

Lesson One of LIGHTLAB on PowerPoint

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This PowerPoint is a Free sample for your review

*It is a useful tool when teaching a large group of kids.
After the kids work through the book on their own
or in small groups, they can gather to review and discuss
the answers with the main teacher.*

*Please contact us through the website lightlabetc.com for
comments and questions. We would love to hear from
you !*

Let There Be Light !



Pixabay

John 8:12 When Jesus spoke again to the people, he said, “I am the **light of the world**. Whoever follows me will never walk in darkness, but will have the light of life.”

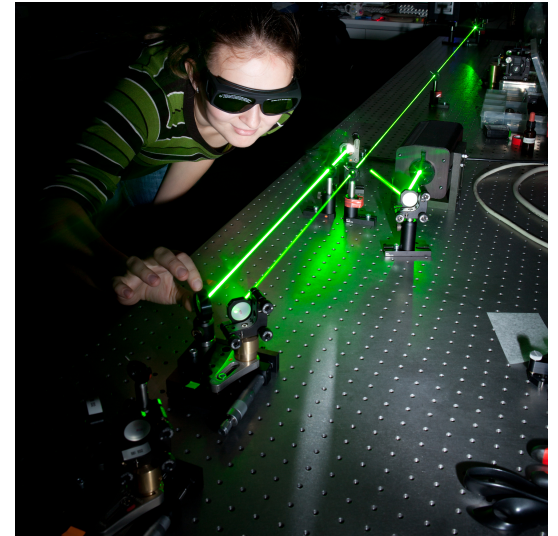
LIGHT SOURCES



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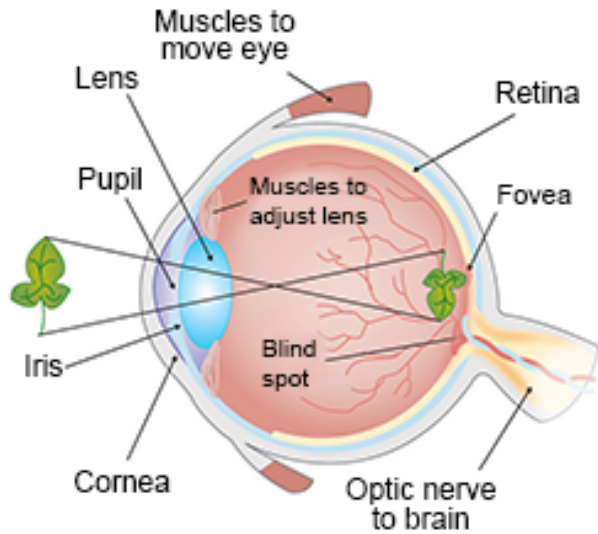


Dreamstime

Which is the most important light source ?

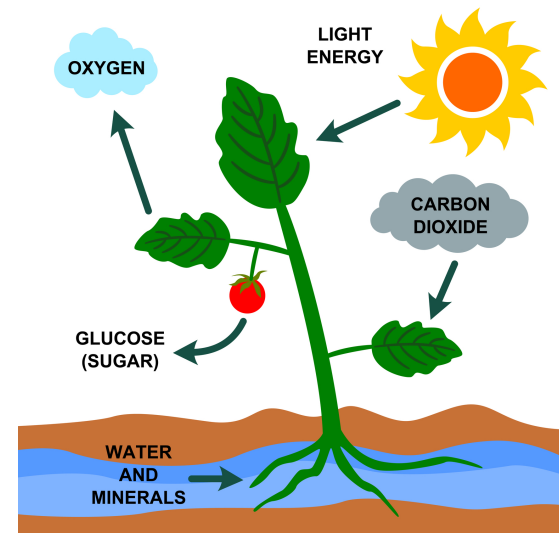
How important is Sunlight ?

It helps us see shapes and colors



Arizona Board of Regents/ASU Ask a Biologist

It helps plants to grow



Dreamstime

It keeps us warm and helps our body make Vitamin D

Who created the Sun?

GOD created the sun

The **Sun** is so **Big** that a **million Earths** can fit in it

GOD created the sun at a **perfect distance**
from the earth!

If the sun were too close, what would happen to earth ?

Everything on it would dry up and burn !

If the sun were too far, what would happen to earth ?

Everything on it would freeze!

Nothing can travel as fast as Light !

The speed of light in vacuum is about 186,000 miles/sec

It takes Light 8 minutes to get from the sun to Earth.

1.3 seconds to get from the Moon to Earth

If you could travel at the speed of light, **How many times would you be able to go around the Earth in 1 second ?**

7.5 times !!

