

A Science Mini-Unit: Living and Non-Living Adapted from Teacher Kathryn, website below.



This is an adaptable unit in which children explore the difference between **living and non-living** things. While many primary students can sort common items into living and non-living, they often cannot explain what distinguishes living from non-living. They often have difficulty distinguishing between something that once was living but now is not, and something that was never alive (dead versus non-living). As the lesson progresses, student will discover that in order to be “dead” a thing had to be alive first.

Key question to explore: **Is this thing living or non-living? How do you know?**

Lesson 1:

Introduce the idea that scientists group items by ways that they are the same and different as one way of learning about our world. Tell students they will think like scientists as they examine several familiar items.

Show the Is it Living? Slides, one at a time. As each picture is displayed, ask students if the object is living or non-living. Do not correct mistakes; listen, and encourage students to explain their reasoning. If there is disagreement, probe with further questions.

“Can you tell me more? Why do you think that?” and “What is your evidence?” “Does anyone have a different idea?” are prompts which can encourage students to think more deeply to explain their initial responses or to offer counter ideas when a “wrong” idea has been suggested. (But, at this stage, do not identify “correct” and inaccurate responses. Invite every student to participate in explaining why they think an item is living or non-living.

At the “Stop Sign” slide, stop the powerpoint and lead your students in a discussion with the following questions:

How can you tell if something is living or non-living?

What are some things that all living things have in common?

Write down all of the students’ ideas on a big chart. For example:

Now, choose an object that all of the kids can agree is absolutely, without a doubt, living--like a puppy! Go through each of the ideas on the chart. If it is true for the puppy, put a check. If it is not true, cross it out.

For the puppy example: It has a face. Check! It grows. Check! It can move. Check! It talks. No! Cross it out. Now we know this is not true for all living things. It has a heart. Check! They have ears. Check! They have hands. Debatable...depends on whether or not your definition of hands includes paws!

Now choose another living thing, but this time, choose an object you know will get a few more misconceptions crossed off that list. Butterfly got ~~They have ears~~ crossed off. A sunflower got ~~It has a face~~ and ~~It has a heart~~ crossed off. Keep going until you have all of the misconceptions crossed off and you will have the beginnings of a list of what all living things have in common.



Note: Students may want to cross off *It can move* or *It can breathe* (or a few others) for a plant or a tree. After all, they do not obviously move or breathe. So you will probably have to have a quick discussion about how plants move (such as growing toward the sun) and breathe (release oxygen).

Your class will probably not think of all the things living things have in common.

Finish the rest of the *Is it Living* PowerPoint and add the other criteria to your list.

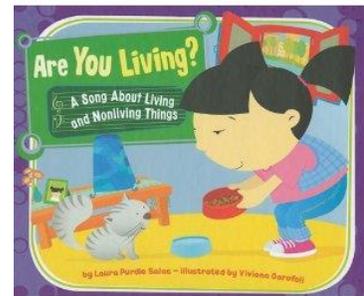
You should have: breathe, move, grow, eat/take in energy, have babies (reproduce).

Scientists generally include three additional characteristics: release waste, respond to environment, and are made of cells. Since these concepts may be too complex for primary, it is sufficient to say there may be some additional things living things have in common but these are the ones you can all agree on now.

Lesson 2:

Read a book together about living/non-living things, referring to your chart from Lesson 1 to reinforce each characteristic as you come across it. Suggested books:

[*Are You Living? A Song About Living and Non-Living Things*](#) by Laura Purdie Salas



[*What's Alive?*](#) By Kathleen Weidner Zoehfeld

Next, go back and discuss the Challenge questions in the *Is it Living* PowerPoint. Are the seeds, egg and an apple living or non-living? Get the students to justify their answers based on the things they learned. Here are some sample kindergarten appropriate answers:

Seeds are from a living thing, and they are still living if they can still grow into living things. If they are cooked or in your tummy, they are probably no longer living. The egg is living if it has a baby bird inside. Chickens have to take care of eggs that have baby birds inside. The eggs that are in your grocery store do not have baby birds inside and are no longer living.. Rocks are different because they never were part of a living thing.

Writing activity:

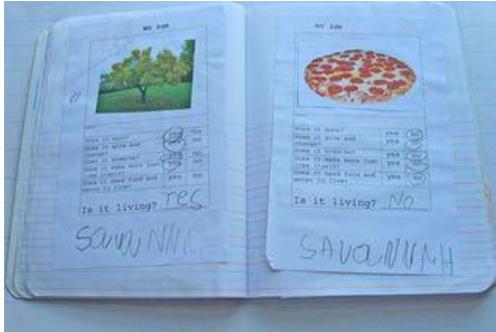
Use cards, pictures from magazines, or a collection of objects, and have students do a living/non-living sort. They can do this individually in their science journals, or in pairs on a worksheet.

Day 3

Make a chart like the one pictured below with all of the characteristics of living things across the top. Choose different objects and go through each of the characteristics for each one. Then have the kids determine whether that object is living or not, **using evidence to support their claim.**

	Does it move all by itself?	Does it grow and change?	Does it breathe?	Does it need food and water to survive?	Does it reproduce?
Worm	yes	yes	yes	yes	yes
car	NO	NO	NO	gas? oil? water	NO
soccer ball	NO	NO	NO	push it with my foot	NO
Calvin	yes	yes	yes	yes	yes
flower	yes	yes	yes	yes	yes
chicken	NO	NO	NO	NO	NO

Finally, have the students pick one (or more) objects and answer the questions on a recording sheet in their science journals. You can print pictures for them, have them cut pictures from a magazine or draw pictures.



Have Fun!

Further exploration

- Incorporate the local environment -- follow with a scavenger hunt in the school yard for living and non-living things and test them with the chart. Make a poster or collection that categorizes the things you have found.
- Connect to concept of habitat – how animals and plants get food, how they respond to their environment.
- Find some living things (organisms) in the school yard; discuss what they need to survive and reproduce, how they interact with each other and with their environment
- Closer observations of living organisms
 - Germinating seeds to observe growth and change, variation
 - Doing experiments to see what conditions plants grow best in
 - Experiment with pillbugs – how do they respond to environmental factors?

<http://www.kindergartenkindergarten.com/2012/03/a-science-mini-unit-living-and-non-living.html>