



Creation Lens

Exploring the World, Discovering God

Grade Level: Grade 7

Title:

Physical and Chemical Properties of Matter & Four Properties (Marks) of the Church

Denomination: Catholic

Lesson ID: PS-G7-02-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 7 - CATHOLIC
LESSON TITLE: Physical and Chemical Properties of Matter & Four Properties (Marks) of the Church

GENERAL CONCEPT: Marks of identify.

SCIENCE LESSON CONCEPT

- Physical and chemical properties of matter
- Properties can be observed and changed

GOAL OF SCIENCE LESSON

- To show and explain the physical and chemical properties of matter.

OUTCOME EXPECTED

- Students will be able to explain and demonstrate the properties of matter.

RELIGION LESSON CONCEPT

- The Church has four properties or marks
- The four marks can be observed

GOAL OF RELIGION LESSON

- To show and explain the four marks of the Church using the Nicene Creed.

OUTCOME EXPECTED

- Students will be able to identify and explain the four marks of the Church.
- Students will understand why the marks of the Church are important.
- Students will be able to explain what the marks of the Church tell us about the Church.

MATERIALS NEEDED

- Chart of physical and chemical properties of matter
- Apple or banana (1 per student)
- Knife to cut apple or banana
- Paper towel (one sheet per student)
- Lemon juice (enough for each student to sprinkle on a slice of fruit)
- Science Journal page: Physical and Chemical Properties of Matter
- Pen and pencil
- Lab Report form or your directions

SCIENCE METHODOLOGY

- **SAY:** On your Science Journal page write “Physical Properties of Matter”.
- **DISTRIBUTE** the apples or bananas.
- **ASK:** What words can you use to describe this apple or banana? (apple: red, round, smooth, firm; banana: yellow, oblong, curved, smooth, ridged, pointed at end)
- **SAY:** These are the physical properties. You can see them and feel them.

MATERIALS NEEDED

- Copy of the Nicene Creed
- Religion Notebook
- Pen or pencil
- List of the Popes

RELIGION METHODOLOGY

- **ASK:** What is the Church?
- **ACCEPT AND RECORD** student answers.
- **SAY:** The Church is the Risen Christ in time. We are the Church. We are united in Christ Jesus in our Baptism. The Church is a living organism.
- **SAY:** Recall in science class how we learned that all matter has physical and chemical properties. Likewise, the Church, instituted by Jesus Christ, has four

- **HAVE** the students draw and label the physical properties of the apple or banana.
- **SAY:** The apple or banana has other properties – chemical properties that can change. We can observe them.
- **HAVE** the students cut the apple open and place the two halves on the paper towel or peel the banana, break it in half and place it on the paper towel.
- **HAVE** the student sprinkle lemon juice on one part of the fruit and replace it on the paper towel.
- **HAVE** the student write LEMON JUICE by the piece of fruit covered in lemon juice.
- **HAVE** the student draw the pieces of fruit on the paper towel on the Science Journal page. Have them label one piece “Lemon Juice”.
- **HAVE** the students observe the fruit until it begins to turn brown or remains its original color.
- **EXPLAIN** that oxygen coming in contact with the fruit causes the fruit to turn brown which is a chemical reaction.
- **HAVE** the student draw the chemically changed fruit on the Science Journal page.
- **ASK:** Did both pieces of fruit turn brown? (no) Why? (the chemicals in the lemon juice retarded the oxygen from

properties that we call marks.

- **ASK:** What are the four marks of the Church? (one, holy, catholic, apostolic)
- **GIVE** each student a copy of the Nicene Creed and ask them to find the four marks: one, holy, catholic, and apostolic.
- **HAVE** the students write the Four Marks of the Catholic Church in their Religion notebook.
- **ASK:** What do we mean when we say the Catholic Church is one? (united)
- **GIVE** an example of that unity. (same hierarchy, same precepts of the Church, same Creed)
- **ASK:** What do we mean when we say the Catholic Church is holy? (instituted by Christ – God)
- **ASK:** Does that mean that everyone in the Church is holy? (no - we are striving to be holy)
- **SAY:** The Church is holy because Jesus could not create something that was sinful or evil.
- **ASK:** What do we mean when we say the Catholic Church is catholic with a small “c”? (It is universal, the same church throughout the world. The catholic mind is always open to the truth in science, in other cultures, and in other religions.) NOTE: The Church teaches that the Catholic Church has the fullness of truth.

reaching the apple or banana)

- **RECAP:** All matter has properties. What are the physical properties of your desk? (wooden, smooth, color, texture, shape) What are chemical properties of your desk? (burnable, can be stained)
- **POSIT:** All matter has properties which can be observed and changed.

