

Carla Bickett
Final Project
National Endowment for the Humanities Institute

Unit Title: Huesos y Esqueletos

Overview and Integration: This Unit is integrated with science and is designed for 4th graders using the ¡Hola Hola! video Spanish program. The English lessons were developed for an inquiry based science program through the National Science Foundation.

Step by Step Instructions For the Spanish Elements:

1. Students get basic information about numbers and directions using the ¡Hola Hola! program.
2. Content vocabulary will be introduced.
3. Students will participate in a variety of lessons to build their Spanish, and each of the lessons will be modeled fully by the teacher before students are expected to perform. These lessons will include:
 - a. Using the vocabulary to build a skeleton.
 - b. Begin to learn questions and answers to talk about their skeletons and which of 6 different groups the bones belong in.
 - c. Build a crazy skeleton and then will give directions for a partner to build the same skeleton.
 - d. Dissect an owl pellet and after separating and grouping the bones, will ask and answer questions about the bones they found and which groups they belong in.
4. Finally, an overall unit evaluation will be made.

Functions:

Students will be able to ask and answer questions in Spanish using content they have learned in the Bones and Skeletons unit in Science. Prior to the Bones and Skeletons Spanish lessons, students will have watched ¡Hola Hola!, and have background vocabulary in numbers and know the difference between the people they are talking about (mi vs. tu). Students will also learn basic vocabulary in the content area.

Vocabulary:

brazos	piernas	pelvis	costillas	cráneo	cabeza
espina	hueso	hombro	mandíbula	concha	esfera
codo	cubito	radio	muelares	dientes	esqueleto

5 C's introduced in the unit:

Comparisons, Cultures, and Communication

Curriculum Strand for the National Council for the Social Studies:

People, places, and environments; Science, technology, and society; and Global connections

Lessons/Activities:

Introduction to Bones and Skeletons through Mexican Art

Objective:

Students will create a cráneo and decorate it for el Día de los Muertos.

Materials:

- small balloons
- strips of newspaper
- glue or paper maché paste
- models of Mexican skulls and skeletons used in the Día de los Muertos celebrations
- posters of skeletons labeled in Spanish

Procedure:

1. Introduce the models of Mexican art, using the Spanish vocabulary for the bones.
2. Give each student a small balloon. *note: it is a good idea to have the balloons already blown up, as many students have a difficult time blowing the balloons up.
3. Place strips of newspaper at each group, and a dish of watered down glue or other maché paste.
4. After students completely cover their balloons, have them set aside to dry for a few days.
5. On dry balloons, have students paint different authentic designs.
6. Create a display for the school.

Extensions:

*Give a slide show to the students using pictures taken from the summer trip to the pyramids and various museums in Mexico.

*Have students create other artwork that was found in the pyramids such as bowls, figures, and vases.

El esqueleto

Objective:

Students will be able to gain Spanish vocabulary in the Bones and Skeletons content. This is an introductory activity to the vocabulary.

Materials for each group of 2-4 students:

- one die
- one set of “bones” (consists of 4 different full skeletons cut into pieces and each full skeleton is a different color)
- one set of directions

Procedure:

1. Introduce the vocabulary for the bone parts to the class, and review numbers.
2. This game is similar to the game Cooties, students will take turns rolling the die and try for a one first. A one on the die earns the player a cráneo.
3. After the player earns the cráneo, they can then earn the other parts of their skeleton in any order. They may also choose any colors to complete their skeleton.
4. The play is continued around the table and the game is over when the first person earns a complete skeleton.

Key for Game:

uno = cráneo
dos = espina
tres = pierna
cuatro = brazo
cinco = costilla
seis = pelvis

Evaluation:

To evaluate this lesson, the teacher must circulate amongst groups and listen to make sure pronunciation is correct. The game may be played several times in order for students to feel confident and assure that learning has occurred.

Extension:

After playing the game several times, have students build a skeleton for el Día de los Muertos. Students will then explain their skeletons' bones in Spanish to a small group, or as a mini-speech.

Building a Monstruo

Objective:

Students will be able to use Spanish content vocabulary to create simple sentences.

