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Science Unit: The Structure and Function of Living Things  
Lesson 1: Classifying Living and Non Living Things  
First Grade Dual Language 50/50 model (English Spanish mix)

<table>
<thead>
<tr>
<th>Content Objective:</th>
<th>Language Objective:</th>
</tr>
</thead>
</table>
| 1. Students will identify living and non-living things. | 1a. Individually, students will classify and create a T Chart using magazine pictures and word lists for living and non living things.  
1b. Students will explain T Chart to the class during carpet share time using full sentences. |

<table>
<thead>
<tr>
<th>Topic and Domain</th>
<th>Level 5 Nearly Fluent</th>
<th>Level 4 Intermediate</th>
<th>Level 3 Speech Emergent</th>
<th>Level 2 Early Production</th>
<th>Level 1 Pre-Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Writing: Identify living and non-living things</td>
<td>Complete a T Chart to classify living and non-living things using magazine pictures and write whole words.</td>
<td>Complete a T Chart to classify living and non-living things using magazine pictures and write beginning sounds or sound spelling for words.</td>
<td>Complete a T Chart to classify living and non-living things using pictures from magazines and labeling from word bank.</td>
<td>Complete a T Chart to classify living and non-living things match word from word bank with pictures as teacher scripts.</td>
<td>Complete a T Chart to classify living and non-living things using pictures from magazines, teacher or peer will orally state word.</td>
</tr>
<tr>
<td>Speaking: Identify living and non-living things</td>
<td>Explain T Chart to the class during carpet share time using full sentences.</td>
<td>Explain T Chart to the class during carpet share time, using phrases.</td>
<td>Explain T Chart to the class during carpet share time using functional expression sentence starter.</td>
<td>Explain T Chart to the class during carpet share time in one or two word listing.</td>
<td>Point to pictures then repeat teacher’s prompt for words to explain T Chart to the class during carpet share time.</td>
</tr>
</tbody>
</table>
Functional / Notional Chart for Lesson 1: Living and Non-Living Things:
What language expressions will help Level 1&2 students achieve the lesson and language objectives?

<table>
<thead>
<tr>
<th>Function</th>
<th>Situation</th>
<th>Expression</th>
<th>Vocabulary</th>
<th>grammar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naming and Explaining</td>
<td>Classifying living and non-living things</td>
<td>This is a(n) _________; it is a living thing.</td>
<td>Answers will vary: Farm: pig, horse, chicken, cow, hen</td>
<td>Nouns</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Water: fish, shark, whales, starfish</td>
<td>Article agreement</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>African: zebra, elephant, lion, giraffe, monkey</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Birds: owl, eagle, duck, robin, swan</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Answers will vary: Classroom items: books, pencil, paper, chair, table</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Toys: ball, car, truck, doll, swing</td>
<td></td>
</tr>
</tbody>
</table>
Title: The Structure and Function of Living Things
Grade Level: 1st Grade
Target Group: Dual Language class with 50/50 mix of native Spanish speakers and English speakers, the target group for modifications will be the Spanish speakers in this class

Source of written reading material:
Reading, Visuals, and collage resources: *Zoobooks Magazine.* (monthly issues) Published by Wildlife Education, Ltd. *Ranger Rick* (monthly issues) Published by National Wildlife Federation. *Scholastic News* (weekly issues) Scholastic Inc. *Animals Two by Two* Published by Delta Education. Clipart online, Google images.

Source of Lessons:
Connecticut Science content standards (adopted by the New London Public School district) are the primary source for the content standards for this unit. The suggested district time allotment and objectives are followed. The district science kits: Foss (developed at Lawrence Hall of Science, University of California, Berkley, published by Delta) and Scholastic & Science Place, (Dallas, Texas published by Scholastic Inc) kits will be used as resources for teacher created lesson plans and assessments.

Learning Goals:
I want my students to know that organisms have different structures.
I want my students to know why organisms have these particular structures.
I want my students to know that these structures (giraffe’s long neck, turtle’s hard shell, the flower’s roots) have a particular function that help the organism survive.
I want my students to know they can understand how organisms survive just by looking at the structures of the organism.

These science lessons for first grade are the initial lessons for the September science unit. The unit engages students in the state content standard for life science for about six weeks and involves 10 lessons. The first lesson is a precursor to the unit and serves two purposes: first, to review the concept of living and non-living things taught in kindergarten and secondly, to create a shared background knowledge and vocabulary. Lessons 1, 2, and 3 will be included in this project.
Modified Lesson 1

Needs Of Living Things: Structure and Function unit
Living and Non-Living things (review of K content):

Grade Level: 1st grade, Dual Language Class 50/50 model Spanish and English

State Science standard: 1.2 Living things have different structures and behaviors that allow them to meet their basic needs.
TESOL standard 4: English language learners communicate information, ideas, and concepts necessary for academic success in the area of science.

Content Objective: Students will identify living and non-living things and label living things.

Language Objective: Individually, students will classify and create a T chart using magazine pictures and word lists for living things. Explain T Chart to the class during share time using full sentences.

