



Creation Lens

Exploring the World, Discovering God

Grade Level: Grade 4

Title:

Rocks: Kinds and Cycle & Jesus, Our Rock

Denomination: Catholic

Lesson ID: ES-G4-05-CA

Contact Info:

Exploring the World, Discovering God (EWDG)
Institute for Theological Encounter with Science & Technology (ITEST)
20 Archbishop May Drive, Suite 3400A
St. Louis, MO 63119

EWDG email: EWDG-Info@creationlens.org

EWDG web site: www.creationlens.org

ITEST web site: www.faithscience.org

Ph: 314.792.7220

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

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EARTH SCIENCE MODULE – GRADE FOUR - CATHOLIC LESSON 5: The Rock Cycle and Ways of Praying with Jesus

GENERAL CONCEPT: The Rock Cycle: Kinds of Rocks and Ways of Praying

SCIENCE LESSON CONCEPT

There are three kinds of rocks (igneous, sedimentary, and metamorphic).

GOAL OF SCIENCE LESSON

- Student will be able to identify the three kinds of rocks.
- Student will be able to describe how forces act on these rocks.

OUTCOME EXPECTED

Student will be able to describe the Rock Cycle in writing.

MATERIALS NEEDED

- Igneous, sedimentary and metamorphic rocks
- Three large cards with definition of one type of rock on

RELIGION LESSON CONCEPT

Our faith changes over the years. It is very powerful and exciting. We rely on Jesus, our Rock.

GOAL OF RELIGION LESSON

Student will experience several ways to pray to God.

OUTCOME EXPECTED

Student will find the best way for her/him to pray.

MATERIALS NEEDED

- Prayers section of Religion Textbook
- Religion Notebook for Journaling

- Eye dropper
- Small container of water
- 3 small piles of sand
- Plastic sheet on which to do the experiments
- Small electric or battery operated fan
- Science Journal Page: KINDS OF ROCKS
- Pen/pencil
- 3 large cards with one of the following words on each card: IGNEOUS, SEDIMENTARY, METAMORPHIC

SCIENCE METHODOLOGY

- **PUT UP** the three cards with the kinds of rocks on them.
- **HAVE** the student copy the words on the Science Journal Page.
- **DISCUSS** what each word means.
- **PUT UP** the definition cards and see if the students match them with the kinds of rocks.
- **ALLOW TIME** for the student to handle and examine each rock specimen.
- **SAY:** While all rocks are hard, some are more

- Rosary for each student and a card on how to pray the rosary
- Copies of a litany
- Guided meditation CD or book
- Pen
- CD player

RELIGION METHODOLOGY

- **ASK:** What is prayer? List the answers.
- **ASK:** How do you pray? What do you do? If someone who has never prayed before, asked you, what would you tell them? Discuss and record answers.
- **SAY:** Prayer is becoming aware of being in God's Presence and then talking to Him and listening to Him. There are many good ways to pray. Each person needs to try a few ways of prayer and then find the way that puts you in a close conversation with God. Today we are going to try a few different ways of praying.
- **SAY:** The first way is by using prayers that everyone

resistant to force than others.

- **ASK:** What forces might be strong enough to cause the rock to change? To get bigger, smaller, change shape, change color? Discuss and record answers.
- **PUT** the rocks on the plastic sheet.
- **SAY:** You have to use your imagination for this.
- **SAY:** Suppose you could watch some force push this rock thousands or millions of years, what would happen? (Move).
- **SAY:** Suppose the force was water dripping, drop by drop down on to the rock? (Demonstrate with the water and eye dropper).
- **SAY:** Not much happened, did it? Why? (The rock was so hard and the water was so little.)
- **SAY:** Now let's exchange the three kinds of rocks for Three piles of sand. If I drop the water on the sand, what do you think will happen?
- **HAVE** the student write down the prediction on the Science Journal Page by the word: WATER.
- **DROP** the water faster and faster on to one pile of sand. Gradually the sand will start to form a ditch.
- **SAY:** Just like the sand, the water will erode the rock. The harder the rock, the slower the erosion.

knows. Let's be quiet—hands, feet, mouths, and quiet our thoughts. God is here with us. Open your heart to God! (Pause) Now let's say the Our Father and mean every word. Don't just rattle it off. Take your time and say it slowly to yourself. (Pause) Now let's say it slowly together. Our Father.....

