



Creation Lens

Exploring the World, Discovering God

Grade Level: Grade 8

Title:

Sustainability & Stewards of Creation

Denomination: Catholic

Lesson ID: PS-G8-03-CA

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

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PHYSICAL SCIENCE – GRADE 8 - CATHOLIC **LESSON TITLE: Sustainability & Stewards of Creation**

GENERAL CONCEPT: Wise use of energy.

SCIENCE LESSON CONCEPT

- Definition of energy
- Definition of sustainability

GOAL OF SCIENCE LESSON

- Students will research the various ways energy is created, transported, and used.
- Students will research the human impact of energy consumption.

OUTCOME EXPECTED

- Students will understand the origin of energy and the amount consumed and learn about the kinds of energy the local community uses.

RELIGION LESSON CONCEPT

- Biblical call to be stewards of creation
- Church and school community's ability to cause change

GOAL OF RELIGION LESSON

- Students will read and reflect on the Old Testament call to be stewards of creation.
- Students will recognize the need to be stewards of creation in their own community.

OUTCOME EXPECTED

- Students will create a school or church wide campaign that promotes sustainable and conserved energy use.

MATERIALS NEEDED

- Science Journal page: Energy
- Textbook (environmental exploration sections)
- Computer and Internet access
- Copies of lyrics for “Big Yellow Taxi” (Paved Paradise)
- Copies of electric bills for the school for one year

SCIENCE METHODOLOGY

Preferable method is that the experiments are done by students in small groups, but demonstration is acceptable.

- **GIVE** each student a copy of the lyrics for “Big Yellow Taxi” by Counting Crows. (see Science Links section for lyrics)
- **OPTION:** Play the song if you have a copy.
- **HAVE** the students read the lyrics silently.
- **HAVE** the students highlight the following phrases: paradise, tree museum, “don’t know what you got ‘til it’s gone, Why you wanna giving it all away.”
- **ASK:** What do these lyrics have to do with energy and sustainability?
- **ELICIT** reactions to this selection.

MATERIALS NEEDED

- Bible
- Poster board
- Markers
- Pictures

RELIGION METHODOLOGY

- **READ** Genesis 1: 1-31, Genesis 2: 1-25.
- **ASK:** How does God want us to care for creation?
- **DEFINE:** Steward (someone responsible for caring for something)
- **CREATE** an action plan: institute energy conservation plan, a recycle program, etc. – the idea is to raise student awareness. Most recycle plans don’t really accomplish much from a science point of view, but can teach religious morals and values.
- **PUBLICIZE** the plan in the community.
- **EXECUTE** the action plan.
- **TRACK** the program.

- **BRAINSTORM**/activate prior knowledge on energy creation, transportation, and consumption. Chart ideas.
- **HAVE** the students read from a textbook or online how energy is created, transported, and consumed.
- **HAVE** the students research the cost of local energy generation and kilowatt hour usage at school or home.
- **CALCULATE** current cost.
- **DISCUSS** ripple effect of a joint effort to conserve energy.
- **DISCUSS** benefits of energy conservation.
- **CREATE** charts to reflect the research and discussions.
- **SAY:** We have calculated our local electricity cost. Here are some national percentage figures for energy sources. Electricity is 50% coal, 20% nuclear, 6% hydropower, and roughly 20% natural gas. (see Science Links section)
- **ASK:** What energy sources are missing? (solar and wind)
- **ASK:** How could solar or wind energy production reduce some of the other production costs?
- **POSIT:** There are many sources of energy. Some of them are sustainable and some are not.

- **PUBLISH** the results.
- **CELEBRATE** students' successes and efforts with a class treat.
- **POSIT:** As stewards of God's creation, each person in this community has the responsibility to recycle, conserve energy by turning off lights when not being used, etc., because God has made us stewards of His creation.

SCIENCE LINKS

<http://www.elyrics.net/read/c/counting-crows-lyrics/big-yellow-taxi-lyrics.html>

Counting Crow Big Yellow Taxi lyrics; featuring Vanessa Carlton [Adam Duritz] They paved paradise and put up a parking lot With a pink hotel, a boutique...

www.eia.gov/kids/energy.cfm?page=2

EIA Energy Kids –Energy Sources Nonrenewable. About 92% of the energy consumed in the United States comes from non-renewable energy sources, which include uranium ore and the fossil fuels – coal...Good site for students to navigate and teacher information such as energy converter.

RELIGION LINKS

<http://climate.nfcym.org>

Catholic Youth: Care for Creation and the Poor Youth Leading the Way: Stewardship and Solidarity..."My dear friends, God's creation is one and it is good...The EPA is urging teens to Learn, Act, and Lead is key..."

KEY WORDS

- ENERGY
- CONSERVATION
- TRANSPORTATION
- SUSTAINABILITY

KEY WORDS

- CREATION
- GENESIS
- STEWARD
- ACTION PLAN
- MORALITY
- RESPONSIBILITY