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# What Animals Need To Survive

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Grades PS-K



## Enduring Understanding

All living things go through life processes that involve growing, living, and dying.

## Essential Questions

What do living things need to survive? How do living things get what they need to survive? How are animals needs similar/different to humans needs?

## Objectives

1. Concept Objective: Understand what an animal's basic needs are.
2. Lesson Content: Animals, like plants, need food, water, and space to live and grow.
3. Skill Objective(s):
  - a. Tell what animals need to survive.
  - b. Identify that water is important to all living things on Earth.
  - c. Use observations to identify needs of living things.

## Key Vocabulary

An **animal** is any living organism that breathes and moves around.

To **survive** is to live or remain living.

**Shelter** is something that provides cover or protection.

## Background Information

- Living is used to describe anything that is or has ever been alive (e.g., dog, flower, seed, log).
- Nonliving is used to describe anything that is not now nor has ever been alive (e.g., rock, mountain, glass, cellphone, wristwatch).
- All living things grow, breathe, reproduce, excrete, respond to stimuli, and have similar basic needs like nourishment.
- Animals need adequate food, water, shelter, air, and space to survive.
- Some animals are terrestrial animals, some animals are aquatic animals, and some are both. Terrestrial animals get their oxygen from the air they breathe and aquatic animals extract oxygen from water.

## Time Required

3 daily lessons: one in-class lesson before the trip, the field trip to the Kenilworth Aquatic Gardens, and one in-class lesson after the trip

## Materials

1. Books about animals in their environments, for example:  
*I Took A Walk* by Henry Cole  
*In the Small, Small Pond* by Denise Flemming  
*Animals at Home* by David Lock  
*Whose House is This?* by Elizabeth Gregoire
2. Animal picture cards (provided)
3. Worksheet (provided) or blank paper for students to create a picture/model of "What Animals Need"
4. Color pencils, crayons

## Background (Con't)

- Kenilworth Aquatic Gardens is home to many species amphibians, reptiles, birds, insects, and small mammals. On a field trip to the park, the animals most commonly seen by students include turtles, frogs, butterflies, dragonflies, and large birds, such as ducks, geese, great blue heron and white egret. Small mammals such as muskrat, beaver and deer may also be seen. And remember to look for signs of animals, too, such as tracks, scat, or dams!
- For more information on animals and plants found at Kenilworth Aquatic Gardens visit <http://www.nps.gov/keaq/naturescience/index.htm>.

## Procedures/Activities

### Prior to the field trip to the Kenilworth Aquatic Gardens:

1. Ask students to discuss what *they* need to live/survive. Accept all answers but discuss the difference between what we would like to have in our daily life (TV shows, iPods, etc) and what we actually need to live. Generate a list of their answers on a poster to hang in the front of the class. Some answers may include water, food, house, clothes, air, etc.
2. Read *I Took A Walk* to the students (or another book you may have access to that shows examples of animals and their habitats).
3. Discuss with the students what the animals in the book needed to survive? They may give answers like food, water, air, shelter, etc. Using the list generated in the first discussion, circle answers that are the same in a different color marker. If new answers come up, add them to the list in a different color. Discuss what things are the same and different about what humans need and what other animals need to survive, coming to the conclusion that what we need is very similar.
4. Use the attached animal picture cards (or make your own) to lead a discussion about the types of animals you may come across on your trip to the Kenilworth Aquatic Gardens and why they choose to live there. Not all the animals in the picture cards will be found at the park! Reinforce the idea that all animals have needs (such as food) but that they may meet those needs in different ways (by eating plants, and/or animals).
5. After the discussion, pass out blank paper or the “What Animals Need” worksheet. Review the concept that what animals need and what we need are the same! Suggest to the students that in order to help remember what animals need, they are going to draw pictures (**create a model**) and write (**label**) what animals need to live. Use the worksheet or help students write a sentence at the top of the page. It should read: “Animals need food, water, air, and shelter to live.” Students should also draw pictures of 2 - 3 animals that were mentioned in the class reading or discussion eating, drinking water, making a home, etc. Students should label their picture as well.

### During the field trip at Kenilworth Aquatic Gardens:

1. Visit the Aquatic Gardens for a tour of the ponds, wetlands via the boardwalk and/or forest by the River Trail. As students go on their tour, identify animals that students see or that could possibly live in each of the habitats. During the tour, you may want to have the Animal Cards with you from your in class lesson. You could discuss which types of animals you would expect to see, and which would not be able to live in the gardens.

