Wizards of Wright

Lesson: Is it Living or Non-Living?

Background Info for Wizards:	In this lesson, we will focus on the concept of Living vs. Non-Living things for grades K-2. We will be exploring the physical characteristics that determine whether an object is living or non-living. Then we will be taking one of those characteristics (growing and changing) and connect that to various animal life cycles.
Materials:	2 hula hoops Living or Non-Living sorting items (enough for one for each student) Label page for inside the hula hoop - Living, Non-Living Butterfly Life Cycle page for each student "divided sections sheet" for each student *(each student will need their own scissors and glue)*
Lesson Time: ***55-75 minutes***	Introduction: 5 minutes Guided Lesson #1: 5-10 minutes Student Activity #1: 15 minutes Guided Lesson #2: 5-10 minutes Student Activity #2: 20-25 minutes Conclusion: 5 minutes
Learning Targets:	Students will understand the difference between living and non-living objects. Students will learn that the scientific field of Biotechnology is where scientists change living things to make human life better. Students will focus on the growing and changing factor for determining a living thing and learn about life cycles.
Introduction for Students: 5 minutes	**Ask the students:** Are you living or non-living? How about your pets at home – are they living or non-living? How about the tables you are sitting at – are they living or non-living?

	Take a few minutes and allow students to give examples of things that are living. Then ask them to give examples of things that are not living.
Guided Lesson #1: 5-10 minutes	**Say to the students:** Let's make a list of things we need to survive. Call on several students, discuss their ideas, and then make a list on the board of the 4 main/most important answers. - We need food. - We need water. - We need shelter. - We need air. Today we will talk about different objects and decide if they go in the Living or Non-Living category. Explain that there are certain questions we can ask to determine whether something is living. For example: - Does it breathe? - Does it eat? - Does it make babies or lay eggs? - Does it move on its own? - Does it grow or change as it gets older?
Student Activity #1: 15 minutes	Place two hula hoops on the ground in the front of the room. Put a card in the middle of each hoop, labeling one "Living" and one "Non-Living." Give each student an object or picture of an object. Have each student take a turn, come up to the hula hoops, tell the class what their object is, tell the class if it is living or non-living, and place the object in the hula hoop they think it belongs in. If it's a confident student, you can ask them how they know. If they aren't sure, remind them of the list on the board, and help them ask questions to figure it out. Does it eat? Does it breathe? Does this object grow and change? If they still aren't sure, they can ask a classmate for help. Continue until every student has had an opportunity. Collect the items before beginning the second activity, and make sure all students are seated again before moving on.

Guided Lesson #2: 5-10 minutes	**Say to the students:** We discussed before that one of the questions we can ask, to tell if something is living or non-living, is if the object grows or changes over time. **Ask the students:** What are some ways you have grown or changed since you were born? If needed, you can ask them some leading questions. - Are you the same size that you were? - How did you get around when you were younger? - What things have you learned to do, that you couldn't do when you were younger? - How did you communicate when you were younger? **Ask the students:** Does anyone know what a life cycle is? Take a few answers and then give them a definition. A life cycle is a series of stages a living thing goes through during its' life. These stages show how a living thing grows and changes. All plants and animals go through life cycles. Each stage of life has its own name. For example: When you were tiny, people called you a what? That's right, a baby. Does anyone know what we call 2- and 3-year-olds? Yes! A toddler. Raise your hand if you have a brother or sister that is a teenager? Teenagers are between 13 and 18 years old. Notice that those numbers end in the word teen. That is how teenagers got their name. Eventually, we grow up. What's another word for a grown-up? That's right, an adult. Life cycles repeat again and again.
Student Activity #2: 20-25 minutes	**Say to the students:** The stages of an animals' life cycle have completely different names. Instead of babies and toddlers, animal stages have names like eggs, larva, and pupa. **Ask students:** Does anyone know which animal has a stage called tadpole? - Show students the Frog Life Cycle graphic and take a few minutes to talk about the stages. **Ask students:** Can anyone guess what happens during a hatchling stage? Think of the word hatch.

	- Show students the Chicken Life Cycle graphic and take a few minutes to talk about the stages. **Ask students:** How about the caterpillar stage? Does anyone know what animal's life cycle that would be a part of? - Show students the Butterfly Life Cycle graphic and take a few minutes to talk about the stages. - Show students that stage 3 is called a chrysalis. Ask if anyone knows what else this stage is called. (cocoon) Today, I want you to make your own copy of the Butterfly life cycle. 1. Tell students they will need their scissors and glue. As they are getting it out… 2. Pass out a Butterfly life cycle sheet to each student. 3. Pass out a divided sheet to each student. Explain to students (and show them our final project) that they will cut out each stage of the butterfly's life cycle, and then glue it on the correct number. This will keep the stages in order. When they are finished, they can draw the arrows. As they are working, you will have to go around and make sure they are gluing in the correct order. 😊 (Teachers may want the students to cut the big circle out and glue it to construction paper later.)
Conclusion: 5 minutes	Depending on the class, and how long the second activity takes, there may not be time for a full conclusion. If you can, take a few minutes to review the lesson. **Ask students:** - Who can tell me the difference between a living thing and a non-living thing? - How do we know if something is living? - Who can give me an example of a living thing? - Who can give me an example of a non-living thing. - What is a life cycle? - What's an example of growing and changing?

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