



Creation Lens

Exploring the World, Discovering God

Grade Level: Grade 6

Title:

Our Actions Affect the Environment & We are Stewards of Creation

Denomination: Catholic

Lesson ID: LS-G6-04-CA

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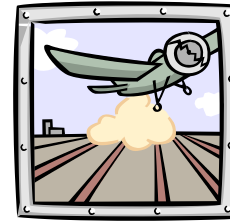
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Note: Web sites referenced in this lesson were valid at time of publication.

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LIFE SCIENCE – GRADE 6 – CATHOLIC
LESSON TITLE: Our Actions Affect the Environment & We are Stewards of Creation

GENERAL CONCEPT: Responsible stewards.

SCIENCE LESSON CONCEPT

- Human activities affect the environment

GOAL OF SCIENCE LESSON

- Students will understand that pollution can impact the survival of organisms.

OUTCOME EXPECTED

- Students will act out a scenario for living organisms and develop an understanding of human impact on their survival.

RELIGION LESSON CONCEPT

- We are stewards of creation and are responsible for protecting and preserving the environment
- We are expected to use wise judgment in stewardship

GOAL OF RELIGION LESSON

- Students will understand the impact of humans on the environment.

OUTCOME EXPECTED

- Students will be more aware of their own actions and the impact that they have on organisms.
- Students become aware that not everything is good in all amounts and at all times.

MATERIALS NEEDED

- Science Journal page: Impact on Living Organisms
- Pen or pencil
- Pipe cleaners (about 50% red, and then other colors)
- Paper lunch bags
- Bandanas (2 colors – amount based on # of students)
- 4 orange safety cones
- Stop watch
- Bottle of bleach
- 1 cup measure
- Pot of growing grass (1 for class or if working in groups, one for each group)

SCIENCE METHODOLOGY

- **REVIEW** the process of the food chain and how each level in an energy pyramid requires a different amount of energy.
- **EXPLAIN** that in the next activity the students will “become” the organisms within an eco-system.

MATERIALS NEEDED

- Religion Notebook
- Pen or pencil
- Large poster board
- Markers
- Computer with internet access

RELIGION METHODOLOGY

- **HAVE** the students do research on the use and misuse of pesticides. (fertilizing lawns, organic farming, disposing of household chemicals)
- **SET** a time limit for the research.
- **HAVE** the students create a poster for the school that

- **ASSIGN** roles for each student as follows:
Crickets – about 50% of students
Voles – about 30% of students (red bandanas)
Eagles – about 17% of students (blue bandanas)
- **EXPLAIN** that in this eco-system the crickets eat grass (the pipe cleaners), the voles eat the crickets and the grass, and the eagles eat the voles, the crickets and the grass.
- **SET UP** the perimeter with the orange safety cones and let the students know that they must stay within the safety cones.
- **GIVE** the students the paper bags and tell them that the bag is their stomach. They are to “feed” within the area. The crickets feed on the pipe cleaners.
- **SPREAD** all of the pipe cleaners around the area.
- **HAVE** all the students surround the area marked by the safety cones.
- **EXPLAIN** the rules:
 - ~ The crickets will feed first. They gather one pipe cleaner at a time and place it in their stomach (bag).
 - ~ At the teacher’s signal the voles will enter the area and feed on the crickets. The voles must gently tag the cricket on the back.
 - ~ The tagged cricket empties its bag into the vole’s bag and the cricket must exit the area and sit around the sidelines.

educates people about the misuse of pesticides in the environment.

- **SAY:** God expects us to use the virtue of Prudence (wise judgment) in caring for the earth.
- **SAY:** We could stop almost all exhaust emission air pollution and clean up the environment almost immediately. How? Ban all cars.
- **ASK:** Wouldn’t that solve most of our air pollution?
- **ASK:** Why wouldn’t that be a prudent thing to do? What problems would we face with no cars?
- **ASK:** What other imprudent things could we do in the name of saving the environment? (no animal killing, no electricity generation, no mining for coal or drilling for oil)
- **RECORD** student ideas. After the list has been made, repeat that not everything is good in all amounts and at all times.
- **THE POSTER** should include information about protecting and preserving the environment and the Religious teaching behind it.
- **HAVE** the students present their poster to the class.
- **HAVE** the students visit other classrooms to explain their poster.
- **DISPLAY** the posters around the school.