Groupings: Large group on carpet, individual work at group tables

Timing 50 minutes: Initiation: 15 minutes introduction, brainstorming Content development/activity: 20 minutes for activity Cleanup: 5 minutes Closure:10 minutes for share on the carpet

Materials/Resources Needed:
Chart paper; write Living Things / Cosa que estan viviendo Participation lists (see handouts p 9-12)
Markers
Magazines, newspapers, old books
Glue
Scissors
T charts (see handout)

Key Vocabulary: living, non-living

Initiation (15 minutes): Gather children on the carpet
- Show students the area in the classroom that is set up for the “new living thing” that will join the class soon. (Have a welcome sign on the desktop: Welcome living thing! ¡Bienvenidos Sera Vivos!)
- Define living and non-living by using pictures, gestures, and clear concise consistent language, no pronouns:
  - Living things need food. (gesture for eating, show picture, p 13)
  - Living things need water. (show a bottle, show picture, p 14)
  - Living things grow and change (use photos to show a seedling and a tree, and show an infant, a child and an adult person.) Repeat the definition.
- Show students the participation guide word lists (p 9-12). Read the category of animals and the animal word. Have students repeat each word.
- Brainstorm possible ideas for this new “class member”, write ideas on chart paper titled Living Things / Cosa que estan viviendo.
- As students share ideas repeat the word, write the word, and have students repeat the word again. Draw a quick picture next to the word to provide a visual to ensure understanding of an unknown word, and refer to the participation guide as applicable.
- Hold up a non-living thing (shoe, book, marker); ask if it could be our new class member .... Ask for thumbs up or down for the answers to these questions Does it need food (gesture), water (hold up bottle/glass) and will it grow and change(point to pictures)?

Content development/activity (20 minutes): Individually, students will complete a T chart graphic organizer using pictures from magazines in small groups at their tables.

- While students are still on the carpet, model, through demonstration, how to complete the T Chart graphic organizer (p 8) for classifying living and non-living things.
- Open magazines, browse, and find and cut out a picture of a living thing and a non-living thing. Use think alouds while cutting and pasting … “This is a_________; it is a living thing. (pause) I will cut it out (pause) and glue it on this side. (pause)…….This is a ________; (pause) it is not a living thing. (pause) I will glue it on this side.” Cut another picture of a living thing and ask (while moving the picture to each side) “Will I glue this here (pause) or here? (pause) Why?” All proficiency levels can respond to this question by pointing, using 1 or 2 words or responding in full sentences.
- Model how to label a picture for living things. Check classroom word walls, participation lists, and brainstorming chart for the animal word, saying each sound slowly as it is written under the picture. (For example: dog…. check for the picture, say the “d” sound slowly and clearly, and write the letter d, continue to complete the word.)
- Students go to their tables and pass out table bins with materials (scissors, glue, magazines, animal word lists).
- Circulate around the room and sitting at tables ask students to share their lists of living thing. Name some pictures for students “I see you have a ______, what is this one?” Check for understanding; have students practice using the word lists and brainstorming chart, for labeling living things.
- Students will naturally share and speak with peers (“look at this one”) etc. encourage this process, in L1 or L2, and ask what animal grouping their pictures would be, farm animals, water animals, birds, African? Students should be conversing for this activity.
**Cleanup (5 minutes)**: Table leaders for the day will collect materials and return them to the table bin. All students will cleanup scraps and bring finished T chart to the carpet.

**Closure (10 minutes): Students will gather in a circle on the carpet.**

- On the white board write the expression “This is a(n) _______; it is a living thing.”
- All children will participate in sharing their living things side of their chart.
- Children will share their work using either a complete sentence, listing words or pointing to the sorted pictures.
- As students share their work use the assessment sheet checklist to record student achievement on content and language objectives.
- T Charts will be posted in the classroom for further use in the unit.

**Independent practice**: In a center bin, place participation lists, and pictures of living and non-living things for sorting activities. Post the brainstorming chart next to the area for the “new class member”.
This first lesson is a precursor to the first grade unit for *The Structure and Function of Living Things*. The content objective is aligned with the state of Connecticut's science standards; the language objectives are aligned with the 2006 TESOL standards. This lesson is a necessary inclusion into this unit and serves two purposes: first, to review the concept of living and non-living things taught in kindergarten and secondly, to create a shared background knowledge and vocabulary.

At the initiation of the lesson many modifications are used. The teacher defines the key vocabulary by making the oral language comprehensible for all proficiency levels through gestures, realia, and photos. The use of native language vocabulary on the chart, *Cosa que estan viviendo*, provides a connection for the Spanish speakers in this Dual Language class; this also shows students their language is valued and respected. During the brainstorming session students share ideas, the teacher repeats the word, writes the word, and has students repeat the word again. This repetition reinforces language for English language learners at all levels of proficiency, especially early production and speech emergent levels. By drawing a quick picture next to the written word on the chart, English language learners develop a clear and precise understanding of an unknown word or concept, this is an important scaffold for pre-production students. The use of a participation guide and word walls for this lesson give students vocabulary that will be used throughout the unit of Living Things.

For the activity, a graphic organizer is used. The T chart provides an opportunity to show examples and non-examples to clarify the concept of living things. The teacher uses modeling to demonstrate the hands-on procedures and expectations for the activity. This modeling also includes think alouds and a way to check for understanding for all proficiency levels by asking “Will I glue this here? Why?”. Pre-production students can answer the first question by pointing to the correct column, early production and speech emergent students can give the name of the column and 1 or 2 words for the reasons, while intermediate and fluent students can give phrases or sentences. During the activity children work in small groups at their table with the bin of materials. Children are encouraged to share their pictures with friends at their table, practicing words and sentences. The functional expression, “This is a _______; it is a living thing” is used. For early production Ells, script the word under the picture; practice the expression with them, having students fill in the blank as you read the sentence. The pre-production Ells will participate in all aspects of the lesson; during the activity time it is important to repeat as much language and encourage peers to share the pictures they have found at their tables. This is not a silent activity and L1 is encouraged within their table interactions.

