

ELL Science Unit**IEP Goal**

When presented with 10 different animals, Rodrigo will be able to explain the differences between vertebrate and invertebrate animals, and assign each animal to its corresponding category, with 90% accuracy, by the end of the school year.

Objectives

1. By the end of the lesson, Rodrigo will be able to list and summarize 3 characteristics of vertebrate animals, and give 5 examples of vertebrate animals, with no more than 2 errors.
2. By the end of the lesson, Rodrigo will be able to list and summarize 3 characteristics of invertebrate animals, and give 5 examples of invertebrate animals, with no more than 2 errors.
3. By the end of the lesson, given a characteristic of an animal or its name, Rodrigo will be able to determine its category, with 90% accuracy, 9/10 consecutive trials.

Lesson Plan 1

Date: June 6, 2022

Grade/Class/Subject: 4th Grade

Unit/Theme: The vertebrates

Standards:

Content Objective(s):

List the characteristics of the vertebrates.
List animals that are vertebrates.

Language Objective(s):

Be able to identify and summarize the five characteristics of the vertebrates, using words, like vertebrae, bone, skull, skeleton and symmetry.

<p style="text-align: center;">Key Vocabulary</p> <p>vertebrate, vertebrae, bone, backbone, skull, skeleton, endoskeleton (internal), symmetry, bilateral, appendages.</p>	<p style="text-align: center;">Supplementary Materials</p> <p>Large print flash cards with the key vocabulary. Large images of vertebrate animals. Tactile graphics of vertebrate animals. Plastic toys animals. A plastic skeleton of a small animal. Large print handouts summarizing the lesson.</p>	
SIOP FEATURES		
<p>Preparation</p> <p><i>Adaptation of content</i> <i>Links to background</i> <i>Links to past learning</i> <i>Strategies incorporated</i></p>	<p style="text-align: center;">Scaffolding</p> <p><i>Modeling</i> <i>Guided practice</i> <i>Independent practice</i> <i>Comprehensible input</i></p>	<p style="text-align: center;">Group Options</p> <p><i>Whole class</i> <i>Small groups</i> <i>Partners</i> <i>Independent</i></p>
<p>Integration of Processes</p> <p><i>Reading</i> <i>Writing</i> <i>Speaking</i> <i>Listening</i></p>	<p style="text-align: center;">Application</p> <p><i>Hands-on</i> <i>Meaningful</i> <i>Linked to objectives</i> <i>Promotes engagement</i></p>	<p style="text-align: center;">Assessment</p> <p><i>Individual</i> <i>Group</i> <i>Written</i> <i>Oral</i></p>

Lesson Sequence:

- The teacher introduces the topic of the lesson.
- Links to background experiences and knowledge about animals.
- Do the students have an animal at home or in the family.
- Discuss about physical characteristics of these animals.
- In whole class, presentation of the key vocabulary. The teacher says each word aloud slowly and detach the phonics. The teacher makes the students repeat each word a few times.
- The teacher explains the meaning of each word, using gestures, pictures, tactile graphics and/or objects.
- The teacher gives the five characteristics of vertebrates, and explains each one using the same strategies used earlier, as well as simple and comprehensible vocabulary.
- The teacher will explain these notions using different ways, and use questioning to make sure that the students understood these characteristics. They are: vertebrates have a backbone, they have a skull, they have an endoskeleton, they have a bilateral symmetry, and they have two pairs of appendages.
- The teacher uses the plastic skeleton of a small animal to explain the notions and the key vocabulary as well.
- The teacher presents and models the activities that the students will do. The teacher takes a large picture of an animal and asks to the class about each of the five characteristics for this animal, in order to determine if the animal is a vertebrate or not. The teacher repeats the modelling a couple of times.
- Then, individually, the teacher gives 10 large pictures or tactile graphics of animals to each student. Students will have to determine for each animal, if it is a vertebrate or not.
- After, in partners, the students are asked to compare and discuss their results for the activity.
- During the activity, the teacher turns around the classroom to observe the students work individually and with a partner.
- In whole class, for each animal, the students say if it is a vertebrate or not, and justify and explain their answers based on the characteristics, and using the appropriate key vocabulary.
- The teacher will provide a large print handout to students to summarize the lesson.

