



Grade Level: **Grade 8**

Title:

A Gentle Wind on the Earth & Holy Spirit: A Gentle Wind

Denomination: **Catholic**

Lesson ID: **ES-G8-03-CA**

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

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EARTH SCIENCE – GRADE 8 – CATHOLIC
LESSON TITLE: A Gentle Wind on the Earth & Holy Spirit: A Gentle Wind

GENERAL CONCEPT: Winds

SCIENCE LESSON CONCEPT

- Weather: temperature and air pressure

GOAL OF SCIENCE LESSON

- Students will describe how temperature and air pressure are related.
- Students will describe how winds are created and the effect they have on weather patterns.

OUTCOME EXPECTED

- Students will learn how winds are created.

RELIGION LESSON CONCEPT

- Holy Spirit guiding the Church

GOAL OF RELIGION LESSON

- Students will describe how the Holy Spirit has guided the Church.
- Students will trace how the Holy Spirit has brought about change in the Church.

OUTCOME EXPECTED

- Students will see how the Holy Spirit guides the Church.

MATERIALS NEEDED

- Science Journal page: Wind, Temperature, Air Pressure
- Pen or pencil
- Thermometer
- Barometer
- Teacher constructed one week “Weather Conditions” chart
- Graph paper
- Red marker or colored pencil
- Blue marker or colored pencil
- Ruler
- World map or at least map of your country

MATERIALS NEEDED

- Religion Notebook
- Pen or pencil
- Bible

Activity # 1 – Windsocks

- Construction paper or cloth
- Glue
- Scissors
- Yarn or string
- Needles and thread if using cloth

Activity # 2 - Flames

- Flame patterns
- Red construction paper or red cloth
- Scissors
- Marker

SCIENCE METHODOLOGY

- **SHOW** the students a weather thermometer and explain how to read it in Fahrenheit and Celsius degrees.
- **MOUNT** the weather thermometer outside the classroom so that it is visible from inside the classroom.
- **SHOW** the students a barometer.
- **EXPLAIN** how a barometer works and how to read it.
- **HAVE** students observe and record the temperature and air pressure for one week on the Weather Conditions chart.
- **EXPLAIN** the relationship between temperature and air pressure.
- **ADD:** Most barometers have only a range of readings from about 28 to 31 degrees. That's because the pressure just about never gets outside of that range (at sea level). It would also be appropriate to introduce more scientific units for measuring pressure. One "bar = 1000 millibars" is the pressure of one atmosphere of air, meaning the weight of a column of air that goes all the way up to space. That is about 14.7 pounds per square inch of pressure.
- **HAVE** students graph the temperature in red and air pressure in blue that they recorded for one week.
- **COMPARE** the two graph lines.

RELIGION METHODOLOGY

- **ASSIGN** one of the following Scripture passages to each student.
 - ~ Genesis 1: 2
 - ~ Genesis 2: 7
 - ~ Job 33: 7
 - ~ Psalm 104: 4
 - ~ 1 Kings 19: 11
 - ~ 1 Kings 19: 12-13
 - ~ Matthew 14: 23-32
 - ~ Mark 13: 26-27
 - ~ Luke 8: 23-24
 - ~ John 3: 5-8
 - ~ Acts 2: 1-4
 - ~ Titus 3: 4-6
 - ~ Revelation 7: 1-3
- **HAVE** each student report to the class about what the Scripture passage says about the wind.
- **HAVE** the class take notes on each Scripture report.
- **REVIEW** with the students how wind changes the area through which it travels.
- **ASSIGN** the students one of the following events in history where the Holy Spirit has guided the Church.
 - ~ Matthias chosen – Acts 1: 12-26
 - ~ Pentecost – Acts 2: 1-4
 - ~ First Converts – Acts 2: 37-42

- **ASK:** What conclusion can you make from this graph of temperature and air pressure? (related)
- **EXPLAIN** to the students that a difference in air pressure causes wind and that winds cause weather changes. Winds move an atmospheric condition like cloud banks around. The wind changes weather by moving the type of weather in one place to another place.
- **DISCUSS AND LOCATE** on a map where the winds originate that usually bring cold and hot weather to your area.