- ~ At the teacher's signal the eagles will enter the area and feed on the voles. The eagles must gently tag the vole on the back.
 - ~ The tagged vole must empty its bag into the eagle's bag and the vole must exit the area and sit around the sidelines.
 - ~ At the teacher's signal the activity will end.
- **MAKE SURE** all of the students understand the rules.
 - **SIGNAL** the crickets to enter the area and start feeding.
 - **ALLOW** about 1 minute – use the stopwatch.
 - **AT THE END** of 1 minute, allow the voles to enter the area and start feeding.
 - **ALLOW** about 1 minute – use the stopwatch.
 - **SIGNAL** the eagles to enter the area and start feeding.
 - **ALLOW** about 1 minute – use the stopwatch.
 - **AT THE END** of 1 minute stop the activity.
 - **GATHER** all the students.
 - **HAVE** those who have food in their stomachs empty out their contents and divide the colors.
 - **SAY:** The red pipe cleaners represent chemicals that have been sprayed on the lawn or grass. If any of the surviving organisms (crickets, voles, or eagles) have

- **POSIT:** Even ordinary actions around our homes can impact the environment, especially the use of pesticides. As stewards of Creation we have a duty to protect the environment from unwise use of chemicals.

more than 5 red pipe cleaners, they would not survive. The chemicals would either kill them or interfere with their ability to produce offspring.

- **CHART** how many crickets, voles, and eagles would survive and how many would not survive.
- **DESCRIBE** how the chemicals made their way through the food chain.
- **TALK ABOUT** the survival rate of organisms.
- **HAVE** the students write a reflection paper about the activity.
- **SAY:** Let's do an experiment which will demonstrate that what we do can impact our environment and ourselves.
- **SHOW** the students the pot of growing grass seed.
- **SAY:** Imagine that this is an entire field of grass on which a rancher has cows or sheep grazing. Whatever the cow or sheep eats becomes part of the animal. Some of it stays with the animal for a long time becoming the meat and fat. Some of it passes through the animal.
- **SHOW** the students the bottle of bleach.
- **SAY:** This is an ordinary bottle of bleach used for doing laundry. It will take out stains from clothing. It is poison if ingested by people or animals. Our sewage and water filtration plants can clear out the bleach from our water because it is diluted.

- **MEASURE** one cup of bleach.
- **SAY:** The farmer has some weeds growing among his good grass. He wants to get rid of the weeds since they don't provide good nutrition for his animals. So he applies a weed killer to the field.
- **POUR** the cup of bleach on the pot of grass.
- **HAVE** the students draw and record this experiment on the Science Journal page: Impact on Living Organisms.
- **HAVE** the students observe how quickly the bleach kills the grass.
- **SAY:** If this kind of poison kills the grass, think of what it would do to animals that eat the grass. Sometimes the weed killer (poison) is washed away by rain into the streams and ponds where the cattle and sheep drink.
- **ASK:** Why is it important to apply poisons carefully and dispose of them carefully? (can enter our food chain)
- **POSIT:** Even an ordinary action of spraying the lawn can have an impact on the survival of organisms.

SCIENCE LINKS

www.wwf.org.uk/filelibrary/pdf/contamination.pdf

[Chain of Contamination, The food link](#) and extent of chemical contamination of wildlife and humans. ... their way into the environment, food, wildlife and humans. This global chain of contamination is the perfect ... Good background for teachers and parents.

www.show.com/...effects-chlorine-bleach-environment.html

Chlorine Bleach is a common household product with many uses. Cleaning...

www.associatedcontent.com/article/2891718/leaching...of

Leaching occurs when soil becomes saturated and the area between the soil particles fills with water. The water soaks down carrying soil nutrients and chemicals with it.

RELIGION LINKS

<http://www.sadlierreligion.com/webelieve/gather/cfm?page=katri>
[na](#)

We Care for the Gifts of Creation Grade 6 Chapter 2: Give households one of six small creation symbols as they enter.

www.wilderdom.com/games/EnvironmentalActivities.htm

Description of Environmental Education Activities & Games: Old Nature, new Nature: environmental..Has been used with adults, youth, and children.

KEY WORDS

- ECO-SYSTEM
- FOOD CHAIN
- ENERGY CHAIN
- CHEMICAL
- PESTICIDE
- LEACHING

KEY WORDS

- PESTICIDES
- ORGANIC
- ORGANIC FARMING
- FERTILIZER
- WEED KILLER
- HOUSEHOLD CHEMICALS
- STEWARD