

Lesson Plan: What Is Living at My School?

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Target Grade: TK

Teacher Prep Time: 30 minutes

Lesson Time: 2 hours and 35 minutes (We recommend doing this lesson over three days.)

- Part 1:
 - 15 minutes – Living vs. Nonliving
 - 30 minutes – Campus Walk
 - 10 minutes – Sketch our Living Thing
- Part 2:
 - 30 minutes – What Lives At Our School?
 - 10 minutes – What Living Things Need to Survive (Part 1)
 - 20 minutes – Story
- Part 3:
 - 30 minutes – What Living Things Need to Survive (Part 2)
 - 10 minutes – Finding Patterns in Living Things' Needs

Lesson Overview:

During this lesson students will explore living things on their school campus. They will graph the number of times they see an organism and analyze patterns to explore what organisms need to survive.

Learning Objectives:

- Students will be able to explore their school campus and identify living organisms as well as count the number of times they see them (up to 10).
- Students will know that animals need air, water, and food to survive and plants need air and water.

NGSS:

Support for K-LS1-1: Use observations to describe patterns of what plants and animals (including humans) need to survive.

- **Science and Engineering Practice**
 - #3 Planning and carrying out investigations
 - Doing “exploriments”
 - #5 Using mathematical and computational thinking
 - Counting and measuring
- **Disciplinary Core Idea**
 - LS1.C Organization for Matter and Energy Flow in Organisms
 - Animals obtain food they need from plants or other animals. Plants need water and light.
- **Cross Cutting Concept**
 - #1 Patterns
 - Children recognize that patterns in the natural and human designed world can be observed, used to describe phenomena, and used as evidence.

Where This Lesson Fits in:

TK students should be familiar with the outdoors and the living things they might see there. They should already be able to distinguish between plants and animals based on prior experience. This lesson offers connections to literacy and math. Students should be able to count (one to one correspondence).

Materials Needed:

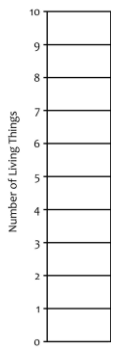
- What Is Living at My School? handouts (one per student)
 - You might want to print the handout on cardstock because students will be using it multiple days
- Partial graph pieces (one strip per student)
- Avery Labels 6450 to print 3 stickers: air, water, and food stickers (one of each type per student)
- Needs Cards (1 set)
- Plant not found on your school campus (ex: cactus)
- Animal not found on your school campus (ex: mealworm)
- Stuffed toy (the stuffed toy should match either the plant or animal from above)
- Rock
- Clipboards (optional one per student)
- Pieces of wood ~ 1 ft long; the exact size does not matter but should be just small enough to turn over. These will be placed around your school ~ 3 week before you do the activity in order to attract small animals to collect. (5 pieces)
- Pictures of whales (2)
- Pictures of hippos (11)
- Pocket chart (optional)
- [What's Alive?](#) By Kathleen Weidner Zoehfeld (1 copy)

Teacher Prep:

- Three weeks before activity, lay ~ 5 pieces of wood on the ground outside in 5 different locations, preferably locations that are moist. These will attract animals and will be turned over when you go for your campus walk.
- Group students according to their needs. More independent students could do this on their own; if needed, less independent students might be paired with a more capable student.
- Tape up 2 pictures of whales and 11 pictures of hippos around your room, such as the ones seen below, to use to fill out example partial graph pieces.



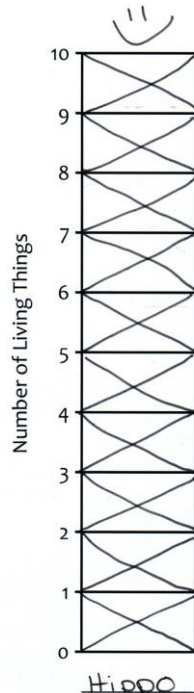
- Print out What is Living at my School? handouts and cut in half.
- Print out partial graph pieces and cut (as seen on right) so that you will be able to put them together to form a complete graph.
- Print out air, water, and food stickers.
- Print Needs Cards and cut them in quarters.



Lesson Sequence:

* Students will mostly work by themselves in this activity.