Reflections:

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Lesson Plan 2

Date: June 8, 2022

Grade/Class/Subject: 4th Grade

Unit/Theme: The invertebrates

Standards:

Content Objective(s):

List the characteristics of the invertebrates.
List animals that are invertebrates.

Language Objective(s):

Be able to identify and summarize the five characteristics of the vertebrates, using words, like vertebrae, bone, skeleton and muscles.

<p style="text-align: center;">Key Vocabulary</p> <p>invertebrate, bone, backbone, skeleton, endoskeleton (internal), exoskeleton (external), muscles, digestive system, shell, mollusks, crustaceans, insects.</p>	<p style="text-align: center;">Supplementary Materials</p> <p>Large print flash cards with the key vocabulary. Large images of invertebrate animals. Tactile graphics of invertebrate animals. Plastic toys animals. Examples of real shells. Large print handouts summarizing the lesson.</p>	
<p>SIOP FEATURES</p>		
<p>Preparation</p> <p><i>Adaptation of content</i> <i>Links to background</i> <i>Links to past learning</i> <i>Strategies incorporated</i></p>	<p>Scaffolding</p> <p><i>Modeling</i> <i>Guided practice</i> <i>Independent practice</i> <i>Comprehensible input</i></p>	<p>Group Options</p> <p><i>Whole class</i> <i>Small groups</i> <i>Partners</i> <i>Independent</i></p>
<p>Integration of Processes</p> <p><i>Reading</i> <i>Writing</i> <i>Speaking</i> <i>Listening</i></p>	<p>Application</p> <p><i>Hands-on</i> <i>Meaningful</i> <i>Linked to objectives</i> <i>Promotes engagement</i></p>	<p>Assessment</p> <p><i>Individual</i> <i>Group</i> <i>Written</i> <i>Oral</i></p>

Lesson Sequence:

- The teacher introduces the topic of the lesson.
- Links to background experiences and knowledge about animals.
- What the students know or think of about invertebrate animals.
- Discuss about possible characteristics that these animals may have compared to vertebrates animals.
- In whole class, presentation of the key vocabulary. The teacher says each word aloud slowly and detach the phonics. The teacher makes the students repeat each word a few times.
- The teacher explains the meaning of each word, using gestures, pictures, tactile graphics and/or objects.
- The teacher gives the characteristics of invertebrates, and explains each one using the same strategies used earlier, as well as simple and comprehensible vocabulary.
- The teacher will explain these notions using different ways, and use questioning to make sure that the students understood these characteristics. They are: invertebrates lack a backbone, they lack an endoskeleton for the attachment of the muscles, most invertebrates have an exoskeleton for the muscles as well as for body protection, they may have an incomplete digestive system, and they may vary in how they move.
- Discuss about different types of invertebrates (mollusks, crustaceans and insects), and show shells and allow students to touch and explore them.
- The teacher presents and models the activities that the students will do. The teacher takes a large picture of an animal and asks to the class about each of the characteristics for this animal, in order to determine if the animal is an invertebrate or not. The teacher repeats the modelling a couple of times.
- Then, individually, the teacher gives 10 large pictures or tactile graphics of animals to each student. Students will have to determine for each animal, if it is an invertebrate or not.
- After, in partners, the students are asked to compare and discuss their results for the activity.
- During the activity, the teacher turns around the classroom to observe the students work individually and with a partner.
- In whole class, for each animal, the students say if it is an invertebrate or not, and justify and explain their answers based on the characteristics, and using the appropriate key vocabulary.
- The teacher will provide a large print handout to students to summarize the lesson.

