



Grade Level: Grade 5

Title:

Proper Nutrients Needed for Growth

Denomination: Catholic

Lesson ID: LS-G5-03-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

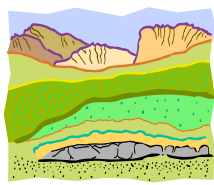
ITEST web site: www.faithscience.org

Ph: 314.792.7220

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

Copyright by Exploring the World, Discovering God (EWDG), a pilot program of Institute for Theological Encounter with Science & Technology (ITEST). All rights reserved. The contents, or parts thereof, i.e., lessons/modules, may be reproduced for classroom educational use only. Any reprinting or reproducing for the purpose of sale is prohibited, and if done, party is subject to all legal sanctions.

© ITEST © EWDG



LIFE SCIENCE MODULE – GRADE 5 - CATHOLIC

LESSON TITLE: Proper Nutrients Needed for Growth

GENERAL CONCEPT: Proper conditions are critical for growth

SCIENCE LESSON CONCEPT

- Proper conditions are needed to grow different plants
- A Gardening Care Plan aids in the care and growth of plants

GOAL OF SCIENCE LESSON

- Students will learn that different types of plants require different soil mixtures to survive.
- Students will learn that each plant requires the proper soil mixture to thrive.

RELIGION LESSON CONCEPT

- Proper care is needed for each person to grow spiritually
- A Spiritual Growth Plan (sacraments) aids in the spiritual development and growth of each person

GOAL OF RELIGION LESSON

- Students will know the Parable of the Sower and the Seed and its connection to their own spiritual growth.
- Students will know how to nourish their seed of faith.

OUTCOME EXPECTED

- Students can explain that plants need different types of soil to flourish.
- Students will be able to demonstrate that different types of water should be used for different plants.

MATERIALS NEEDED

- Potting soil for each student or group
- Peat for each student or group
- Sand for each student or group
- Vermiculite for each student or group
- Perlite for each student or group
- Dynarock for each student or group
- 1 clay and 2 plastic pots for each student or group
- 1 cactus/succulent plant for each student or group
- 1 carnivorous plant (Venus Fly Trap, Sundew, Pitcher Plant) for each student or group
- 1 gesneriad* plant (African Violet) for each student or group
- 1 bowl for each student or group to mix soil components

OUTCOME EXPECTED

- Students will be able to relate the sacraments to the Risen Jesus.
- Students will be able to name one way each sacrament aids our spiritual growth.

MATERIALS NEEDED

- List of the Seven Sacraments
- Religion Notebook page: Sacraments Are Aids to Spiritual Growth
- Pen or pencil
- Religion textbook
- Bible: Luke 8: 4-8
- Bible: Luke 8: 9-15

- Tongs to handle cactus/succulent plant
- Plastic gloves to mix soil
- Distilled water
- Tap water
- Newspaper or plastic to cover each work area
- Science Journal page: 3 Types – 3 Soils – 2 Waters
- 3 labels (Carnivorous, Succulent, Gesneriad) for each student or group

SCIENCE METHODOLOGY

- **SAY:** We are going to do an experiment which has several steps. In this experiment we are going to provide 3 different types of plants (carnivorous, succulent, and gesneriads) with the type of soil, type of pot, and the type of water which will promote the best conditions for the plant to flourish.
- **HAVE** the students take the Science Journal page labeled “3 Types – 3 Soils – 2 Waters”.
- **SAY:** As we do each part of the experiment write the definition of the type of plant, an example of this type of plant, proper soil mixture, and proper water on the Science Journal page under the correct headings.

RELIGION METHODOLOGY

- **SAY:** We saw how each plant required different conditions for the best growth. We are like plants in God’s garden. He provides the best soil and conditions so that we may experience deep spiritual growth. He provides us with the sacraments which give us exactly what we need to grow and flourish.
- **WRITE** the Seven Sacraments in your Religion notebook. Next to each sacrament write one thing that sacrament gives you so that you may grow more like Jesus.
- **ALLOW** time for students to complete this assignment.