The closure of the lesson enables students to share their work and understanding of the concepts of living and non-living things. The expression prompt, “This is a _______; it is a living thing” helps speech emergent students be successful with the content objective for this lesson. All students share their charts, expressing which column illustrates living things by either sentences, words, or pointing.
<table>
<thead>
<tr>
<th>LIVING</th>
<th>NON LIVING</th>
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</table>

Name ____________________________
African Animals

lion

zebra

elephant

giraffe

monkey
Birds

owl

eagle

duck

swan
Water Animals

- shark
- fish
- whale
- starfish
Farm Animals

horse

pig

cow

chicken
Living things need food.
Living things need water.
Living things grow and change.
Living things grow and change.
<table>
<thead>
<tr>
<th>Student's name</th>
<th>Completes T chart accurately</th>
<th>Can identify a living thing (by pointing or speaking)</th>
</tr>
</thead>
<tbody>
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<td>24</td>
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</tbody>
</table>
Needs Of Living Things: Structure and Function unit

Original Lesson 1

Living vs. Non Living things (review): shared history before new content is introduced

10 minutes - Class discussion (on the carpet): show the students the space for the new living thing that will be joining the classroom community soon ... (table top/ Counter space area) Display a sign saying “Welcome living things!” Brainstorm possible ideas for this new “class member”, write ideas on chart paper. Accept all answers. Ask if a shoe (or other non living item) could be our new member .... Why not? Ask what makes something a living thing?

15 minutes: T chart activity (at tables). Using magazines, old books, newspapers etc, have students cut out pictures or words of living and non living things and create a T chart to compare and contrast these two concepts.

5 minutes: Share student work (on the carpet): Note the different organisms that are depicted on the charts, have students name some living things they found. Collect and display work

Materials: Chart paper, markers
Magazines, newspapers, old books
Glue
Scissors
T charts
Lesson 2
Science Unit: The Structure and Function of Living Things
Lesson 2: Observing the structure of goldfish
First Grade Dual Language 50/50 model (English Spanish mix)

<table>
<thead>
<tr>
<th>Content Objective:</th>
<th>Language Objective:</th>
</tr>
</thead>
</table>
| 1. Students will observe an organism over time.  
2. Students will identify the structural parts of the organism. | 1a. In a large group and small groups, students will orally participate in a discussion about the organism. (speaking)  
1b. Individually, students will write observations of an organism in their journals. (writing)  
2. In small groups, students will complete a participation guide by labeling the parts of the organism and write the function of the parts. (writing) |

<table>
<thead>
<tr>
<th>Domain and Topic</th>
<th>Level 5 Nearly Fluent</th>
<th>Level 4 Intermediate</th>
<th>Level 3 Speech Emergent</th>
<th>Level 2 Early Production</th>
<th>Level 1 Pre-Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speaking and Writing: Observations of the goldfish</td>
<td>Students will orally participate in a class discussion about the organism using full sentences. Students will write observations of the organism in their journals using complete sentences.</td>
<td>Students will orally contribute to the class discussion using phrases and write observations in their journals using phrases or complete sentences.</td>
<td>Students will participate in class discussion using guided expressions. Students will write observations of the organism in their journals using a sentence starter and words from the word bank and observation chart.</td>
<td>Students will participate in class discussion by responding in 1 or 2 words about the observation of the organism. Students will write a list of observations of the organism in their journals with help from classroom charts.</td>
<td>Students will repeat key vocabulary terms with the class and use L1 to support understanding in small groups. Students will write a list of observations of the organism in their journals by labeling structural parts of the organism with the help of the participation guide.</td>
</tr>
<tr>
<td>Writing: Labeling a participation guide and filling in the function</td>
<td>In small groups, students will complete a participation guide by labeling the parts of the organism and writing the function of the parts. They will use the brainstorming chart for support.</td>
<td>In small groups, students will complete a participation guide by labeling the parts of the organism and completing a cloze activity to show meaning of the function.</td>
<td>In small groups, students will complete a participation guide by labeling the parts of the organism and complete a cloze activity with support from their peers.</td>
<td>In small groups, students will complete a participation guide by labeling the parts of the organism using the classroom diagram for support.</td>
<td></td>
</tr>
</tbody>
</table>
Functional / Notional Chart for Lesson 2: Observing the structure of an organism (goldfish)
What language expressions will help Level 1&2 students achieve the lesson and language objectives?