OPTION: Have the students watch the evening weather report and keep a graph of the temperature and air pressure for an allotted period of time.

- **DISCUSS** how winds affect the land and the people. The wind has a different effect depending on location. In a city, tall buildings will cause a tunnel effect because they are close together. On the other hand, on an open prairie they are wide sweeping. If you live in Tornado Alley in the central part of the USA, the wind is significant in your life.

OPTION: Have the students research areas of the world where wind plays a significant role in the life of the people or animals. (Tornado Alley in the central USA, Santa Ana Winds in California, USA, Sirocco winds of Africa)

- **POSIT:** Winds bring about changes in weather.

- ~ Deacons – Acts 6: 1-6
- ~ Peter and Cornelius – Acts 10: 1-16
- ~ Gentiles Receive the Holy Spirit – Acts 10: 44-48
- ~ Council at Jerusalem – Acts 15: 1-11
- ~ Council of Nicaea
- ~ Crusades
- ~ Protestant Reformation (Revolution)
- ~ Second Vatican Council
- ~ Election of the Popes
- ~ Infallibility

- **SET** the perimeters for the research: How did the Holy Spirit guide the Church – give at least one example.
- **ALLOT** time for research to be done.
- **HAVE** each student report their findings.
- **ASK:** Is there an object which would be a symbol of the actions of the Holy Spirit? (windsock or flame)

Activity # 1 – Windsocks

- **HAVE** the students create windsocks from construction paper, cloth or other materials.
- **GO OUTSIDE** to test the windsocks.
- **WHILE OUTSIDE** say a prayer to the Holy Spirit. (see Religion Links section or Religion textbook)

Activity # 2 – Flames

- **HAVE** the students draw and cut out flames on which they write how the Holy Spirit acts on them.
- **DISPLAY** the flames (as of tongues of fire) on a bulletin board with a dove symbol above them.
- **SAY** a prayer to the Holy Spirit.
- **POSIT:** The Holy Spirit acts in and on the church like a gentle wind moves the windsock or a flame warms, urging us to act.

SCIENCE LINKS

www.sites.google.com/a/.../bcake/8th-grade-science/weather-unit

[Mr. Cake's Website: Weather Unit](#) 8th Grade Science. 8th Grade. Science Fair 2010. St. Ignatius ... Power Point on pressure, air masses, and fronts. 499k. v. 1. Mar 30,

www.apps.caes.uga.edu/sbof/main/lessonPlan/weatherActivities.pdf

[Weather Activities](#) Provides a brief explanation of each activity and QCCs that accompany each one. ... atmospheric factors which interact to cause weather: heat energy, air pressure, ...

www.wmcac.org/documents/educational_packet_6-8.pdf

[Educational Activities 6th Grade – 8th Grade](#) Weather – mean temperature, precipitation and air mass movements- varies daily. ... This activity aids in the understanding of high and low pressure ...

RELIGION LINKS

www.ministry-to-children.com/who-is-the-holy-spirit

Children's Sunday School lessons. Who is the Holy Spirit? The links lead to individual lesson plans...Can be adapted for 8th grade students and youth.

www.godandscience.org/doctrine/holy_spirit.html

The Importance of the Holy Spirit in the life of Christians. The Holy Spirit lives in the Christian and guides the actions of those...on the Spirit is life and...with our spirit that we are children of God. (Romans 8:16)

KEY WORDS

- WEATHER
- THERMOMETER
- BAROMETER
- AIR PRESSURE
- TEMPERATURE
- BAR
- MILLIBAR
- POUNDS PER SQUARE INCH

KEY WORDS

- MATTHIAS
- GENTILES
- CHURCH COUNCIL
- SECOND VATICAN COUNCIL
- CRUSADES
- PROTESTANT REFORMATION
- COUNCIL OF JERUSALEM
- COUNCIL OF NICAIA
- PAPAL ELECTIONS
- DEACONS
- INFALLIBILITY