Reflections:

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Lesson Plan 3

Date: June 10, 2022

Grade/Class/Subject: 4th Grade

Unit/Theme: Vertebrates or Invertebrates?

Standards:

Content Objective(s):

Review the characteristics for each category (vertebrates and invertebrates). Identify which characteristics is associated to which category (vertebrates or invertebrates). Identify to which category an animal belongs (vertebrates or invertebrates) based on its characteristics.

Language Objective(s):

Be able to explain the reasons why a specific animal belongs to the vertebrates or invertebrates category, using the appropriate vocabulary.
 Be able to summarize and explain the differences, in terms of characteristics, between vertebrate and invertebrate animals, using the appropriate vocabulary.
 Use the vocabulary learned in the previous lessons, like vertebrae, bone, backbone, skeleton, internal, external, skull, muscles, as well as lack, absence, presence.

<p style="text-align: center;">Key Vocabulary</p> <p>vertebrate, vertebrae, bone, backbone, skull, skeleton, endoskeleton (internal), symmetry, bilateral, appendages, invertebrate, exoskeleton (external), muscles, digestive system, shell, mollusks, crustaceans, insects, lack, absence, presence.</p>	<p style="text-align: center;">Supplementary Materials</p> <p>Large pictures and tactile graphics of animals. Large print worksheets and handouts for the lesson. Large print flash cards of the key vocabulary. Velcro board to place the pictures on during the activity.</p>	
SIOP FEATURES		
<p>Preparation</p> <p><i>Adaptation of content</i> <i>Links to background</i> <i>Links to past learning</i> <i>Strategies incorporated</i></p>	<p>Scaffolding</p> <p><i>Modeling</i> <i>Guided practice</i> <i>Independent practice</i> <i>Comprehensible input</i></p>	<p>Group Options</p> <p><i>Whole class</i> <i>Small groups</i> <i>Partners</i> <i>Independent</i></p>
<p>Integration of Processes</p> <p><i>Reading</i> <i>Writing</i> <i>Speaking</i> <i>Listening</i></p>	<p>Application</p> <p><i>Hands-on</i> <i>Meaningful</i> <i>Linked to objectives</i> <i>Promotes engagement</i></p>	<p>Assessment</p> <p><i>Individual</i> <i>Group</i> <i>Written</i> <i>Oral</i></p>

Lesson Sequence:

- The teacher introduces the topic of the lesson.
- Links to past learning. Reviewing the previous lessons on vertebrates and invertebrates.
- Review of the key vocabulary. The teacher will use the flash cards to review the words and the pronunciation of each word with the students.
- For each word, a student will be asked to explain the word using gestures and/or pictures.
- Discuss with the students about what they remember about the characteristics of the vertebrates and the invertebrates.
- The teacher provides a worksheet containing a summary of the characteristics of the vertebrates and invertebrates. Both summaries have missing words.
- Individually, students will read and complete each summary by filling the blanks with appropriate key vocabulary words.
- During the activity, the teacher moves around the classroom, from students to students, to observe them, and assess them.
- In whole class, the teacher and students will read the text aloud to verify the answers.
- Then, the teacher continues with another activity.
- The teacher explains and models the activity. The teacher grabs a large picture of an animal, and with the students, the teacher questions if it is a vertebrate or an invertebrate animal's. Once decided, the teacher places the large picture of the animals on a Velcro board, divided in two columns, where the left one is for vertebrates and the right one is for invertebrates.
- In small groups of three students, each group will be provided with 10 large pictures or tactile graphics, and a Velcro board. Each group will have to place each animal on the Velcro board, under the correct category, after discussing with each other.
- During the activity, the teacher passes from groups to groups to observe them, and assess them.
- After, in whole class, each group in turn will choose an animal on their Velcro board, and explain why they placed it under the category where it is, using the appropriate key vocabulary. All the 10 animals will be addressed by the students to verify their work.
- On their worksheet, under each summary of each category, students will write the name of the animals used for the activity, as examples.

Reflections:

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