<table>
<thead>
<tr>
<th>Function</th>
<th>Situation</th>
<th>Expression</th>
<th>Vocabulary</th>
<th>grammar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observe and paraphrase</td>
<td>Observing the structure of a goldfish</td>
<td>*I notice that the <strong>goldfish</strong> uses <strong>fins</strong> to <strong>swim</strong>.</td>
<td>notice goldfish fins swim</td>
<td>noun direct object verb subordinate clause</td>
</tr>
<tr>
<td>Discuss</td>
<td>Observing the structure of a goldfish</td>
<td>Living things have parts that help them move.</td>
<td>parts, structure fins, gills, tail, mouth, eyes</td>
<td>noun (plurals)</td>
</tr>
</tbody>
</table>

* This expression will be used throughout the unit as we observe other organisms (tortoise, plants, and lizards). This expression will also be used as part of the final expression of animal structures and their functions to the animal's survival.
Modified Lesson 2

Needs Of Living Things: Structure and Function unit

Grade Level: 1st grade, Dual Language Class 50/50 model Spanish and English

State Science standard: 1.2 Living things have different structures and behaviors that allow them to meet their basic needs.

TESOL standard 4: English language learners communicate information, ideas, and concepts necessary for academic success in the area of science.

Content Objectives: Students will observe organisms over time. Students will identify the structural parts of the organism.

Language Objectives: In a large group, students will participate in a discussion about the organism. Individually, students will write their observations about the organism in their journals. Students will complete a participation guide by labeling the parts of the organism.

Grouping: Large group gathered on the carpet, center activities in small groups to work on journals, labeling, and observations.

Timing: Observation and discussion of new organism, 15 minutes; centers, 36 minutes including 12 minute stations: labeling participation guide, journal writing and illustration, and observations of organism with the teacher.

Materials: covered container with goldfish (2 to 4)
    Goldfish food
    Student Science folders
    Student journals
    Chart paper/ markers
    Participation guide for students to label
    Magnifying glass

Key vocabulary: organism, observation, fins, gills, tail, eyes, mouth, goldfish

Initiation: (10 minutes) Observations of the structure of the goldfish
- Gather students on the outside edge of the carpet. (Have a few T charts that students made from Lesson 1)
- Uncover the “new living thing”. Tell students “This is a goldfish.” Hold up a T Chart and ask “Which side would we put this on? (pause) Living or non living (point to each side of chart) If you think living thing, put your thumbs up (gesture, count and record number on chart paper) If you think non living put your thumbs up.” Ask students “Does it need food? (show visual from lesson 1, p 13) Does it need water? (p 14) Does it grow and change? p 15) “It is a living thing. (pause) We call all living things (point to T chart side of living things) organisms. (pause) Say that word … organisms. (pause) What are all living things called ____ (class response).”
- Students will observe the goldfish. Introduce the term observation: “We will watch (pause) the organism (pause), the goldfish; we will do an observation. Say that word observation...” (Show the graphic for observation. p 25 ) “When we do an observation, we watch, see and notice.” (gesture to eyes, point to graphic) “Observation sounds like the Spanish word observacion”. Ask students to tell what they see in their observation of the new organism.

- Teacher will script on chart paper student responses. (Chart paper will have a large illustration of a goldfish to be labeled p 26 ) For early production language proficiency students, the teacher will use a sentence starter: I see the goldfish has (or does) _______. As students observe different parts and behaviors the teacher will write the observation. The teacher will ask about the function. “We wrote and labeled that fish have fins,(pause) Why do fish have fins? (point to the fins) “What do fins help them do?” Another important structure of the goldfish is its gills. If students do not observe them, tell students that fish breathe differently than people. Illustrate on the chart paper what the gills look like and their function. Have students see if they can observe them on the organism.

- Show the fish food. Demonstrate the way to feed the fish. Ask students (use gestures), “What will happen when we put the food (pause) into the container?” Allow discussion. Then have the helper feed the fish. Continue observation and chart.

Content Development/Activity (36 minutes): Students will work in small groups in science center stations. After 12 minutes each station will rotate. See rotation guide on (p 34 )

- After students have shared observations, the teacher will discuss center activities and distribute science folders (same folders as lesson 1) which contain the appropriate individual leveled handouts (p.28-33):
  1. The Labeling Stations will consist of 2 table areas with 4 students of mixed language abilities. Students will work in their groups to fill out a participation guide (p. 28-30) by labeling the important structures of the goldfish and their function. Each student will find this guide in their personal science folder; handouts are modified according to language proficiency. (The Labeling Station will have a large labeled diagram of the goldfish posted (p 27)
  2. The Journal Writing Stations will consist of 2 areas with 4 students of mixed language abilities. Each student will write their observations of the goldfish and create an illustration in their science journal (p 31-33). (The journals are kept in their science folders.) The observation chart generated by the class is posted next to these tables
  3. Organism Observation Station will have 8 students and the teacher will facilitate. Students will be able to observe and discuss the behaviors of the goldfish in a small group. The teacher will facilitate Instructional
Conversations (IC); the IC will center on the structure and function of the organism. (p. 35). NOTE: All pre-production level students will begin their center activities at this station mixed with students of different language proficiencies. Students will interact in more content language with the teacher as a guide, and from there will continue to rotate to the other independent stations.

Clean up: (5 minutes) Students will place all class work in their science folders and return the folders to the science bin.

Closure: (5 minutes) Students will gather on the carpet to review the lesson. Teacher will ask students to come up to the chart and point to the key vocabulary teams: fins, tail, mouth, gills, and eyes.
Student’s journal entry and labeling guide will serve as an assessment tool for this lesson.
Narrative for Modification to Lesson 2

This lesson is modified from the Foss Science Kit. It introduces the inquiry skill of observation to first graders. In the introduction to the lesson, the teacher needs to explicitly inform the students of the definition of observation. Using gestures, a visual chart, and a connection to the Spanish cognate helps Ells to access the content and skills in this lesson.