Light at Night



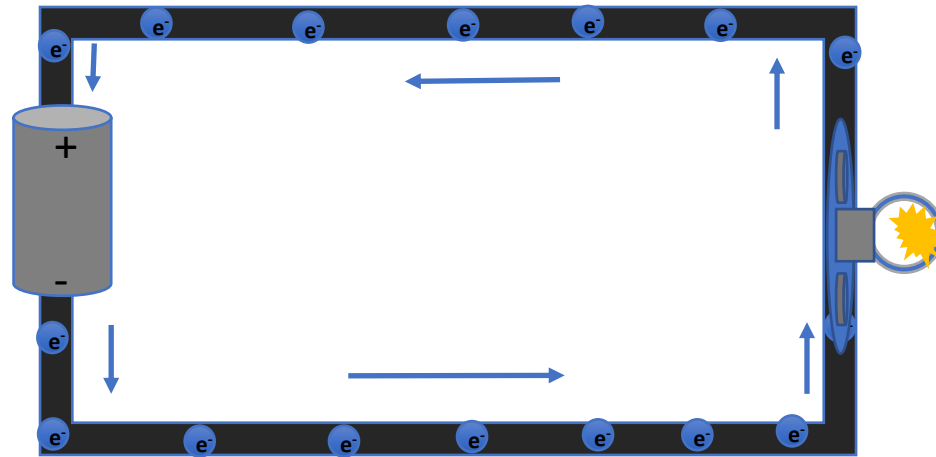
Dreamstime

Throughout history, people have relied on the moon, torches , Candles

In 1879 Thomas Edison invented the electric bulb

They are now being replaced by more efficient light Sources such as fluorescent and LED lights.

Electricity flow and the Light Bulb



The **light bulb in the circuit** glows as **electric current** flows through the filament and heats up, releasing energy in the form of light. A **battery** provides enough power for a **small** bulb, but you will need the electric **power outlet** for a **large** bulb.

In order for electricity to flow, the material must be a **conductor**. On the other hand, if the material prevents the flow of electricity we say that it is an **insulator**.

LAB TIME!

LIGHT ON/OFF



PURPOSE: Make a circuit with battery alligator clips, a bulb. Test objects made with different materials, to check whether they are **conductors** or *Insulators*.

1. Clip the two alligators on each metallic screw of bulb mounts. Connect free ends of alligator wires to ends of mounted battery. The bulb should turn on.

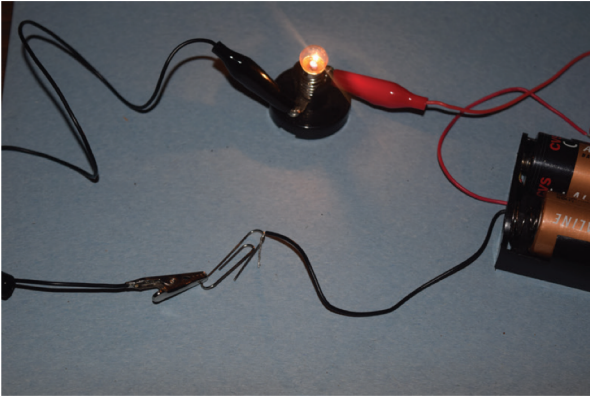
2. Disconnect one alligator from battery, and add another alligator instead. Now place the test items between them one at a time. Observe if the bulb light goes on or stays off.

3. Separate the conductors: items which turn the light bulb, from the insulators: items which do not turn the light bulb on.

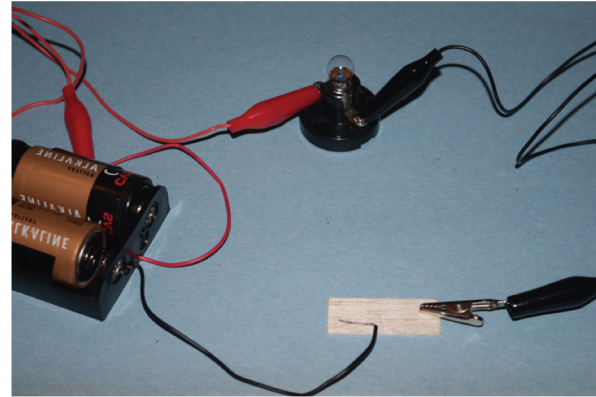
4. Place all the conductive materials in series within 2 alligator clips. Can you manage to light up the bulb ?

LAB TIME!