2. If possible, record these observations visually (using a digital camera to capture photos of animals seen) or by simply keeping a teacher log of the names of the animals seen (to be used for the post lesson after returning to the classroom).
3. Using what the students learned in the classroom, review what animals need to survive and using observation skills, look to identify what parts of the habitat might provide for the animals needs (for example, the ponds provide water for birds, etc). Specifically discuss how the animals get water, food, or shelter in the different habitats seen on the tour.
4. Refer back to the discussion and models made in class to compare examples of animals discussed in class (and what they need to survive) with any new examples seen in the animal life found in the pond, wetlands, and/or forest (and what they need to survive).

**After the trip to the Kenilworth Aquatic Gardens:**

1. Have students create a second model of living things and what they need. This time, ask students to specifically include animals that were observed while on the trip to the Aquatic Gardens. This could be done as a class poster (generate one large picture for many examples of animals) or again, each student could create their own picture. Again, ask the students to label their pictures.
2. Lead a discussion to compare the two models they created (prior to and after their trip), reinforcing the idea that living things have the same basic needs that have to be met in order to survive.

## Assessment

Students turn in “What Animals Need” models. Students should have all at least two models of animals and at least three labels identifying how their needs are met.

## Animal Picture Cards



## Animal Picture Cards



Animals need \_\_\_\_\_,  
\_\_\_\_\_, \_\_\_\_\_ and  
\_\_\_\_\_ to live.



## Links to Next Generation Science Standards

For more info: <http://nstahosted.org/pdfs/ngss/20130509/dci-grouped/Kindergarten.pdf>

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

K-LS1 From Molecules to Organisms: Structures and Processes		
Students who demonstrate understanding can:		
<b>K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive.</b> [Clarification Statement: Examples of patterns could include that animals need to take in food but plants do not; the different kinds of food needed by different types of animals; the requirement of plants to have light; and, that all living things need water.]		
The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> .		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<b>Analyzing and Interpreting Data</b> Analyzing data in K-2 builds on prior experiences and progresses to collecting, recording, and sharing observations. <ul style="list-style-type: none"> <li>Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-LS1-1)</li> </ul> <hr/> <b>Connections to Nature of Science</b>  <b>Scientific Knowledge is Based on Empirical Evidence</b> <ul style="list-style-type: none"> <li>Scientists look for patterns and order when making observations about the world. (K-LS1-1)</li> </ul>	<b>LS1.C: Organization for Matter and Energy Flow in Organisms</b> <ul style="list-style-type: none"> <li>All animals need food in order to live and grow. They obtain their food from plants or from other animals. Plants need water and light to live and grow. (K-LS1-1)</li> </ul>	<b>Patterns</b> <ul style="list-style-type: none"> <li>Patterns in the natural and human designed world can be observed and used as evidence. (K-LS1-1)</li> </ul>
Connections to other DCIs in kindergarten: N/A		
Articulation of DCIs across grade-bands: 1.LS1.A (K-LS1-1); 2.LS2.A (K-LS1-1); 3.LS2.C (K-LS1-1); 3.LS4.B (K-LS1-1); 5.LS1.C (K-LS1-1); 5.LS2.A (K-LS1-1)		
Common Core State Standards Connections:		
ELA/Literacy –		
W.K.7 Participate in shared research and writing projects (e.g., explore a number of books by a favorite author and express opinions about them). (K-LS1-1)		
Mathematics –		
K.MD.A.2 Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"less of" the attribute, and describe the difference. (K-LS1-1)		