- **PRAY** the Hail Mary and the Glory Be the same way.
- **SAY:** Let's do some research. Open your Religion Book to the section on prayers.
- **ASK:** What other prayers are there? Let the student find the prayers and accept the answers.
- **SAY:** These are great prayers. We can use them when we are angry, excited, or sad. These prayers work really well when we can't seem to think very well.
- **SAY:** Another type of prayer is litany. A litany is a long chain of prayers linked together.
- **GIVE** the student a copy of a Litany.
- **SAY:** Take a good look at it. What do you notice? (name or title followed by a request. Queen of heaven, pray for us –for example. Let's pray this litany because we are calling on (Mary, Sacred Heart, and Saints) to help us.
- **PRAY** the selected litany.
- **SAY:** A Third type of prayer is called a Guided Meditation. It takes a leader to read or guide you and

- **ASK:** Did you predict correctly? We always learn something valuable whether our prediction was correct or not.
- **SAY:** For the third force let's take ice. If I cover the rocks with ice and let them freeze over the winter and then in the spring, the ice melts, what do you predict would happen to the rock?
- **SAY:** Write ICE on your Science Journal Page and make your prediction. (Pause) If you predicted the rocks would crack, your prediction was correct. Why was it correct? Because the ice was deposited as rain or snow and would seep into the cracks in the rock. Then it would freeze and expand in the rocks, cracking them bit by bit.
- **ASK:** What conclusions can we state from our demonstrations?
- **POSIT:** There are three kinds of rock: igneous, sedimentary, and metamorphic. Forces like wind, water, and ice can cause them to change.

You use your imagination to picture yourself as the leader tells you. First, you need to sit comfortably, but not ready to fall asleep. You should follow the leader's instructions. Let's try it.

- **PUT ON** the CD recording or the CD with quiet music and read the meditation.
- **HAVE** the student write in their Religion Notebook which kind of prayer they would like to do more often and why.
- **POSIT:** Jesus is the Rock of our Faith and through prayer we enter into listening and speaking to Him.

RESOURCES, LINKS AND COMPUTER LESSONS

Science Links

(Teacher) Rocks from Science Publisher

<http://www.hspscience.com>

(Student) Click on address; then click on To find out about Rocks and minerals enter here; Scroll down to # 4 – To Rock Cycle

<http://www.rocksforkids.com>

(Teacher and student)- Great video and explanation of the formation of rocks.

<http://www.childrensmuseum.org/geomysteries/faq1.html>

(Teacher) View diagrams and illustrations of how rocks are formed.

<http://www.fi.edu/fellows/fellow1/oct98/create/index.html>

Religious Links

(Teacher) Beginning to pray information

<http://www.thedome.org/SeekGodWithUs/NourishSpiritOnline/WaysOfPrayer/BeginningToPray.html>

(Teacher) Devotional Prayer info: Rosary, Stations of the Cross, Litanies

<http://www.thedome.org/SeekGodWithUs/NourishSpiritOnline/WaysOfPrayer/DevotionalPrayer/index.html>

(Teacher) Lection Divina – Meditative Prayer

<http://www.thedome.org/SeekGodWithUs/NourishSpiritOnline/WaysOfPrayer/ContemplativePrayer/Lectio.html>

(Teacher) Some relaxation meditative scripts and exercises. Note prayer. See site map; then click on Meditation for Kids.

<http://www.susankramer.com>

(Teacher) A short guided-meditation – Lying Down Meditations

<http://morebooksandthings.blogspot.com/2007/03/guided-meditation.html>

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



ROCK CYCLE
IGNEOUS
SEDIMENTARY
IDENTIFY
FORCES
EXAMINE
SPECIMEN
EROSION
CONCLUSION

FAITH
RELY
PRAY
PRINTED PRAYERS
JOURNALING
ROSARY
LITANY
MEDITATION
LISTEN TO JESUS
TALK TO JESUS

KEY WORDS
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