have you ever stubbed your toe or run into something? Living in sin is the same as walking in darkness. Sin is like a big shadow that blocks us from God's light.

Jesus came to earth to save us from the darkness and shadow of sin. He said if we confess our sins, He is faithful and just to forgive our sins and cleanse us from unrighteousness (John 1:9). Jesus is light, and those who follow Him no longer have to stumble in the dark.

The Bible also says that Christians are light. Just as the moon reflects the light from the sun, we can reflect the light of Jesus to others. When we love them, serve them, forgive them, we are reflecting God's light to them. We are to be moons of Christ!

Who is the Light of the World?

What creates a shadow in our souls?

How do we reflect Jesus to other people?