

# TENNESSEE AQUARIUM

## Lesson Plan Title: Living or Not, Let's Find Out!

**Edited by:** Tennessee Aquarium Education Staff **Last Edit:** Nov 2024

**Subject:** Life Science

**Grade Level:** Kindergarten – 1<sup>st</sup>

### Objective(s):

- Students will be able to recognize differences between living organisms and non-living materials.
- Students will identify physical attributes of living organisms and nonliving materials within freshwater habitats.
- Students will be able to sort living organisms and nonliving materials found within freshwater habitats into a T table.

### Standards:

#### K.LS1: From Molecules to Organisms: Structures and Processes

2) Recognize differences between living organisms and non-living materials and sort them into groups by observable physical attributes.

3) Explain how humans use their five senses in making scientific findings.

### Aquarium Exhibit Use:

Ridges to Rivers Gallery: 3<sup>rd</sup> floor of River Journey



## Materials Needed

Pre-aquarium activity:

- Living vs Nonliving PowerPoint Presentation

Aquarium activity:

- No materials needed unless you would like the students to be able to draw or point

Post-aquarium assessment:

- Poster/Board for table
- Living vs Nonliving pieces

## Background Information

Something is classified as living if it can do all of the following:

- move on its own
- grow and reproduce
- respond to outside stimuli
- take in and use energy
- respire

There are many living and nonliving aspects of freshwater ecosystems that work together for the overall health of that environment. The living organisms, such as plants, animals, and fungi, depend on the nonliving natural surroundings for survival. These could include water, rocks, sunlight, air, sand, temperature, and salinity.

Plants need: water, sunlight, air, soil

Animals need: food, water, air

- Aquatic organisms need water
- Can further delve into shelter and how non-living things come into play
  - Salamanders needing rocks for shelter
  - Ants needing to build homes out of sand
- Nocturnal vs. Daytime animals
  - Not all animals need the sun to stay healthy

Fungi (mushrooms) need: water, air, soil

## Program Planning

| Introduction   | Duration      |
|--|---------------|
| <ul style="list-style-type: none"> <li>Choose a nonliving object in your classroom and ask students what is different between you (a living human) and that nonliving object.</li> <li>Briefly explain the lesson's objectives to the students.</li> </ul>   | 5 minutes     |
| Pre-aquarium Activity  | Duration      |
| <ul style="list-style-type: none"> <li>Go through the powerpoint with students.</li> <li>For each question (slide 2), use the following movements to help with understanding:               <ul style="list-style-type: none"> <li><b>Eating:</b> use the American sign language sign for eating (see image)                   <ul style="list-style-type: none"> <li>With dominant hand, close hand so all fingers are touching, then motion to and away from mouth</li> </ul> </li> <li><b>Moving:</b> move arms to represent flying like a bird</li> <li><b>Reproducing:</b> rock a baby in your arms</li> <li><b>Growing:</b> put hands on feet and slowly bring them up and over your head</li> <li><b>Breathing:</b> take a deep breath in and out</li> </ul> </li> <li>Go through the rest of the slides that show examples of living and nonliving things.</li> </ul>                                | 15-20 minutes |
| Aquarium Activity  | Duration      |
| <ul style="list-style-type: none"> <li>Once in Ridges to Rivers exhibit, take time at each habitat to make observations about the organisms and materials within that tank.</li> <li>Have students identify what is living and what is nonliving within the freshwater habitats by asking the 5 questions:               <ul style="list-style-type: none"> <li>Can it eat?</li> <li>Can it move on its own?</li> <li>Can it have babies?</li> <li>Can it grow?</li> <li>Can it breathe?</li> </ul> </li> <li>If needed, print out slide 2 for the students' reference.</li> <li>This area can get very busy, if there are too many guests, point at 1 thing and ask the class as a whole if it is living or not and why.               <ul style="list-style-type: none"> <li>Examples of what is in the exhibit: water, fish, rocks, snails, plants, rain, sand, logs, sticks, moss</li> </ul> </li> </ul> | ~10 minutes   |

| Post-aquarium Assessment  | Duration    |
|---|-------------|
| <ul style="list-style-type: none"> <li>• <b>Formative Assessment: T- Chart</b> <ul style="list-style-type: none"> <li>○ Print out pictures from pages 5-6 and provide the students with them.</li> <li>○ Create a T chart somewhere all students can visibly see.</li> <li>○ Label one side as 'Living' and one as 'Nonliving'</li> <li>○ Go through each picture provided of organisms and materials and as a class organize into the two groups.</li> </ul> </li> </ul> | ~10 minutes |
| Closure/Reflection  |             |
| <ul style="list-style-type: none"> <li>• Summarize key points.</li> <li>• Relate the lesson to future learning or real-life applications.</li> <li>• Allow students to ask questions and provide feedback.</li> </ul>   |             |

#### Extensions:

- Take care of a class plant and record how it grows throughout the year/semester to emphasize how plants are living too even though they don't talk, jump, or eat like we do.
- Split class into groups and have each group organize the pieces into T-charts working together rather than whole class to provide more of a challenge and clearer assessment.

Images for T-chart assessment:







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