### K-ESS3 Earth and Human Activity

K-ESS3 Earth and Human Activity		
Students who demonstrate understanding can:		
<b>K-ESS3-1. Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.</b> [Clarification Statement: Examples of relationships could include that deer eat buds and leaves, therefore, they usually live in forested areas; and, grasses need sunlight so they often grow in meadows. Plants, animals, and their surroundings make up a system.]		
<b>K-ESS3-2. Ask questions to obtain information about the purpose of weather forecasting to prepare for, and respond to, severe weather.*</b> [Clarification Statement: Emphasis is on local forms of severe weather.]		
<b>K-ESS3-3. Communicate solutions that will reduce the impact of humans on the land, water, air, and/or other living things in the local environment.*</b> [Clarification Statement: Examples of human impact on the land could include cutting trees to produce paper and using resources to produce bottles. Examples of solutions could include reusing paper and recycling cans and bottles.]		
The performance expectations above were developed using the following elements from the NRC document <i>A Framework for K-12 Science Education</i> .		
Science and Engineering Practices	Disciplinary Core Ideas	Crosscutting Concepts
<b>Asking Questions and Defining Problems</b> Asking questions and defining problems in grades K-2 builds on prior experiences and progresses to simple descriptive questions that can be tested. <ul style="list-style-type: none"> <li>Ask questions based on observations to find more information about the designed world. (K-ESS3-2)</li> </ul> <b>Developing and Using Models</b> Modeling in K-2 builds on prior experiences and progresses to include using and developing models (i.e., diagram, drawing, physical replica, diorama, dramatization, storyboard) that represent concrete events or design solutions. <ul style="list-style-type: none"> <li>Use a model to represent relationships in the natural world. (K-ESS3-1)</li> </ul> <b>Obtaining, Evaluating, and Communicating Information</b> Obtaining, evaluating, and communicating information in K-2 builds on prior experiences and uses observations and texts to communicate new information. <ul style="list-style-type: none"> <li>Read grade-appropriate texts and/or use media to obtain scientific information to describe patterns in the natural world. (K-ESS3-2)</li> <li>Communicate solutions with others in oral and/or written forms using models and/or drawings that provide detail about scientific ideas. (K-ESS3-3)</li> </ul>	<b>ESS3.A: Natural Resources</b> <ul style="list-style-type: none"> <li>Living things need water, air, and resources from the land, and they live in places that have the things they need. Humans use natural resources for everything they do. (K-ESS3-1)</li> </ul> <b>ESS3.B: Natural Hazards</b> <ul style="list-style-type: none"> <li>Some kinds of severe weather are more likely than others in a given region. Weather scientists forecast severe weather so that the communities can prepare for and respond to these events. (K-ESS3-2)</li> </ul> <b>ESS3.C: Human Impacts on Earth Systems</b> <ul style="list-style-type: none"> <li>Things that people do to live comfortably can affect the world around them. But they can make choices that reduce their impacts on the land, water, air, and other living things. (K-ESS3-3)</li> </ul> <b>ETS1.A: Defining and Delimiting an Engineering Problem</b> <ul style="list-style-type: none"> <li>Asking questions, making observations, and gathering information are helpful in thinking about problems. (secondary to K-ESS3-2)</li> </ul> <b>ETS1.B: Developing Possible Solutions</b> <ul style="list-style-type: none"> <li>Designs can be conveyed through sketches, drawings, or physical models. These representations are useful in communicating ideas for a problem's solutions to other people. (secondary to K-ESS3-3)</li> </ul>	<b>Cause and Effect</b> <ul style="list-style-type: none"> <li>Events have causes that generate observable patterns. (K-ESS3-2), (K-ESS3-3)</li> </ul> <b>Systems and System Models</b> <ul style="list-style-type: none"> <li>Systems in the natural and designed world have parts that work together. (K-ESS3-1)</li> </ul> <hr/> <b>Connections to Engineering, Technology, and Applications of Science</b>  <b>Interdependence of Science, Engineering, and Technology</b> <ul style="list-style-type: none"> <li>People encounter questions about the natural world every day. (K-ESS3-2)</li> </ul> <b>Influence of Engineering, Technology, and Science on Society and the Natural World</b> <ul style="list-style-type: none"> <li>People depend on various technologies in their lives; human life would be very different without technology. (K-ESS3-2)</li> </ul>
Connections to other DCIs in kindergarten: K.ETS1.A (K-ESS3-2), (K-ESS3-3)		
Articulation of DCIs across grade-bands: 1.LS1.A (K-ESS3-1); 2.ESS1.C (K-ESS3-2); 2.ETS1.B (K-ESS3-3); 3.ESS3.B (K-ESS3-2); 4.ESS3.A (K-ESS3-3); 4.ESS3.B (K-ESS3-2); 5.LS2.A (K-ESS3-1); 5.ESS2.A (K-ESS3-1); 5.ESS3.C (K-ESS3-3)		
Common Core State Standards Connections:		
ELA/Literacy –		
RI.K.1 With prompting and support, ask and answer questions about key details in a text. (K-ESS3-2)		
W.K.2 Use a combination of drawing, dictating, and writing to compose informative/explanatory texts in which they name what they are writing about and supply some information about the topic. (K-ESS3-3)		
SL.K.3 Ask and answer questions in order to seek help, get information, or clarify something that is not understood. (K-ESS3-2)		
SL.K.5 Add drawings or other visual displays to descriptions as desired to provide additional detail. (K-ESS3-1)		
Mathematics –		
MP.2 Reason abstractly and quantitatively. (K-ESS3-1)		
MP.4 Model with mathematics. (K-ESS3-1), (K-ESS3-2)		
K.CC Counting and Cardinality (K-ESS3-1), (K-ESS3-2)		