Grouping the children in a circle on the carpet enables all to view and observe the new organism. This arrangement also helps students to hear new words and content as it is discussed and reviewed. The use of realia helps keep students’ interest and gives a clear image of concepts (fins, gills etc) for Ells. The teacher scripts students’ observations and labels the large chart of the goldfish. Before students go to center activities, the teacher distributes their science folders which are organized with the appropriate modified class work included. The participation guides on structure and function differ for each level of language proficiency. The mainstream, nearly fluent and intermediate students complete the same handout and are supported by a word bank, the observation chart generated by the class, and the labeled diagram. The speech emergent students and early production students complete a cloze activity and label the parts of the fish. The pre-production students label the parts and repeat the highlighted words on their handout. This activity is completed in a small group with students working together to finish the task.

The use of Instructional Conversations (IC) help Ells gain content language in a small group setting facilitated by the teacher. This interactive discourse strategy provides a forum for teachers to extend students thinking through questioning and responding. Each level of language proficiency is considered.

The final activity for students during this center time is journal writing. The students write observations they made about the organism. This is fully supported by the use of the observation chart and participation guide. The journal, guides, and IC serve as assessment tools for this lesson.
Observation: To watch, notice and see

I notice _______________________________________

I see _________________________________________

I observe ______________________________________
Label the parts of the goldfish (mainstream, nearly fluent and intermediate language students)

Word Bank:
- fins
- tail
- gills
- eye
- mouth

Fins and tail ____________________________.

The gills ____________________________.

The eyes and mouth ____________________________.

Phrase Bank: help fish breathe help fish find food help fish swim
Label the parts of the goldfish (speech emergent and early production language students)

**Word Bank:**
- fins
- tail
- gills
- eye
- mouth

Circle the correct answer

Fins and tail help the fish _________.
- swim
- breathe

The gills help the fish _________.
- eat
- breathe

The eyes and mouth help the fish find _________.
- rocks
- food
Label the parts of the goldfish (pre-production language students)

Word Bank:

fins  tail  gills  eye  mouth

Fins and tail help the fish swim.

The gills help the fish breathe.

The eyes and mouth help the fish find food.
I notice that.....
<table>
<thead>
<tr>
<th>Fish Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Fish Image" /></td>
</tr>
<tr>
<td>I notice the goldfish</td>
</tr>
<tr>
<td>I see the goldfish</td>
</tr>
<tr>
<td>I observe the goldfish</td>
</tr>
<tr>
<td>I see the goldfish</td>
</tr>
</tbody>
</table>
A fish can:

1. 

2. 

3. 

4. 
After 12 minutes, students will rotate stations: 2 labeling stations go to the 2 journal stations, the 2 journal stations go to the observation table, and the students at the observation table will split into the 2 labeling stations with the teacher's assistance.
(note: at 10 minutes students will be given a 2 minute warning for finishing work to switch.)
Instructional Conversation for Observation of Organisms

1. Eight students at the table
2. goldfish container, goldfish
3. magnifying glass
4. elodea (water plant)
5. Questions and response techniques followed

Students will continue an observation of the goldfish. The teacher will prompt a discussion by showing the plant to the students. What may happen if we put this in the water?

Students will engage in discourse about predictions of the organism’s behavior.

The IC will promote usage of content language and expressions, in a responsive nonthreatening environment. The teacher is a facilitator of the IC.

<table>
<thead>
<tr>
<th>Sample questions for each level of proficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearly Fluent</td>
</tr>
<tr>
<td>How do you think the fish will act when we put the plant in the water?</td>
</tr>
</tbody>
</table>

One student will place the plant in the container and students will observe and check predictions, and discuss other wonderments.
Structure and Function of Living Things

Función y estructura de Cosas Viviente

Sample Observation Journal.

Journal

Diario

Name: Lorrie
I notice that
Readings:
- Magazines
- Word lists

Lecturas:
- compartimieto
- palabras
Word List
Living things

fin and tail

mouth

gills

observation

goldfish

scales
GUIDING THE INVESTIGATION

PART 1: THE STRUCTURE OF GOLDFISH

1. INTRODUCE THE INVESTIGATION
   Call the class to the rug. Show students one aquarium container with water and goldfish. Ask them what they think is in the container.

   If students don't know what kind of fish they are, tell them that these are goldfish. Tell students,

   The goldfish will be at the learning center. When it is your turn, you should observe the fish to see what they look like. For example, what is the shape of their body, and what other parts can you see?

   Choose groups to rotate through the center, or adjourn to free-choice time.

2. GUIDE OBSERVATIONS AND DISCUSSIONS
   At the center, let students observe the goldfish for a few minutes without a lot of guidance. As a general rule, they should not put their hands in the water, but if they do, it shouldn’t hurt the fish. Once the initial excitement has worn off, guide students to make observations.

   • Can you tell which end is the head and which is the tail?
   • Can you see the body? Eyes? Fins? Mouth? Tail? Gills?
   • How many fins does each fish have? Where are they?
   • Do all the fish look the same? How are they alike? How are they different?
   • Why do you think some are smaller than others?

3. ADD TO THE WORD BANK
   As students offer their observations, add any new or important vocabulary to the class word bank. Let students be the guides—acknowledge the words they use and offer new vocabulary as needed.