- **ASK:** Can you give me an example of how the Church is universal? (same Mass no matter where you travel, same sacraments, same laws)
- **ASK:** What does it mean that the Catholic Church is apostolic? (traces its origin in an unbroken line to the apostles)
- **EXPLAIN** that from the time Jesus made Peter the first Pope and sent the Apostles out on their mission, the Catholic Church has had an unbroken line of Popes and Bishops from Jesus' time to today. When Jesus ascended into heaven, he sent the Holy Spirit to be with the Church and to guide the Church. The four marks of the Church are evidence of the presence of the Holy Spirit in the community.
- **SHOW** the students the list of all the Popes.
- **EXPLAIN** that each Bishop can trace his ordination by another bishop, back and back, bishop by bishop to one of the Apostles.
- **ASK:** How are we to be apostolic? (spread the news about Jesus by words and action)
- **ASK:** How are we to be one? (be united and firm in our beliefs)
- **ASK:** How are we to be holy? (try to obey God's commandments and the precepts of the Church; receive the sacraments, go to Mass)

- **ASK:** How are we to be catholic? (accept everyone who comes to Church as a brother or sister in Christ, be open to the truth in every setting)
- **HAVE** students write an essay on “The Four Marks of the Church as Evidence of the Presence of the Holy Spirit in the Church Community.”
- **BE SURE** you have explained the requirements and rules for this essay.
- **NOTE:** Here is one suggestion submitted by a Pilot Teacher for the essay.

REPORT ON THE CATHOLIC CHURCH OUTLINE

- I. INTRODUCTION: You need to write a topic sentence.
- II. BODY:
 - A. The Church is ONE.
 - 1. Define what “one” means.
 - 2. What does being “one” look like? (use adjectives)
 - 3. Give example of the Church being “one” in real life.
 - B. The Church is HOLY.
 - 1. Define what "holy" means.
 - 2. What does being "holy" look like? (use adjectives)
 - 3. Give examples of the Church being "holy" in real life.

C. The Church is CATHOLIC.

1. Define what "catholic" means.
2. What does being "catholic" look like?
(use adjectives)
3. Give examples of the Church being "catholic" in real life.

D. The Church is APOSTOLIC.

1. Define what "apostolic" means.
2. What does being "apostolic" look like?
(use adjectives)
3. Give examples of the Church being "apostolic" in real life.

III. Closing Paragraph

- A. Briefly summarize the key concepts.
- B. Explain how this information will help you in the future.

- **GIVE** any other directions for writing this essay including the due date, references, etc.
- **POSIT:** The Catholic Church has four marks or properties which can be observed.

SCIENCE LINKS

www.suite101.com/content/physical-and-chemical

Physical and Chemical Properties of Matter: An Investigation. Children study about matter in physical science, along with the characteristic properties of matter called the physical and chemical. Each characteristic is typically...

www.chem4kids.com/files/matter_chemphys.html

Chemical vs. Physical Changes. It is important to understand the...Physical changes are about energy and states of matter. Chemical changes happen on a molecular level.

www.svsy.edu/.../uploads/science/mPS3_Properties.htm

Chemical Properties - Matter...for Kids. A good source enabling...of physical and chemical properties such a boiling. Many links are included here.

RELIGION LINKS

www.romancatholic.ws/html/fourmarks.html

The Four Marks of the Catholic Church The Four Marks of the Catholic Church are: One - there is a bond present uniting all members under the Pope. ... Catholic - there is a universality in the Church that makes her ... Links to Nicene Creed.

<http://jeopardylabs.com/play/7th-grade-ccd-final-jeopardy>

What are the four marks of the Church?...7th Grade CCD Final Jeopardy Number of Teams. Play Jeopardy about the Four Marks of the Church online.

KEY WORDS

- PROPERTIES
- MATTER
- PHYSICAL PROPERTIES
- CHEMICAL PROPERTIES

KEY WORDS

- FOUR MARKS
- ONE
- HOLY
- CATHOLIC
- APOSTOLIC