



*Grade Level: Grade 5*

*Title:*

## **Growth: Adaptation and Survival**

*Denomination: Catholic*

*Lesson ID: LS-G5-04-CA*

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## **LIFE SCIENCE – GRADE 5 - CATHOLIC** **LESSON TITLE: Growth: Adaptation and Survival**

**GENERAL CONCEPT: Adaptation and Survival**

### **SCIENCE LESSON CONCEPT**

- Growth of seeds

### **GOAL OF SCIENCE LESSON**

- Students will observe seed growth and compare seed growth in different soils, amounts of water and light.

### **OUTCOME EXPECTED**

- Students will observe and record their findings that plants need certain conditions to grow.

### **RELIGION LESSON CONCEPT**

- Growth in Christ

### **GOAL OF RELIGION LESSON**

- Students will learn that we need certain conditions to grow in our faith.
- Students will learn that we need spiritual food for the soul.

### **OUTCOME EXPECTED**

- Students will incorporate the Sacraments, the Beatitudes and live out the Catholic Social Teaching to feed the seeds of faith.

## **MATERIALS NEEDED**

- Science Journal page: Growth of Seeds
- Pen or pencil
- Lima beans, peas, or radish seeds – (2 per student)
- Plastic cups
- Potting soil
- Sand
- Gravel
- Graphs
- Measuring tape
- Water
- Markers
- Hand lens
- “The Tiny Seed” by Eric Carle (see Science Links section)

## **MATERIALS NEEDED**

- Bible – Mark 4:1-20 – Parable of the Sower and the Seed
- Bible – Matthew 13: 1-9 – For Comparison to Mark 4: 1-20
- Religion textbook
- Religion notebook
- Pen or pencil
- Poster board
- Copies of the Spiritual and Corporal Works of Mercy (1 per student)

## SCIENCE METHODOLOGY

- **IDENTIFY:** the different types of seeds, soils, and environmental factors that contribute to plant growth.
- **ASK:** Which soil will produce the best plant?
- **EXPLAIN** the process of planting seeds.
- **HAVE** the students plant seeds in plastic cups. Each cup should hold 1 type of seed and 1 type of soil. Each student should have two cups.
- **STUDENTS** should draw and label their plantings.
- **DIVIDE** the class into two teams: Team A and Team B.
- **SAY:** Team A will place one of your seed cups in a sunny location and one in a shady location. They will water their cups with a little water every other day. Team B will place their cups so that they get some sun and some shade during the day. They should water 1 cup every other day so that the soil stays moist (slightly wet) and the other cup should receive water only once every 5 days.
- **HAVE** students place their cups in their locations and water them.
- **SAY:** You will keep a record on the Science Journal page showing where your cups are and how much and when you are watering them.

## RELIGION METHODOLOGY

- **HAVE** the students locate and read the Parable of the Sower and the Seed in the Bible. (Mark 4:1-20)
- **ASK:** Like seeds, we are growing. What do we need to feed or sustain our faith?
- **HAVE** the students find and read Matthew 13:1-9.
- **SAY:** Just as certain things hindered the seeds in our science experiment from growing well (too much or too little water, too much or too little light), certain things can keep us from growing in our faith.
- **ASK:** What things can hinder your growth in faith? (peer pressure, not attending Mass, not praying)
- **DIVIDE** the students into small groups for discussion.
- **SAY:** Our Catholic Tradition gives us several ways to feed our faith. They are called the Spiritual and Corporal Works of Mercy. They help our compassionate love to “exercise” and grow and become stronger.
- **GIVE** each student a copy of the spiritual and corporal Works of Mercy.
- **EXPLAIN** what each of the Corporal Works of Mercy means.

- **AFTER 2 WEEKS**, have the students record their plant growth through graphs, diagrams, and journal writings.
- **ASK**: Which seeds are growing the “best”?
- **DEFINE**: What does “best” mean? (could be tallest, the most leaves, the healthiest)
- **ASK**: How can you determine “best”? How does a vegetable farmer determine which plants are best? How does a rose grower determine which rose bushes are best?
- **HAVE** a class discussion about how the seeds grew? What factors affected the growth of the plants? (light, water, soil type)
- **READ**: The Tiny Seed by Eric Carle.
- **DISCUSS** what the book added or did not add to our knowledge about growing seeds.
- **CONTINUE** the plant experiment for several months revisiting the measurements, graphs, and discussion.
- **POSIT**: Every seed will grow best when it has the correct soil, the correct amount of light, and the correct amount of water.

- **SAY**: The Corporal Works of Mercy are directed to our physical presence in the world.
- **TELL** the students to read the Spiritual Works of Mercy.
- **EXPLAIN** what each of the Spiritual Works of Mercy means.
- **SAY**: The Spiritual Works of Mercy are directed to our spiritual presence in the world.
- **DIVIDE** the class into groups.
- **HAVE** each group generate practical ways to exercise each of the Works of Mercy. They should write down the ideas under each Work of Mercy.
- **ALLOT** time for the groups to work.
- **LIST** each group’s ideas on the Smart Board or Chalkboard.
- **AS A CLASS**, choose one idea and do it as a service project. Some suggestions are: food drive, make sandwiches for the homeless, used but good clothing drive, letters to shut-ins.
- **AFTER** the project is completed have the groups make a poster which tells the story of their class project.
- **DISPLAY** the posters for the community to see.

- **POSIT:** We grow in Christ when we exercise our faith by helping others.

## SCIENCE LINKS

[www.amazon.com/Tiny-Seed-Eric-Carle/dp/0590425668](http://www.amazon.com/Tiny-Seed-Eric-Carle/dp/0590425668)  
(\$3.50 to \$8.00)

[www.teachers.net/lessons/posts/624.html](http://www.teachers.net/lessons/posts/624.html)

Lesson plans; Plant Propagation – life science, but could easily be modified to any grade level. Whenever plants reproduce asexually by any means, either natural...

[www.cnx.org/content/m19955/latest](http://www.cnx.org/content/m19955/latest)

Natural Sciences Grade 5. Have you ever wondered why a plant forms seeds/ Interesting worksheet included on this site.

## RELIGION LINKS

[www.loyolapress.com/corporal-works-of-mercy-activity.htm](http://www.loyolapress.com/corporal-works-of-mercy-activity.htm)

Investigate how a parish and community promote the Corporal Works of Mercy...Spiritual Exercises and Retreats.

[www.catholicsupply.com/existing/prmercy.html](http://www.catholicsupply.com/existing/prmercy.html)

The Corporal Works of Mercy to feed the hungry...The Spiritual Works of Mercy to admonish sinners..Has a list of both.

[www.stlyouth.org/blogs/tom-lancia/spiritual-works-mercy](http://www.stlyouth.org/blogs/tom-lancia/spiritual-works-mercy)

For Teacher Information Only. I would reflect on the Spiritual Works of Mercy with..Young people who in search of a firm....

## KEY WORDS

- SEED
- SOIL
- POTTING SOIL
- GRAPH
- DIAGRAM
- MEASUREMENT
- CONDITIONS

## KEY WORDS

- GOSPEL
- MARK
- MATTHEW
- SOWER
- PARABLE
- BEATITUDES
- SPIRITUAL GROWTH
- CORPORAL WORKS OF MERCY
- SPIRITUAL WORKS OF MERCY