4. RECORD OBSERVATIONS
   Give each student a copy of the Fish Outline sheet to draw the goldfish structures they observe, such as eyes, fins, and tail. Have them dictate a sentence for the bottom of the sheet or direct them to choose words to add from the class word bank.

MATERIALS FOR STEP 1:
• Goldfish aquariums

CENTER MATERIALS:
• Word bank
• Fish Outline sheets
• Crayons, pencils, or markers

NOTE: Goldfish have two nostrils and teeth that students will not be able to see.
Lesson 3
<table>
<thead>
<tr>
<th>Domain and Topic</th>
<th>Level 5 Nearly Fluent</th>
<th>Level 4 Intermediate</th>
<th>Level 3 Speech Emergent</th>
<th>Level 2 Early Production</th>
<th>Level 1 Pre-Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>Listening: Predict animal by listening to the clues in the story</td>
<td>In a large group, students will listen to a read-aloud and, naming 2 context clues from the story, predict the animal orally.</td>
<td>In a large group, students will listen to a read-aloud and predict the animal orally, stating context clues in phrases.</td>
<td>In a large group, students will listen to a read-aloud and, with a sentence starter prompt from teacher will list context clues and predict the animal orally.</td>
<td>In a large group, students will listen to a read-aloud and predict the animal orally with the support of visuals for understanding context clues.</td>
<td>In a large group, students will listen to a read-aloud, and as peers or teacher gesture context clues, predict the animal by pointing to the picture.</td>
</tr>
<tr>
<td>Speaking: In small groups, describe structures of animals that help them move</td>
<td>In small group stations, students will work together and discuss animal structures and movement using full sentences.</td>
<td>In small group stations, students will work together and discuss animal structures and movement using phrases.</td>
<td>In small group stations, students will work together and discuss animal structures and movement orally assisted by an expression starter.</td>
<td>In small group stations, students will work together and discuss animal structures and movement orally using 1 or 2 words to represent the animal and the movement.</td>
<td>In small group stations, students will work together and repeat the name of the animal’s structure and movement with the support of visuals, gestures and peers.</td>
</tr>
<tr>
<td>Domain and Topic</td>
<td>Level 5 Nearly Fluent</td>
<td>Level 4 Intermediate</td>
<td>Level 3 Speech emergent</td>
<td>Level 2 Early production</td>
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</tr>
<tr>
<td>------------------</td>
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</tr>
<tr>
<td>Writing: Completing graphic organizers in small group stations</td>
<td>In small group work stations, students will complete graphic organizers (piece of pizza and sorting chart) writing a complete sentence and animal words.</td>
<td>In small group work stations, students will complete graphic organizers (piece of pizza and sorting chart) writing sentences and animal words with support of peers and charts.</td>
<td>In small group work stations, students will complete graphic organizers (piece of pizza and sorting chart) completing a sentence starter and writing words supported by word banks and animal charts.</td>
<td>In small group work stations, students will complete graphic organizers (piece of pizza and sorting chart) filling in a cloze handout with the support of classroom charts and word lists.</td>
<td>In small group work stations, students will complete graphic organizers (piece of pizza and sorting chart) illustrating sentences and writing animal words supported by charts.</td>
</tr>
</tbody>
</table>
Functional / Notional Chart for Lesson 3: The different structures of organisms
What language expressions will help Ellis achieve the lesson and language objectives?

<table>
<thead>
<tr>
<th>Function</th>
<th>Situation</th>
<th>Expression</th>
<th>Vocabulary / Phrases</th>
<th>Grammar</th>
</tr>
</thead>
<tbody>
<tr>
<td>Describe and predict/justify</td>
<td>During read aloud students predict the animal using context clues</td>
<td>I think it is a _______ because it _______.</td>
<td>bat - lives in caves, hangs by its feet</td>
<td>predicate noun</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>cow,-says moo, eats grass</td>
<td>complex sentences w/ an independent and dependent clause with subject and verb</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>seal- has flippers, eats fish</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>swan-is white, has a long neck</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>kangaroo-has a pocket, big back legs</td>
<td></td>
</tr>
<tr>
<td>Categorize</td>
<td>Sorting pictures by animal structures onto a sorting chart</td>
<td>This organism belongs here because it has ______.</td>
<td>wings, legs, fins, flippers, hind legs</td>
<td>noun, direct object</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>complex sentences w/ an independent and dependent clause</td>
</tr>
</tbody>
</table>


Lesson 3

Needs Of Living Things: Structure and Function unit

Describe structures that help organisms move

Grade Level: 1st grade, Dual Language Class 50/50 model Spanish and English

State Science standard: 1.2 Living things have different structures and behaviors that allow them to meet their basic needs.

TESOL standard 4: English language learners communicate information, ideas, and concepts necessary for academic success in the area of science.

Content Objectives: Students will describe the structures animals have to move around.

Students will categorize animal pictures by their movements using graphic organizers.

Language Objective: In a large group, students will listen to a read-aloud (fiction) and, naming context clues from the story, make a prediction about the animal.

In small group stations, students will work together and discuss animal structures and movement while completing a graphic organizer.