Materials for each pair of students:

- one set of bones (included in the set is multiple skeleton parts)
- one sheet of construction paper for each person
- one folder to act as a barrier between the partners
- glue

Procedure:

1. Introduce the bone parts by showing the skeleton pieces from the game and saying the Spanish name for each bone.
2. Show the bone to a student, and have students name it.
3. Have each partner group begin by setting up the folder between them so they cannot see each others construction papers.
4. Each pair of students then dumps the bones in a common area so they may each use as many bones they might need to create a monster.
5. Have one student glue their bones onto the construction paper to create a crazy skeleton.
6. When the first person has created their monster skeleton, they describe it in Spanish to their partner while the partner tries to create the same monster skeleton without looking. For example: Mi monstruo tiene _____.
7. Reveal the skeletons and compare to see if instructions were clear and/or understood.
8. Switch partner roles and complete steps 3-5.

Evaluation:

To evaluate this lesson, the teacher will circulate and check for speaking and following directions. As the teacher circulates, she/he will keep a clipboard to give tallies and make

notes on each student's progress in giving the directions as well as following the spoken instructions.

Extensions:

*For more advanced students, they may want to dress up the skeleton. They then can describe the clothing and colors of the particular clothing as well. A setting could also be created to extend vocabulary.

*Gather a collection of x-rays from a local laboratory, doctor, vet, or hospital to use as extensions for the class.

¿Cuántos Huesos?

Objective:

Students will be able to fluently tell how many bones they think they have in their body.

Materials:

- Science Notebook page "body outline"
- group recording sheet of "body outline" for every 3-4 students
- 3 different colored pencils (red, green, yellow)

Procedure:

1. Have each student sketch in the bones they think they have in their body, using the "body outline". If students have difficulty, ask them questions that relate to the function of a specific body part: What does the chest do? What is inside the chest? What shape do you think the chest bones have to be? Look at and try to move various parts of your body. What do you feel happening? Why is it moving?
2. Ask students questions about their bones, "¿Cuántos huesos hay en tus brazos?" and encourage them to use their knowledge of Spanish vocabulary.
3. Divide students into groups of 3-4. Give each group a recording sheet and have students verbally share their ideas of what bones they have in their bodies, using Spanish vocabulary. i.e.: Hay tres huesos en mi brazo.
4. Have each group record their bones on the Group Recording Sheet. They will use green for bones they all agree on, yellow for bones they think, but are not totally in agreement on, and red for bones they don't know about.
5. Have students then share with whole group about bones in our bodies.

Evaluation:

Students will be evaluated on speaking as they share in their groups and with the class. Check to see if students attempt to talk about size of bones and if they begin to talk about joints in the human body.

Extensions:

*Ask students to write and illustrate a song or poem about their bones. Allow time for students to present the compositions to the whole class.

*Invite a Spanish speaking x-ray technician or a doctor to explain how to read x-rays. Have the person discuss as well what experience and education are necessary to become an x-ray technician or a doctor.

Grupos de Huesos

Objectives:

Students will be able to group bones into 6 different categories. After making groups, students will have conversation in Spanish about the bones and the number of bones they have in each group.

Materials:

- one owl pellet for each pair of students
- Science notebook page of “major bone groups”
- Science notebook pages of “the clues”
- 2 toothpicks
- hand lens
- bones box for each pair including 7 small bags for sorting bones
- sorting tray
- set of 6 major bone group cards

Procedure:

1. Give each pair of students one owl pellet to dissect.
2. After dissection, have each pair of students sort bones into categories, encouraging them to find at least 6 different categories.
3. Have students record their bone groups on the Science Notebook page “the clues”.
4. Ask students “¿Cuántos huesos hay en el grupo de brazos?” Students then should answer, “En el grupo de brazos hay 23 (the amount in that group) huesos.”
5. After practicing with the whole group, have students practice the question and answering in their groups.
6. Finally, have students present their findings to the whole class.

Evaluation:

Teacher will observe students interacting as well as monitor students responses in the whole class activity. Monitoring will be done using a clipboard and scoring students as they participate.

Extensions:

Have students find out more about skeletons that were found in the pyramids of Mexico and around the world. Have them research about mummies and discuss how studying their bones help reveal more about their lives.