Part 1:	
15 minutes	Living vs. Non-Living <ul style="list-style-type: none">• Show students a real plant (ex: cactus), a real animal (ex: mealworm), stuffed toy (cactus), and a rock. Make sure that the plant and the animal that you choose are not a plant or animal that you will see on your school campus grounds.<ul style="list-style-type: none">◦ If you have a class pet, that is fine to use as your real animal.• You can hold or pass around each item while having students identify them and make observations.<ul style="list-style-type: none">◦ Expected Student Response (ESR): cactus: green, has spikes, is in dirt; mealworm: small, moves around, is brown, has 6 legs; stuffed toy; green, soft, looks like a cactus; rock: hard, gray, does not move, round, rough• Have students compare and contrast the items. Make sure by the end of the conversation that students have noticed that the rock and the stuffed toy are not living and the mealworm and cactus are living. Students should also understand that there are things that look like living things that are not living, like the stuffed toy.• Have a class discussion on what it means for something to be living.<ul style="list-style-type: none">◦ ESR: living things: grow, might move, die; non-living things: do not move, do not eat, do not breathe• Ask students, "Could we find living things around our school? What might we find if we went outside and looked?"<ul style="list-style-type: none">◦ ESR: plants, people, squirrels, gophers, bugs, birds
30 minutes	Campus Walk <ul style="list-style-type: none">• Tell students they are going to go on a scavenger hunt to look for living things on the school campus.• Set ground rules for behavior.• Tell students that when they see a living thing they should raise their hand (or shout out a special word, example: Life! or Eureka!) and point to it so everyone can see it. Tell them you will then give them a partial graph piece on which you will write the name of the living thing. Every time they see another one of their living things they should put an "x" in the box. Each student will be in charge of keeping track of one living thing.• Show students a partial graph piece. Tell them to look around the room to find a picture of a living thing (make sure they understand the picture is not living). Once they see the whale or the hippopotamus write the name at the bottom of the partial graph pieces and have all students count the number that they see while you put x's on the partial graph pieces. When you get to 10, show them how to put a happy face on the top of the column.

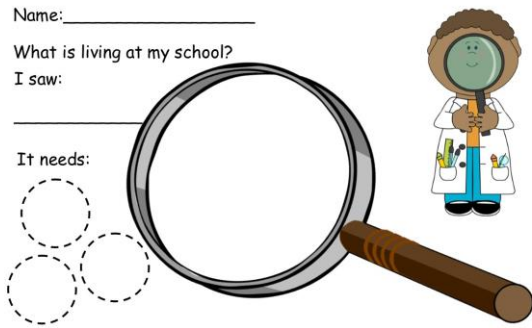
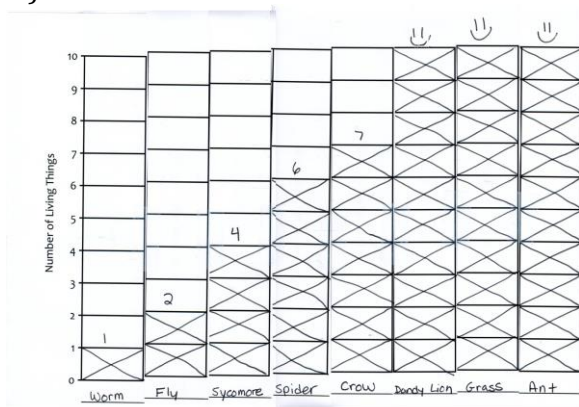





- Give each student a pencil and a clipboard if desired.
- Slowly walk around the school grounds and each time a student sees a living thing give them a partial graph piece on which you write the name of the species. Each student should have one unique species to track. Make sure that you have a mix of plants and animals.
 - Many times you will find animals under rocks or wood. If you set wood pieces out in advance, make sure that you turn these over and see what is under them.
 - On our 15-minute walk around a school campus these are the animals we saw: ants (10+), worms (6), pillbugs (5), gnats (10+), bees (10+), squirrels (2), crow (1), small spiders (2), black small birds (2), people (10+), bird with yellow bill (1), big black spider (1), earwigs (10+), slugs (2).
 - If you do not know the name of an animal you can just describe it like we did above.

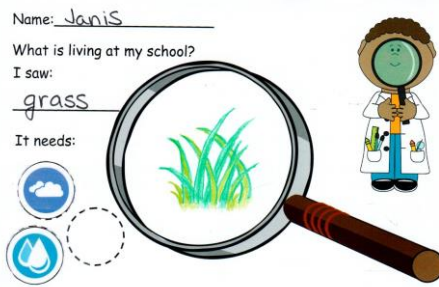
10
minutes

Sketch Our Living Thing

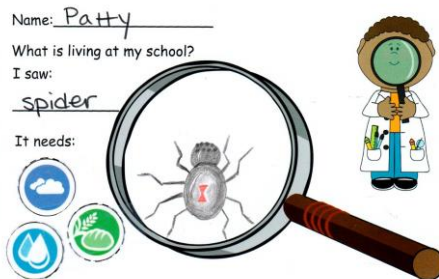
- Once back in the classroom have students write the number of times that they saw their species on the top of their partial graph piece. If they saw more than 10 of their organism, they do not need to write anything. Then, collect the partial graph pieces and give students a What is Living at my School? handout with their organism written on it. (If you would like your students to practice writing you can have them copy the name of their organism off the partial graph pieces before collecting them.)