- **SAY:** Cover your work area with a layer of newspaper and a plastic cover.
- **SAY:** Each student or group will get a mixing bowl, tongs, gloves, 1 plant of each type, 2 plastic pots and 1 clay pot.
- **ALLOW** time to assemble all materials in the work areas.
- **SAY:** The first step is to mix the soil mixture for the carnivorous plants. Write the term Carnivorous Plants on the Science Journal page and define it “A carnivorous plant is a meat-eating plant.”
- **ALLOW** time for students to write on the Science Journal page.
- **SAY:** Take the mixing bowl and mix peat and sand for the carnivorous plant. Look at the size of your pots and the plants and mix only as much as you need.
- **DEFINE** the words peat and sand and write on the Science Journal page.
- **ASK:** Why would a carnivorous plant like a Venus Fly Trap, Sundew, or Pitcher Plant do best in a sand and peat mixture of soil?
- **RECORD** student responses. Use later in the experiment.
- **CHOOSE** the plastic pot for the carnivorous plant.

- **DISCUSS** the following:

~**Baptism:** We are planted in the right soil of Jesus. We are brought into Jesus’ family, the Church. Baptism takes away our sins and makes us children of God. Baptism fills us with God.

~**Confirmation:** We are given the right kind of water for the soil of Baptism. Jesus gifts us with the Holy Spirit and His Seven Gifts to help us become more like Jesus. Confirmation fills us with God. It enables us to fight more strongly against sin and the devil.

~**Holy Eucharist:** We are given soul food. Jesus feeds us with His Body, Blood, Soul, and Divinity. It allows us to bring Jesus’ message to others. It fills us with God. It nourishes us.

~**Penance:** The bugs are picked off us – the plant in God’s Garden. Jesus takes away our sins; makes us stronger to fight sin and the devil. It reconciles us with the rest of the believers in Jesus.

~**Anointing of the Sick:** We are bandaged and it heals our broken and bent parts. Jesus takes away our sins; strengthens us against our illness. It enables us to join our pain and suffering with the suffering of Jesus. It fills us with God.

~**Holy Orders:** Jesus indicates to the Church and to the man to be ordained that he is in the right location and space to best serve Jesus and grow holy. Jesus consecrates men for service to the Church and to help

- **PUT** the sand and peat mixture soil in the plastic pot and put the label “Carnivorous” on the outside of the plastic pot.
- **PLANT** the carnivorous plant in the plastic pot with the sand and peat soil mixture. Set to the side.
- **SAY:** We are now ready to mix the next soil. Take the mixing bowl and add potting soil and dynarock in equal amounts.
- **DEFINE:** Potting soil and dynarock and write definitions on the Science Journal page.
- **ALLOW** time for students to mix the potting soil and dynarock and write definitions.
- **SAY:** We have two types of plants left – the succulent and the gesneriad*. Which plant do you think would do best in the potting soil and dynarock mixture?
- **ALLOW** students to choose and then tell them that the succulent plant does not need a lot of water and that it needs the water to drain away from it. So the best plant would be the succulent.
- **DEFINE** the word succulent and have the students write it on the Science Journal page.
- **ASK:** Would the plastic pot or the clay pot be the best for the succulent plant? Why? (clay will drain water away from the plant)

us be more like Him through the priestly ministry.

~**Matrimony:** We are able to bear fruit. Jesus consecrates husband and wife to each other and to the Church. It fills them with God. It provides a home for children to learn about God. It strengthens the wife and the husband to grow strong by leaning on each other and supporting each other in this part of God’s Garden.

- **ASK:** How can you take advantage of the helps God has given you so that you can grow and flourish spiritually? (receive the sacraments, thank God for the sacraments you have already received, receive Holy Eucharist and Penance often and prayerfully)
- **HAVE** the students write one way they will use the sacraments to grow spiritually (be more like Jesus) in their Religion notebook.
- **READ** Luke 8: 4-8 and Luke 8: 9-15.
- **ASK:** What did Jesus teach about the soil and the seeds of faith?
- **ASK:** How do the Sacraments help you to keep your seed of faith in the good soil?
- **POSIT:** The Sacraments are God’s gift to us so that we may become more like Jesus.