LIGHT ON/OFF

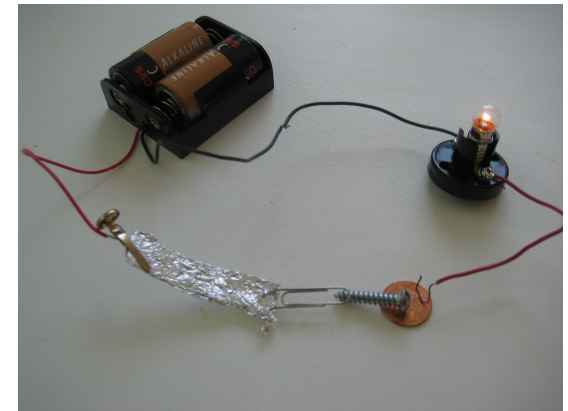


Items that make light go ON are called **conductors**



Items that keep light OFF are called **Insulators**

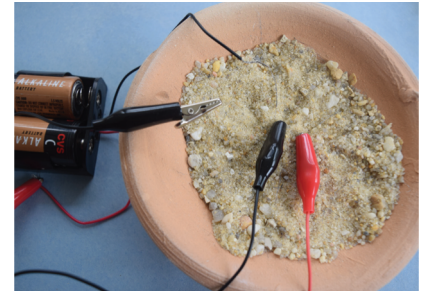
Hope you managed to light up the bulb by placing all your conductive materials in series. Make sure your batteries aren't old and that all the pieces touch.



LIGHT GLOW:

Procedure:

1. Pull a string of steel wool and grip 1cm between two alligator wires and lay on top of sand box.
2. Connect one end of alligator wire to one battery end, and put on your goggles.
3. Connect the last free alligator to the other battery end while you watch the steel.
4. The steel string should glow and break.
5. DISCONNECT BATTERY WIRE FROM ALLIGATOR before you repeat.



God's Light

The word **Light** is used **hundreds** of times in the Bible... It first appeared in:

Genesis 1:3-4

And God said, "Let there be **light**," and there was **light**. God saw that the **light** was good, and he separated the **light** from the **darkness**.

Why is God compared to Light ?

1 John 1:5, 6

*“This is the message we have heard from him and declare to you:
God is light; in him there is no darkness at all.*

*If we claim to have fellowship with him and yet walk in
the darkness, we lie and do not live out the truth.”*

Is there any darkness in light? **NO**

Which shows the truth: darkness or light ? **Light**

Since there can be no darkness in light, light is perfect.
That is why God is said to be light and is therefore holy and
pure. God is also reliable, and reveals to us the true way.

Psalm 18:28

**You, Lord, keep my lamp burning;
my God turns my darkness into light.**

Who can turn our darkness to light?

God

What does darkness in us represent?

Our sins and sorrows

John 8:12

When Jesus spoke again to the people, he said, “I am the light of the world. Whoever follows me will never walk in darkness, but will have the light of life.”

How does Jesus describe himself?

the light of the world

What does Jesus promise?

To never walk in darkness, but have the light of life

Prophecies about Jesus, the light of the world

There were around 400 prophecies about Jesus coming to the world, an event we celebrate yearly during Christmas with lights and presents.

This prophecy was revealed to the Magi who traveled thousands of miles to find Jesus. The story is told in **Matthew 2:1-11**.

The Story of the Magi

Matthew 2:1-11

Matthew 2:1-2 *“After Jesus was born in Bethlehem in Judea, during the time of King Herod, Magi from the east came to Jerusalem and asked, “Where is the one who has been born king of the Jews? We saw his star when it rose and have come to worship him.”*”

What guided the Magi?

The star

Who was the star leading to?

The king of the Jews

What did the Magi want to do?

Worship the King

Matthew 2:9-11 *After they had heard the king, they went on their way, and the star they had seen when it rose went ahead of them until it stopped over the place where the child was. When they saw the star, they were overjoyed. On coming to the house, they saw the child with his mother Mary, and they bowed down and worshiped him. Then they opened their treasures and presented him with gifts of gold, frankincense and myrrh.*

How did the Magi feel when they saw the guiding star?

They were overjoyed

What did they first do when they saw Jesus ?

They bowed down and worshiped him

What did they give him?

gifts of gold, frankincense and myrrh.

2 Peter 1:19

We also have the prophetic message as something completely reliable, and you will do well to pay attention to it, as to a light shining in a dark place, until the day dawns and the morning star rises in your hearts.

How did Peter describe the prophetic message?

Something completely reliable

How should we treat it? Pay attention to it

What is the prophetic message similar to?

A light shining in a dark place

Who does he refer to by “the morning star”? Jesus !

REFLECTIONS

- Do you prefer to walk in the light or the darkness?
- What are your thoughts about Jesus so far?

Memory Verse: John 8:12

*When Jesus spoke again to the people,
he said, "I am the light of the world.
Whoever follows me will never walk in
darkness,
but will have the light of life.*

Congratulations for completing lesson One of Lightlab “Let There Be Light!” !!

Discover more about the nature of Light, do more fun activities, and understand who God is in Chapter Two “What is This Light ?”

The website Lightlabetc.com contains more details about the book, photos of Lightlab clubbers and events, free crossword puzzles, videos and answers to questions in the book.

We would love to hear your comments about your experience with this Powerpoint and the book. For postings on the nature of light and God as light, follow us @lightlabetc on Facebook, Instagram and Pinterest!

“I think men of science as well as other men need to learn from Christ, and I think Christians whose minds are scientific are bound to study science that their view of the glory of God may be as extensive as their being is capable.” James Maxwell