



Grade Level: **Grade 4**

Title:

Physical and Chemical Changes & Spiritual Changes

Denomination: **Christian**

Lesson ID: **PS-G4-09-CH**

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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PHYSICAL SCIENCE – GRADE 4 - CHRISTIAN
LESSON TITLE: Physical and Chemical Changes & Spiritual Changes

SCIENCE LESSON CONCEPT

- Physical Properties
- Physical Changes
- Chemical Properties
- Chemical Changes

GOAL OF SCIENCE LESSON

- Students will describe, identify, and observe physical properties of matter.
- Students will describe, identify, and observe physical changes of matter.

RELIGION LESSON CONCEPT

- Spiritual change & growth
- Pre-Easter opportunities for growth
- Reconciling with God as a time of spiritual growth

GOAL OF RELIGION LESSON

- Students will discuss how we must continue to grow.
- Students will experience how before Easter we have the opportunity to spiritually change.
- Students will experience how reconciling with God gives

- Students will describe, identify, and observe chemical properties of matter.
- Students will describe, identify, and observe chemical changes of matter.

OUTCOME EXPECTED

- Students will be able to describe the physical and chemical properties of matter.
- Students will be able to describe the physical and chemical change process of matter.

MATERIALS NEEDED

- Borax powder – enough for teacher experiment and enough for each student’s experiment
- Elmer’s white glue
- Food coloring
- Distilled water
- Plastic baggies– one per student and teacher
- Small plastic cups (small plastic condiment cups work well)
- Empty 2 liter soda bottles

us the opportunity to spiritually grow.

OUTCOME EXPECTED

- Students will be able to apply the opportunities for spiritual growth through Pre-Easter observances.
- Students will be able to apply the opportunity for spiritual growth through reconciliation with God.

MATERIALS NEEDED

- Cut-out of a dove
- Green and brown construction paper –1 piece per student
- Scissors
- Glue
- Chalkboard or chart paper

- Wipes and paper towels for clean up
- Science Journal Page: Physical Properties and Change
- Science Journal Page: Chemical Properties and Change
- Pen
- Markers or colored pencils

SCIENCE METHODOLOGY

(Teach lesson after you teach the physical and chemical properties and changes.)

- **DISCUSS** and observe the physical properties of water.
- **HAVE** students take notes on the Science Journal Page: Physical Properties and Change.
- **DISCUSS** and observe the physical properties of white glue.
- **DISCUSS** and observe the physical properties of borax powder.
- **ASK:** Can you tell the chemical property of water, of glue, and of borax by looking at them?

RELIGION METHODOLOGY

- **SAY:** Our soul is not something we can see inside of us. We can know what our spiritual life is like through our thoughts and actions.
- **ASK:** What are some actions that we do that show others our spirituality? (sharing, loving, helping, etc.)
- **SAY:** Before Easter and when we ask God for forgiveness, we try to change our lives. We think about the things we do. We try to think about how some actions take us away from God and what could we do to change those.
- **ASK:** What could you do during the Pre-Easter time that would help you to grow spiritually – to become more like Jesus?
- **LIST** the students' suggestions on the chalkboard or

MIX 1 bottle of glue to one bottle of water (equal portions).

- **DISCUSS** what physical change but not chemical change takes place.
- **MIX** water and borax in the 2 liter bottle – Equal portions.
- **ASK:** Are there chemical changes?
- **LET** the students feel that the bottom of the bottle gets warm.
- **GIVE** each student a plastic baggie, small cup of glue and water mixture and a small cup of borax. (equal amount of glue/water mixture and borax)
- **HAVE** the students pour the glue mixture into the bag and then add the borax.
- **HAVE** the students knead and mix the borax, water, and glue mixture until it is a ball.
- **DISCUSS** the chemical changes that took place.
- **OPTIONAL:** You can add food coloring to the ball and mix it, but it is not chemical change – only physical change.
- **POSIT:** Matter has both physical and chemical properties. Matter can be changed physically and chemically.

chart.

- **GIVE** each student a dove cut-out to decorate with their name and to place on a stem with the leaves cut out of construction paper.
- **HAVE** the students write what they can do before Easter to grow spiritually on the leaves of their dove flower.
- **LEAD** the students in a prayer asking God for forgiveness.
- **ALLOW** quiet time for each student to privately speak to God.
- **ASK:** How would asking God to forgive us be a way of growing spiritually more like Jesus? (sorrow for sins, forgiveness, intent to do better and to avoid sin)
- **POSIT:** Spiritual growth opportunities are given to us daily but especially before Easter and at the time of asking God to forgive our sins.

SCIENCE LINKS

www.umd.umich.edu/sep/students/jolenew/jolenew_giless.html

Properties of Matter Grade 4 This is a five lesson plan unit on the **properties of matter** to be taught in the **4th grade**.

www.cmhouston.org/.../2096/properties%20of%20Matter.pdf

4th Grade Supplemental Learning Activities: Properties of Matter 4th Grade Supplemental Learning Activities: **Properties of Matter** ... Activity 1: Introduction to **Properties of Matter** (40 minutes) ...

RELIGIOUS LINKS

[www.kidssundayschool.com/Gradeschool/Topics/Pages/...Children's Sunday School Topic Page - Forgiveness](http://www.kidssundayschool.com/Gradeschool/Topics/Pages/...Children's%20Sunday%20School%20Topic%20Page%20-%20Forgiveness)

Children's **Sunday School** Activity - After taking balled-up ... and Eve in the Garden of Eden. 1 week **Grades 2-4** ... Talk will help demonstrate the power of **God's forgiveness** ...

www.kidssundayschool.com/Gradeschool/Lessons/1prayer03.php

Children's **Sunday School** Lessons - Why Pray? (Lesson 3) Admit your sins to **God**, ask for His **forgiveness** through faith that ... 4) What does the letter T in the word ... exciting lesson plan from the Kid's **Sunday School** ...



KEY WORDS

- MATTER
- PROPERTY
- PHYSICAL PROPERTIES
- CHEMICAL PROPERTIES
- PHYSICAL CHANGES
- CHEMICAL PROPERTIES



KEY WORDS

- GROWTH
- CHANGE
- FORGIVENESS
- SORROW FOR SINS

KEY WORDS



MATTER

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