	<div data-bbox="521 184 1049 510"> <p>Name: _____</p> <p>What is living at my school?</p> <p>I saw: _____</p> <p>It needs: _____</p>  </div> <ul style="list-style-type: none"> Have students draw a picture of their organism in the magnifying glass.
Part 2:	
30 minutes	<p>What Lives at Our School?</p> <ul style="list-style-type: none"> Tape all of the partial graph pieces to the board. Ask students to point to the graph piece that has the species that we saw the most of. Tape the pieces to each other so that the preceding piece overlaps with the y-axis title so that you cannot see it and the piece form one complete graph (see below). <div data-bbox="496 879 1071 1283">  </div> <ul style="list-style-type: none"> Discuss with students what they saw a lot of and what they did not see much of. <ul style="list-style-type: none"> Typically, more plants are seen than animals and the bigger the plant or animal, the fewer of them that you will see.
10 minutes	<p>What Living Things Need To Survive (Part 1)</p> <ul style="list-style-type: none"> Pass back the What is Living at my School? handout to each student. Tell students that we are now going to analyze our data. Tell students if they think their organism needs air to live, then move to a designated section of the room. Have a class discussion with the students that think their organisms need air and those that do not. <ul style="list-style-type: none"> ESR: The animals that live above ground need air but the plants and animals that live underground do not need air to survive. Ask students. "How could we find out who is correct?" <ul style="list-style-type: none"> ESR: We could read about it.

<p>20 minutes</p>	<p>Story</p> <ul style="list-style-type: none"> Read the book: <i>What's Alive?</i> <ul style="list-style-type: none"> <i>NOTE:</i> On page 16 of the book, instead of reading the text as written ("Plants cannot run or jump or fly. They do not eat or drink or breathe the way you do, or the way a cat does. But they do need water, air, and food. And they can move and grow."), say, "Plants cannot run or jump or fly. They do not eat or drink or breathe the way you do, or the way a cat does. But they do need water and air. And they can move and grow." On page 20 of the book, the author explains that plants make their own food using the sun. Students should understand that plants need air and water, but do not need food. They make their own food. Have a class discussion about plants and underground animals needing air to survive and make sure by the end of the discussion students understand that all organisms need air to survive. Collect the What is Living at my School? handouts.
<p>Part 3</p>	
<p>30 minutes</p>	<p>What Living Things Need To Survive (Part 2)</p> <ul style="list-style-type: none"> Pass back the What is Living at my School? handout to each student. Tell students that we are going to continue to analyze our data. Tell students if they think their organism needs air to live to move to a designated section of the room. <ul style="list-style-type: none"> Make sure all students move; if they have trouble, remind them what they learned from the book. Pass out the "air" stickers to all students to put on their worksheet. Possible student work shown below. <div data-bbox="646 1125 1089 1409" data-label="Image"> <p>Name: <u>Alex</u></p> <p>What is living at my school?</p> <p>I saw: <u>worm</u></p> <p>It needs:</p> <p>  </p> </div> <ul style="list-style-type: none"> Tell students if they think their organism needs water to live to move to a designated section of the room. <ul style="list-style-type: none"> ESR: All plants and animals need water to live. Have a class discussion between the students that think their organisms need water and those that do not by the end of the discussion make sure students understand that all living organisms need water to survive. Pass out the "water" sticker to all students to put on their worksheet. Possible student work shown below.



- Tell students if they think their organism needs food to live to move to a designated section of the room.
 - ESR: Animals need food to live.
- Have a class discussion between the students that think their organisms need food and those that do not by the end of the discussion make sure students understand that only animals need food to survive.
- Pass out the “food” stickers to the students that have animals on their worksheet. Possible student work shown below.



10
minutes

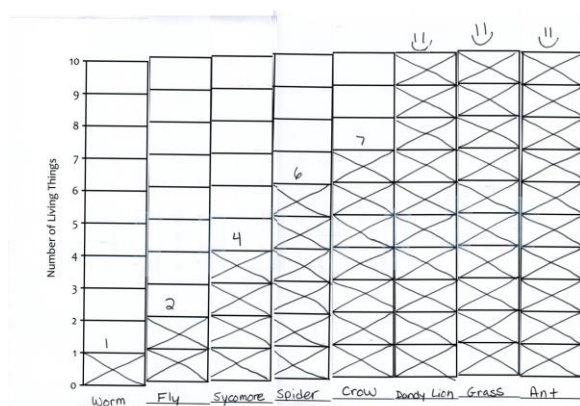
Finding Patterns in What Living Things Need

- Put the Needs Cards in a pocket chart or tape them to the board.



- Pass back the What Lives at my School? Handout to each student.
- Have students look at the stickers that show what their organism needs to survive and then place or tape their handout under the appropriate Needs Card.
 - There should only be two Needs Cards that have things under them: air & water and air, water, & food.
- Have students look for patterns in the organisms under each card. Students should notice that all plants are under air & water and all animals are under air, water, & food.

Example Student Work:



Name: Janis

What is living at my school?

I saw:

grass

It needs:



Name: Patty

What is living at my school?

I saw:

spider

It needs:

