



*Grade Level: Grade 4*

*Title:*

## **Skeletal and Non-Skeletal & Each Person is Unique**

*Denomination: Catholic*

*Lesson ID: LS-G4-02-CA*

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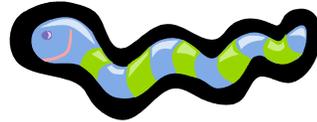
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***Note: Web sites referenced in this lesson were valid at time of publication.***

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## LIFE SCIENCE - GRADE 4 - CATHOLIC

### LESSON 2: Ways to Classify Animals: Skeleton & Non-Skeleton and Each Person is Human and Unique

**GENERAL CONCEPT:** Some animals have a skeleton; other animals do not and God created each person to be unique.

#### SCIENCE LESSON CONCEPT

1. Animals share many characteristics.
2. Some have skeletons and some do not.

#### GOAL OF SCIENCE LESSON

Student will be able to classify animals as skeletal or non-skeletal.

#### OUTCOME EXPECTED

Student will be able to use models and bones to classify.

#### RELIGION LESSON CONCEPT

1. God created each person.
2. Each person is unique and unrepeatable.

#### GOAL OF RELIGION LESSON

Student will appreciate the awesome power of God.

#### OUTCOME EXPECTED

Students will appreciate the differences and likenesses of people.

## **MATERIALS NEEDED**

- Skeletons/backbones of several animals
- Models of non-skeletal animals: snails, insects, worms
- Science Journal Page: SKELETAL OR NON-SKELETAL?
- Cooked chicken pieces: wing, leg, thigh, back, neck, breast; you should have enough so that each pair of students gets a piece of chicken.
- Scissors
- Plastic gloves
- Water
- Soap
- Towels for drying bones
- Pen/pencil/marker
- Flip chart or board
- Marker or chalk
- Several snails in a clear container

## **MATERIALS NEEDED**

- Construction paper
- Each student should have the facial pictures of family members. You can use two similar sized pictures of people from a magazine that resemble each other.
- Student should have permission to fold two family photos
- Markers
- Glue
- Brad
- Piece of tracing paper
- Pencil
- Large size paper to make a poster – one per student

- Several insects in a clear container
- Several worms in a clear container
- Gorilla blue or strong glue
- Scale to measure the chicken meat

### SCIENCE METHODOLOGY

- **EXPLAIN** what is meant by skeletal and non-skeletal.
- **TELL** the student that bones support the muscles and tissues of our body. Because of that we are going to do an experiment to see how much each bone supports.
- **HAVE** the students work in pairs to strip the meat from the bones.
- **WEIGH** the meat and record on the board.
- **DISCARD** the meat.
- **WASH** the bones in soap and water. Dry the bones.
- **HAVE** the student trace the bones on the Science Journal Page and label the parts. They have to use reference books to label the bones correctly.
- **ASSEMBLE** the bones to reconstruct the chicken. You may have to use Gorilla Glue to hold roughly in place.

### RELIGION METHODOLOGY

- **SAY:** Even though we are all created in God's image and likeness, we have been created by God as individuals and are not copies of one another.
- **PUT** the pictures of your family or the magazine pictures on the piece of construction paper. Look carefully! How are the members of your family alike? (eyes, shape of eyebrows, noses, lips, chin, curly or straight hair, hair color).

### SELECT EITHER ACTIVITY # 1 OR ACTIVITY # 2

#### ACTIVITY # 1

- **PICK** two pictures of faces of two females or two males in your family or the magazines pictures. The faces should be about the same size.
- **FOLD** them in half so that the forehead, nose, lips, and chin are shown.

- **ASK:** Is the chicken a skeletal or non-skeletal animal? What other animals can you name that are skeletal?
- **RECORD** answers. Have the student choose 5 to record on the Science Journal Page.
- **SAY:** Now we are going to look at animals with no skeletons: snails, insects, and worms. Who is willing to handle some worms?
- **SELECT** a few students. **STRESS** the need to be gentle.
- **GIVE** each volunteer a worm or two.
- **ASK:** Does the worm feel different from the pieces of chicken that you handled? (less structure- no skeleton)
- **SHOW** the class the snails and the insects. Explain their classifications.
- **EXPLAIN** that we treat all life with respect.
- **POSIT:** Have the student write the conclusion on the Science Journal Page.
- **AFTER** a week, check with the students about how well their families are recycling.

- **PUT** the two halves together. Put tracing paper over the picture. Trace the complete face. Do they form one person? Look how closely the two look like each other.

## ACTIVITY # 2

- **HAVE** the student trace all the eyes from the family pictures; then all the noses, chins, lips.
- **SAY:** Look at the facial parts. Does your family resemble each other?
- **ASK:** How are your family members different? Do you like the same things? Have the same talents? Is that good or bad? Each of us is uniquely created by God.
- **HAVE** the student create a poster from the pictures.
- **TITLE:** The \_\_\_\_\_ Family: Created and Loved by God.
- **DISPLAY** the posters.
- **POSIT:** God has created each person as a unique and unrepeatable person deserving of respect.

## RESOURCES, LINKS, AND COMPUTER LESSONS

### Science Links

(Teacher) Good reference material on vertebrate and invertebrate animals in the ocean.

<http://www.emints.org/ethemes/resrouces/S00001121.shtml>

(Student) Fun games to play on-line about bones and no-bones.

[http://www.childrensmuseum.org/special\\_exhibits/bones/kids\\_mazeGame.htm](http://www.childrensmuseum.org/special_exhibits/bones/kids_mazeGame.htm)

(Teacher and the student independently) Good section on invertebrates

[http://www.chidlrensmuseum.org/special\\_exhibits/bones/exhibit\\_ch\\_themes\\_invertebrates.htm](http://www.chidlrensmuseum.org/special_exhibits/bones/exhibit_ch_themes_invertebrates.htm)

### Religious Links

(Parents) On Being a Catholic Family

<http://catholicism.about.com/cs/youth/a/catholic/family.htm>

(Teacher) A family Tree Project – You will need to bring this project up to the level of a 4<sup>th</sup> Grader.

[http://www.dltk-bible.com/genesis/families/my\\_family\\_tree.htm](http://www.dltk-bible.com/genesis/families/my_family_tree.htm)

(Teacher) Upgrade this Family Hand Print project by using ink or paint to make a real handprint. Put al the family handprints on one paper. Just do the right or left hands.

[http://www.dltk-kids.com/creafts/miscellaneous/family\\_handprints\\_craft.htm](http://www.dltk-kids.com/creafts/miscellaneous/family_handprints_craft.htm)

HINT: You can use on-line pictures pr newspaper pictures and catalog pictures for the Activities or use the school-sized strips from the school photographs. Many times the school office has an extra strip.

**KEY WORDS – LIFE SCIENCE – GRADE 4  
LESSON 2 – CATHOLIC**



**ANIMAL**

**CHARACTERISTIC**

**SKELETAL**

**NON-SKELETAL**

**BACKBONE**

**SPINE**

**STRUCTURE**



**PERSON**

**FAMILY**

**UNIQUE**

**RESPECT**

**SIMILAR**

**DIFFERENT**

**TALENTS**

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