- **SAY:** The succulent plant needs the clay pot because a clay pot allows water to seep through it.
- **HAVE** the students put the potting soil and dynarock soil mixture in the clay pot and use the tongs to plant the succulent (thorns).
- **PUT** the label “Succulent” on the outside of the clay pot. Set to the side.
- **SAY:** We only have one plant left - the gesneriad type of plant. What soil mixture might be best for the African Violet plant?
- **HAVE** the students write the term “Gesneriad” on the Science Journal page and define it for them.
- **TELL** the students to mix potting soil, perlite and vermiculite in equal amounts.
- **ASK:** What are perlite and vermiculite? DEFINE each. Write the definitions on Science Journal page.
- **HAVE** the students put the soil mixture in the plastic pot.
- **SAY:** Since Gesneriad plants need to keep the soil moist, the plastic pot will help keep the moisture close to the plants.
- **PUT** the label “Gesneriad” on the outside of the plastic pot.

- **HAVE** the students plant the gesneriad – African Violet plant.
- **SAY:** the carnivorous plant needs to retain water – almost standing in water. However, it requires a special type of water called *distilled* water.
- **SAY:** Add distilled water to the carnivorous plant. The soil must be very wet. It is OK if some water is in the bottom of the pot.
- **OBSERVE** how the water is retained for the carnivorous plant.
- **ADD** tap water to the succulent and gesneriad plants.
- **SAY:** Remember that the succulent plant does not like too much water. No water should be in the bottom of the pot.
- **OBSERVE** how the water runs through the succulent soil mixture and how the water drains but some is retained in the gesneriad soil mixture.
- **ASK:** Why does it matter which plant goes into which soil and into what kind of pot? (each plant has different requirements and will grow best in the proper conditions)
- **POSIT:** The best plant growth requires proper soils and containers/pots.

SCIENCE LINKS

www.neok12.com/Plants.htm

[Plants - Kids Science Videos, Games and Lessons that Make Learning ...](#)

Plants - Kids science videos, lessons, quizzes and games for K-12 *grade* school kids that make ... 3rd - 5th, Parts of *Plants* - Quiz #2 · *Types of Plants* ...

*The Gesneriad Family named for Konrad von Gesner, 16th century Swiss naturalist. Plants, mostly tropical, include the African Violet, Gloxinia and Cape Primrose.

RELIGION LINKS

www.ainglkis.com/sacraments

Basic information about each sacrament.

www.focusonthefamiy.com/parenting/spiritual_growth_for_kids.aspx

Equip your Kids with Lifelong Learning.

Luke 8: 4-8

When a great crowd gathered and people from town after town came to him, he said in a parable: "A sower went out to sow his seed; and as he sowed some fell on the path and was trampled on, and the birds of the air ate it up. Some fell on the rock and as it grew up, it withered for lack of moisture. Some fell among the thorns and the thorns grew up with it and choked it. Some fell into good soil, and when it grew, it produced a hundredfold." As he said this, he called out, "Let anyone with ears to hear listen!"

Luke 8: 9-15

Then his disciples asked him what this parable meant. He said, "To you it has been given to know the secrets of the kingdom of God; but to others I speak in parables, so that 'looking they may not perceive, and listening they may not understand.'

Now this parable is this: The seed is the word of God. The ones on the path are those who have heard; then the devil

comes and takes away the word from their hearts, so that they may not believe and be saved. The ones on the rock are those who, when they hear the word, receive it with joy. But these have no root; they believe only for a while and in a time of testing fall away. As for what fell among the thorns, these are the ones who hear; but as they go on their way, they are choked by the cares and riches and pleasures of life, and their fruit does not mature. But as for that in the good soil, these are the ones who, when they hear the word, hold it fast in an honest and good heart and bear fruit with patient endurance.

KEY WORDS

- NUTRIENT
- SOIL
- SOIL MIXTURE
- VERMICULITE
- DYNAROCK
- SUCCULENT
- CACTUS
- CARNIVEROUS
- VENUS FLY TRAP
- SUNDEW
- PITCHER PLANT
- GESNERIAD
- AFRICAN VIOLET
- PERLITE

KEY WORDS

- SEED OF FAITH
- SACRAMENT
- BAPTISM
- CONFIRMATION
- HOLY EUCHARIST
- PENANCE
- ANOINTING OF THE SICK
- HOLY ORDERS
- MATRIMONY