Groupings: whole group on the carpet for story, small group work stations for activities

Timing: 60 minutes total: Read-aloud 15 minutes; 36 minute 3 work stations (12 minutes each) 9 minute clean up and closure

Materials:
- Is Your Mama a Llama? By Deborah Guarino
- Science folders with student work included
- Handouts: piece of pizza, animal charts, sorting chart, framed pictures
- Visuals of animals from the story
- Visuals of structures and movements

Key vocabulary: flippers, wings, legs, hind, claws

Initiation: 15 minutes: students are gathered on the carpet for a story (p.43-45)

- Review class chart from observations done with the goldfish. Highlight the structures that make the fish move (fins, tail)
- Tell students “I will read a story (pause and show book) that has other organism in it, (pause) what is an organism?” (pause) point to the living things T Chart, have a student answer. “This story has these organisms in it”: show visuals (p.45-46) pointing to and stating unique features and key vocabulary (long neck of the swan, flippers on the seal, hind or back legs for kangaroo) Say the name of the animal, have students repeat the word. Tell the children that the baby llama (point to llama visual) is asking his friends if their mama is a llama. His friends give him a clue who their mama is,(pause) listen (gesture with hand to ear) to the clue to see if you can guess what they are.”

- Begin reading the story, pacing speech but keeping the rhythm of the story. Shake your head when reading “No, she is not” (this phrase is repeated often in the story. Invite students to join in after the second time it appears). Point to the characters on each page so children know which character is talking. As the characters give clues scaffold statements
She hangs by her feet (point to your feet) When reading the final part for that animal pause to have students guess (emphasize the word that will rhyme with the animal) .... (p67)

"Oh," I said. "You are right about that.
I Think that your mama sounds more like a ....

Have the class choral answer BAT. Then ask a nearly fluent language proficiency student to justify the answer by stating the context clues from the story (Bats hangs by their feet. Bats lives in a cave) Turn the page to see the animal ..... Ask, "Are we right?"

Continue reading the story in the same manner, pacing and scaffolding at each page. "She has a long neck" (run finger slowly down your neck) and again have students predict the name of the animal: (p71)

"Oh," I said. "You don't have to go on.
I think that your mama must be a ......"

Students will do a choral response. Speech emergent students can justify the answer by repeating the teacher's prompt: "It is a swan because ... " and list clues (it has a long neck, white feathers, wings).

Turn the page to see the animal ..... Ask, "Are we right?" Finish the story.

Concept development / Activity: (36 minutes) Show visuals of the animals from the story again. (p45-48)

- Tell the children that they will be learning about the structures (bodies) of animals and how the structures help the animal move. Bring the fish to the carpet. Ask children to demonstrate how it moves. (Children will act out swimming). Hold up the picture of the flying bat. Ask children to demonstrate how this animal moves. (Children will flap wings to show flying) Ask "Why does the bat fly, (pause) and the fish swim?" Students will respond about the structures of the animals: wings and fins.

- Show students the handouts that will be in their science folder (p 50-51, 55-58). At each station students will use the appropriate charts and materials and work with their peers to complete activities. See rotation guide (p52).

1. ‘Piece of Pizza’ station will consist of 2 table areas with 4 students of mixed language abilities. Students will complete two slices to add to their group’s whole pizza. Students will have classroom charts, animal word lists (posted in room from lesson1) and a movement list (p 55-58) to support their work.

2. Animal Sorting station will consist of 2 table areas with 4 students of mixed language abilities. Students will sort the animal cards into the correct column on the sorting chart by copying the animal word (p50-51)

3. Frame it activity will consist of 8 students and the teacher as facilitator. The teacher will show the students a framed picture of an animal and the group will generate ideas about the structure of the animal and how it moves. The teacher will scribe ideas along the frame of the picture (p60-60a). At this station the teacher will also begin to model question about
other structures of the organism, i.e. *We noticed that the eagle has sharp claws; I wonder why?* Or *We noticed that the giraffe has a long neck, I wonder why?* This modeling will be further developed in the next lesson in the unit for structure and function. During this time it is important for students to hear the questions and wonderments modeled by the teacher and begin to think of their own questions.

**Clean up:** 4 minutes, students return science folders to the bin and return to the carpet.

**Closure:** 5 minutes. The closure of this lesson will serve as an assessment as well. Each child will demonstrate through actions the movement for a particular structure. The teacher will flash a picture of wings, legs fins, flippers, or hind legs to each student. The student will respond with the movement for that structure. (p53-54)
kangaroo

swan
seal

llama
 Movements of organisms

Walk .............

Swim .............

Fly ...............  

Hop / Jump ..........
## Animal Movement Sorting Chart

<table>
<thead>
<tr>
<th>Run/Walk</th>
<th>Fly</th>
<th>Swim</th>
<th>Jump/Hop</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Dog Running" /></td>
<td><img src="image2.png" alt="Bird Flying" /></td>
<td><img src="image3.png" alt="Fish Swimming" /></td>
<td><img src="image4.png" alt="Rabbit Jumping" /></td>
</tr>
<tr>
<td>Rabbit</td>
<td>Sheep</td>
<td>Monkey</td>
<td>Goat</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>--------</td>
<td>------</td>
</tr>
<tr>
<td>Frog</td>
<td>Bee</td>
<td>Cow</td>
<td>Pig</td>
</tr>
</tbody>
</table>

**How do these animals move?**

- ant
- eagle
- frog
- crane
- fish
- grasshopper
- deer
- fox
- rabbit
Students remain in station for 12 minutes, after 10 minutes the teacher gives a warning to finish work. Each student will complete all 3 activities.

