

Grade Level: Kindergarten

Instructors: Nick Goldstein and Jane Hanks

Title of Lesson: Life as We Know it!

Unit Title: Life Sciences: Alive vs. Not Alive & Animals/ Plants

Performance Standard(s) Covered:

- **SKL1. Students will sort living organism and non-living materials into groups by observable physical attributes.**
 - Recognize the difference between living organisms and nonliving materials.
 - Group animals and plants according to their observable features.
- **SKL2. Students will compare the similarities and differences in groups of organisms.**
 - Explain the similarities and differences in plants and animals.
 - Match pictures of parents and a baby.

Essential Questions:

- What makes something alive vs. not alive?
- How are animals and plants alive?
 - How are they different? Same?
- How are animals similar to parents? How are they different from other organisms?

Objective: What is the goal of your lesson? What will your students accomplish during the lesson?

- The students will be able to determine the difference between a living organism and non-living materials.
- The students will be able to look at pictures, objects, and other representations and talk about why something is alive or not.
- The students will look at plants and animals and understand how they differ in terms of size, shape, and other observable features.
- The students will be able to recognize that all organisms have similar features to parents that produce them.
 - The students will be able to link that organisms come from other organisms that look similar.

Key Words and Terms:

Living, nonliving, animal, plant, life, parents, baby, child, similar, different, cells, appearance

Learning Activity

Abstract: This lesson aims to teach students the fundamental concepts of life and how all living organisms, namely plants and animals, have similar and different features. The students will use this information in future school years to build a better understanding of biology over time.

Materials Needed: **NOTE:** The activities are done in three different kindergarten classes

- 3 Powerpoint presentations
 - 1 PPT: Animals and plants (pictures for classroom discussion)
 - 1 PPT: Jeopardy!
 - 1 PPT: Matching game of baby animals to parents
- 2 boxes of fruit snack treats
 - 1 box: Animal Treats
 - 1 box: Plant/ Fruit Treats
- 2 Microscopes for the class
- 2 slides for microscopes
 - 1 slide: Plant cell (leaf, grass)
 - 1 slide: Animal cell (skin, hair)
- 2 boxes of crayons
 - 1 per group
- White printer paper
 - 1 sheet per student
- 1 box of bagged animal crackers or Teddy Grahams for exiting treats

Safety Concerns:

- Students should not horseplay during any of the activities and will remain in a single-file line for each activity requiring hands-on work (Jeopardy! And microscopes).
- Students should be careful when looking through the microscope lens to not approach lens too quickly as to injure their eyes or face.

Procedure: (This activity will take 3 class periods to complete total)

- First Class Meeting
 - The students will enter the classroom and sit quietly on the floor in front of the projector.
 - The instructor will play the “Alive-or-Not” game from “thinkcans.com” and ask the students to participate in answering whether something is alive or not alive when it comes onto the screen.
 - After working with the instructor, the students will play an individual game of “Alive-or-Not” on their own at their computers for two rounds.
 - Instructors should assist students with any questions and will help students to finish work.
 - At the end of class, the instructors will ask students about whether objects are alive or not.
- Second Class Meeting
 - The students will enter the classroom and sit quietly on the floor.
 - The instructor will give a brief presentation of life and plants versus animals and ask students to determine whether something is a plant or an animal via physical attributes.
 - Life: Grows on its own, needs food source, and can make copies of itself.
 - Plants: Green, flowers, trees, etc.
 - Do not move, but are alive.
 - Animals: Humans, dogs, cats, etc.
 - Move, eat, sleep, etc.
 - After the presentation, the class will be split in half and play a game of Jeopardy as 2 different teams.
 - The Jeopardy game will have 3 categories, each with 1 pt., 2 pt., 3 pt., 4 pt., and 5 pt. values.
 - Plant or Animal
 - Picture of an organism and they name whether it is plant or animal
 - Alive or Not-Alive
 - Picture of a living or nonliving thing and they name whether it is alive or not.

- Name that Animal
 - Pictures of different types of ordinary animals (dogs, cats, birds, etc.)
 - **NOTE** The students should have no trouble reading the categories and point values.
 - The team that wins gets animal gummy treats and the losing team gets plant/fruit gummy treats as a consolation prize!
- Third Class Meeting
 - The students will enter the classroom and sit quietly in front of the projector.
 - The instructors will discuss that babies (offspring) share many features with their parents as well as other organisms while differing in many other features as well.
 - Students will examine pictures of parents and babies and match the pairs from a picture bank of parents.
 - (Picture of puppy in picture bank matched with the parental dog, etc.)
 - After, the students will examine cells through a microscope after forming single-file lines
 - Plant cell from blade of grass and animal cell from skin cell, both of which will not be discussed in-depth but rather as an interesting view of microscopic biology!
 - Before class ends, the students will be split into two groups and will draw their favorite animal and favorite plant using crayons and white printer paper.
 - Describe what animal it is and how it looks (physical features).
 - At the end of class, instructor will stand at the door and ask each student to name an animal (dog, cat, etc.) or a plant (flower, tree, grass, etc.).
 - Each student will receive a cracker treat bag for answering correctly before exiting the classroom!

Tips and changes?

- The students did not like having to remain clam and quiet for prolonged periods of time during the games, the game should involve a lot of movement/ standing up!
- The students have a hard time reading and understanding number values; it would be best to change any remotely difficult wording.
- The students all wanted a turn coming up to the board and answering questions and each class had different roster values, thus it would be best to make more categories or questions so each student can have an opportunity to answer.
- The students really **love** treats! All activities I have involved treats in have gone very well.

Resources:

- Google Images

- <http://thinkcans.net/games-centre/alive-or-not-alive>
 - All other games (Jeopardy! And matching) are made from scratch.