



Creation Lens

Exploring the World, Discovering God

Grade Level: Grade 4

Title:

Electromagnetic Waves & Radiate Jesus' Love

Denomination: Catholic

Lesson ID: PS-G4-05-CA

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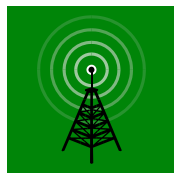
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Note: Web sites referenced in this lesson were valid at time of publication.

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PHYSICAL SCIENCE MODULE – GRADE FOUR - CATHOLIC

LESSON 5: How Light Travels: How waves Propagate and How We Return the Love of Jesus

GENERAL CONCEPT: How Light Travels: How light waves propagate and How We Return the Love of Jesus

SCIENCE LESSON CONCEPT

How is light/How are electromagnetic waves propagated?

GOAL OF SCIENCE LESSON

- Student will understand how waves, in general, are propagated
- Student will learn how light waves are propagated.

OUTCOME EXPECTED

Student will begin to understand how light travels.

MATERIALS NEEDED

W-PS-G4-05-CA

RELIGION LESSON CONCEPT

The love of Jesus is propagated by His first loving us. Our love for Jesus is shown by how we treat others.

GOAL OF RELIGION LESSON

- Student will learn that Jesus first loved us even though we are sinners.
- Student will learn that we return His love by the way we treat other people.
- Student will learn that love must radiate to others as light radiates into the darkness.

OUTCOME EXPECTED

Student will realize that how they treat others is critically linked to their love of Jesus

MATERIALS NEEDED

- Science Journal Page: HOW LIGHT TRAVELS
- Pen/pencil
- Shallow wide basin of water or a pond or fountain
- Pebbles
- Light bulb and lamp

SCIENCE METHODOLOGY

- **DEFINE:** Propagate for the students. Have them write it on the Science Journal Page.
- **SAY:** Light travels in waves. What are waves? Water in motion.
- **ASK:** What can cause the motion of the water?
- **HAVE** the student drop a pebble in the water and watch the wave action. What are waves?

- Crucifix
- Bible Selections: Jesus associating with sinners: blind, tax collector, Zacchaeus & Matthew 25: 35
- Shallow, wide bowl of water
- Pebble
- Flip chart or board
- Marker or chalk
- CD player
- Sacred Music CD

RELIGION METHODOLOGY

- **TELL** stories from the New Testament about Jesus associating with sinners.
- **SAY:** Jesus came to save sinners –you and me. He loved us as sinners and He loves us after He redeemed us.
- **SHOW** the student the crucifix.

- **SAY:** Waves are water in motion.
- .
- **SAY:** Light travels in waves too. When we turn on a lamp, energy moves through the wires to the bulb and when enough energy is present the filaments inside the bulb start to glow. The light travels in waves.
- **DRAW**))))))) waves on the board or flip chart
- **ASK:** Can you see the light waves? No, they travel too fast.
- **SAY:** Close your eyes. (Keep them closed for 10 seconds.)
- **ASK:** Can you see the light from the light bulb?(No)
- **SAY:** Open your eyes- Can you see the light from the light bulb? As fast as you could see anything that is as fast as light travels.
- **HAVE** the student record the eyes closed/eyes open demonstration on the Science Journal Page.
- **HAVE** the student record the pebble and wave demonstration on the Science Journal Page.
- **POSIT:** Light travels in waves. Light travels very fast.

- **SAY:** This is how much He loved sinners. He stretched out His arms on the cross, was nailed to the cross, suffered and died. He loved us a lot. Do we love Jesus? YES! Jesus showed His love for us.
- **ASK:** How do you show your love for Jesus? You do something for Him like He did for you. He told us what to do. Love other people as I have loved you.
- **READ** Matthew 25: 35 to the student.
- **ASK:** What did Jesus tell us to do? (feed the hungry, give drink to the thirsty, visit the sick, visit the imprisoned, clothe the naked, shelter the homeless.)
- **SAY:** So Jesus told us what to do. Let's put these ideas into our school life. Record answers on the board.

When I was without a snack or lunch, you_____?

When I got to the drinking fountain at the same time as you, you let me _____?

When I felt sick, you _____?

When I was chilly and had forgotten my sweatshirt, you _____?

- **ASK** the student to quietly reflect with Jesus on how they have been treating others. Play some quiet sacred music.

- **POSIT:** We show we love Jesus by how we treat others.

RESOURCES, LINKS AND COMPUTER LESSONS

Science Links

(Student) Kids page – includes a song to hear and a good explanation of electromagnetic spectrum

<http://www.kidsgeo.com/geography-for-kids/0056-electromagnetic-spectrum.php>

(Teacher) Teacher can have a free 14 day free trial use.

www.brainpop.com/science/energy/electromagneticspectrum/preview.weml

(Teacher) Science textbook publisher site

<http://www.hspscience.com>

Religious Links

(Student) Religion Textbook publisher

<http://www.rclweb.com>

(Teacher) Bible Stories for Kids

<http://www.ebibleteacher.com/children/toc.htm>

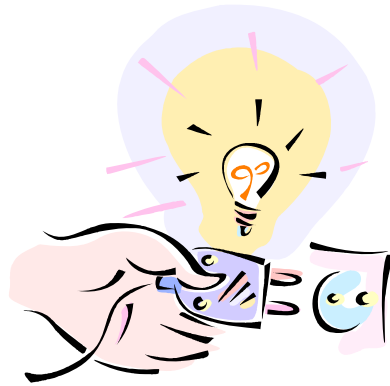
(Teacher) Bible Stories for Kids

<http://gardenofpraise.com/bibleles.htm#jesus>

(Teacher) Story, activities and coloring pages of New Testament stories to copy and print for students.

http://children.calvarychapel.com/site/curriculum_n.htm

KEY WORDS
PHYSICAL SCIENCE – GRADE FOUR - LESSON 5 - CA

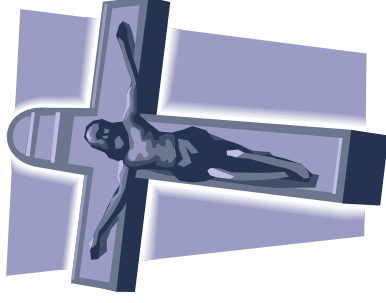


LIGHT
TRAVEL
ELECTROMAGNET WAVES
PROPOGATE
LIGHT WAVES
ENERGY
WIRES
BULB
FILAMENTS



LOVE OF JESUS
SACRIFICE
RADIATE
SINNERS
BLIND MAN
TAX COLLECTOR
ZACCHAEUS
MATTHEW 25
JUDGMENT

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