Each station contains posted word lists of animal structures and actions to support students in completing the task. (p54 and p60)

NOTE: All pre-production level students will begin their center activities at the Frame It station mixed with students of different language proficiencies. Students will interact in more content language with the teacher as a guide, and from there will continue to rotate to the other independent stations.
Structure cards used for assessment in Lesson 3

**WINGS**

**LEGS**
FINS

FLIPPERS

hind legs
A bat has wings to fly.
A seal has _______.

wings
flippers
legs
Draw

A fish has ___ to ___.
Draw animal and write a sentence about how it moves.
Piece of Pizza: (see individual slices on 55-59)
How organisms move to obtain their basic needs.
Narrative for Lesson 3

This lesson begins with a read-aloud that is very appropriate for mainstream first grade students. It contains rhyme and some repeating verse. The text is modified by the teacher for Ells by pacing, gestures, visuals and student response strategies. A brief introduction to the book, including visuals of the animals featured in it and pointing out their unique structural features, helps to make this book accessible to all language proficiency students. Also, these modifications help all students, especially Ells, be successful in the choral responses to the story. This book helps introduce the content topic for structure and movement.

In the original lesson, a second classroom pet was planned. The children would do an observation similar to that of the goldfish and compare the two organisms. However, I felt more development and practice of language and the concept of structures of animals was needed. I decided to add this lesson in before the tortoise observation lesson.

The activities for this lesson are completed in center stations with mixed language groupings. Handouts are modified and supported for all levels of language proficiency. In each station, students work in small mixed groupings to complete tasks. The use of word lists, guides, and modified worksheets help Ells contribute to the work done in their groups. The “Piece of Pizza activity allows children to work in their groups and individually as well. Each student will complete two pizza slices to complete group’s whole pizza. With the given supports this activity is accessible to all students and helps to reinforce the content objective.

The rotation for station activities is similar to the one used in lesson 2. Students begin to learn the concept and practice of group work and center stations in these first few lessons. While activities and groupings are teacher directed at this time of the year (September of first grade), these beginning practices serve to establish routines that will allow for more student input and engagement. The teacher still is very much a model for materials and expectations for all students at this point in the year.
Lesson 3 structure of the tortoise

10 minutes: Read aloud (on the carpet): *Is your mama a Llama?* Read the story .... As you read, see if children can fill in the animal from the clues .... After the story begin to talk about the ways some of those animals move, how they are different from each other etc.

10 minutes: New Living thing! Observation of the tortoise: Have students observe the new organism ..... on chart paper write down “I notice that..... “ have students list things they notice about the tortoise, shape / movement. Place food and tortoise back into the box and have students observe eating behaviors. Model (think aloud) asking questions ...“I wonder why...... the tortoise has those claws”, “do they have teeth ... why not?”

10 minutes: Observation journals: have students record what they noticed about the new organism / illustrate.

5 minutes: Closure, gather students on the carpet and put both organisms in the center (Goldfish and tortoise): both are living things ...... what do both organisms need to do to survive.

**Materials:**
- Tortoise and the habitat box
- Book: *Is Your Mama a Llama?*
- Chart paper, markers
- Food for the tortoise (romaine lettuce)
- Observation journals
Is Your Mama a Llama?

By Deborah Guarino
"Is your mama a llama?" I asked my friend Dave.
"No, she is not," is the answer Dave gave.

Shake head
"She hangs by her feet, and she lives in a cave. I do not believe that's how llamas behave."
"Oh," I said. "You are right about that.
I think that your mama sounds more like a ....

Emphasize word "for rhyme"

- Students choral respond
- A student to justify
"Bat!"
"Is your mama a llama?" I asked my friend Fred.

"No, she is not," is what Freddy said.
"She has a long neck and white feathers and wings. I don't think a llama has all of those things."

"Oh," I said. "You don't need to go on. I think that your mama must be a ..."
“Swan!”
"Is your mama a llama?" I asked my friend Jane.

"No, she is not," Jane politely explained.

- Shake head
- Children can join in on phrase
"She **grazes on grass**, and she likes to say, ‘Moo!’
I don’t think that is what a llama would do."

"Oh," I said. "I understand, **now**.
I think that your mama must be a . . ."
"Cow!"

Moo.
"Is your mama a llama?" I asked my friend Clyde.

"No, she is not," is how Clyde replied.
"She's got flippers and whiskers and eats fish all day... I do not think llamas act quite in that way."

"Oh," I said. "I'm beginning to feel that your mama must really be a..."

Emphasize word for rhyme

- Students choral respond
- Students justify
"Seal!"
"Is your mama a llama?" I asked my friend Rhonda.

"No, she is not," is how Rhonda responded.
"She's got big hind legs and a pocket for me . . .
So I don't think a llama is what she could be."

"Oh," I said. "That is certainly true.
I think that your mama's a . . ."

Emphasize word for rhyme

- Students choral answer
- Students justify
"Kangaroo!"
"Is your mama a llama?" I asked my friend Llyn.
"Oh, Lloyd, don't be silly!" Llyn said with a grin.

"My mama has **big ears, long lashes, and fur** ... And you, of all people, should know about her!"
"Our mamas belong to the same herd, and you, know all about llamas, 'cause you are one, too!"

"Yes, you are right," I said to my friend.
"My mama's a..."
"Llama!"
And this is . . .