

Title: How Do Animals Survive in their Environments?

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Subject of Lesson: In this lesson, students will explore the characteristics of plants and animals that allow them to survive in certain environments. During the exploration process, students will also identify the needs of all living things and learn how these needs are met within an environment. The final phase of this lesson will include research of a specific animal. This will occur in the library, with the help of the library media specialist.

Grade Level: 2

Time Needed: 5-7 sessions of 20-30 minutes each

Materials/Resources:

- <http://creativecommons.org/> - good resource for images that can be used legally
- posters of a variety of environments (artic, ocean, rainforest, temperate forest, tundra, wetland, prairie, desert)
- labeled pictures of animals that live in various environments
- labeled pictures of plants that can be found in various environments

Technology Used: Smartboard, computer, internet

Rational: This lesson is designed to support understanding of the structure, function and body organization that allows organisms to survive in different environments. It also helps student's gain an understanding of the basic needs of all living organisms and the impact that humans have on animal habitats. It aims to engage students in an exploration of different habitats and the animals that live within them while challenging them to think critically about how the needs of each animal are met within their habitat. A culminating activity involving older students will engage students in activities that include choosing an animal of interest, reading a book about that animal, extracting relevant information and determining how the animal is able to meet its needs within its natural habitat. The older students will act as mentors, reading and scribing when necessary, and asking thought provoking questions that lead the younger students to a better understanding of animal and plant characteristics that allow them to survive in an environment. Finally, students will use the knowledge gained to construct an appropriate habitat in which all the basic needs of their chosen animal are met.

Essential Questions:

- What are the basic needs of all organisms?
- How are the basic needs met in an animal's natural habitat?
- How are the needs of plants met within an environment?
- Do plants within a particular environment share certain characteristics?
- Do animals within a particular environment share certain characteristics?

Content Goals:

- Students will understand that an organism's needs include air, water, food and shelter.
- Students will be able to demonstrate an understanding that plants and animals possess certain characteristics that allow them to survive within certain environments through construction a habitat that meets the basic needs (air, water, food and shelter) of their chosen animal.
- Students will be able to identify the particular characteristics of a species of their choice and explain how these characteristics help them survive.

Big6 Objectives: Students and their mentors will be review or be introduced to the steps of the Big6 Model.

- Task Definition and Information-Seeking Strategies
 - Students will brainstorm a list of questions that will lead to understanding about an animal's characteristics and habitat.
 - Students will discuss which resources would best meet their informational needs. The LMS will have a variety of sources to discuss, some of which would be useful and others which would not.
 - Students will choose an animal of interest to research.
- Locate and Use Information
 - LMS will review the use of iBistro card catalog
 - With the guidance of their mentors, students will locate a minimum of two appropriate sources for their information.
 - Mentors will assist as necessary in the reading of the books.
 - Students will record answers to the questions they brainstormed as the information is revealed in the text.
 - Students, with the help of mentors, will record the sources used to find information.
- Synthesis and Evaluation
 - Students will use the information obtained through research to write a paragraph that explains 3 characteristics of their animal and how each characteristic helps them to survive in their environment.
 - Students will create a diorama of the environment in which their animal lives that demonstrates how the basic needs of the animal are met.

Standards:

- Content Standards
 - **Science** <http://opi.mt.gov/PDF/Standards/10ContStds-Science.pdf>
 - Science Content Standard 3: Students, through the inquiry process, demonstrate knowledge of characteristics, structures and function of living things, the process and diversity of life, and how living organisms interact with each other and their environment.
 - 3.1 identify that plants and animals have structures and systems that serve different functions for growth, survival, and reproduction
 - **English Language Arts** http://opi.mt.gov/pdf/CCSSO/ELA_GradeLevel_2nd.pdf

- Reading Standards for Informational Text
 - Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text
- Writing Standards
 - Research to Build and Present Knowledge: Participate in shared research and writing projects (e.g., read a number of books on a single topic to produce a report; record science observations).
 - Write informative/explanatory texts in which they introduce a topic, use facts and definitions to develop points, and provide a concluding statement or section
- Speaking and Listening
 - Produce complete sentences when appropriate to task and situation in order to provide requested detail or clarification.
- **Information Literacy/Library Media** <http://opi.mt.gov/pdf/Standards/ILLMContentStds.pdf>
 - Standard 1 The student will identify the task and determine the resources needed.
 - 1.3 choose from a range of resources
 - Standard 2 The student will locate sources, use information, and present findings.
 - 2.4 extract information from resources needed to solve the problem
 - 2.6 create a product that presents findings
 - Standard 4 The student will use information safely, ethically and legally.
 - 4.2 identify the owner of ideas and information
- **Art** <http://opi.mt.gov/PDF/standards/ContStds-Arts.pdf>
 - Content Standard 3—Students develop and refine arts skills and techniques to express ideas, pose and solve problems, and discover meaning.

Collaboration: The lesson will be most effective if the classroom teacher and the librarian (LMS) work together from the outset. Coordinating with a middle school teacher, whose class will act as mentors during portions of the lesson will not only increase student engagement, but will also improve the quality of the final product. Additionally, the mentors will contribute to differentiation throughout the project.

How Do Animals Survive in their Environments?

Before Beginning: Print full page copies of each environment picture and laminate. You may choose to affix small Velcro pieces to each sheet. Print, cut and laminate copies of the plants and animals sheets. Small Velcro pieces can be attached to the backs of these as well (the number of Velcro pieces should match the number of plants and animals in their packet that call this environment home). There should be a full set of animal and plant pieces to accompany each of the environments. Create packets that contain one environment and one full set of plants and animals.

Pre-teach: You may want to pre-teach vocabulary terms: artic, ocean, rainforest, temperate forest, tundra, wetland, prairie, desert, environment, habitat, characteristic.

Day One:

- **Anticipatory Set:**

- Play, “What is Wrong with This Picture?”. Display a series of silly images on the Smartboard that feature animals out of their natural habitats. (i.e. polar bears on a sunny beach, lobsters walking through a rainforest, etc). Explain to the students that they will now have the chance to place animals into their proper environments/habitats.
- Divide students into mixed ability groups. The number of groups should be equal to the number of environments. Provide each group with one packet containing an environment and sets of plants and animal pictures. Challenge each group to Velcro only the plants and animals that live in this environment on the sheet. Circulate and discuss choices that groups made. If possible, mentors should be here for this activity so that students have the opportunity to meet them prior to other activities.
- Follow up with a whole class discussion. Guide students to understand that all organisms require air, food, water and shelter and that they have characteristics that allow them to obtain these in the environment that they live within.

Day Two - Three:

- **Task Definition**

- Students will choose an animal to further research. Encourage students to choose one that they are not familiar with. You may want to assemble a list of more obscure animals for them to choose from or have them draw popsicle sticks printed with an animal.
- As a class, brainstorm questions that need to be answered in order to understand how an animal meets its needs and survives within its environment. Have students record these questions to share with their mentors.
 - Where in the world does this animal live?
 - What environment type is this?
 - What type of home does it live in?
 - How does it get air? Water? Food? Shelter?
 - Does this animal have special characteristics that help it survive in this environment?

- **Information-Seeking Strategies**

- With the help of the LMS, compile a selection of books and web sites that are a combination of appropriate and inappropriate information sources for the research task. Choose an animal that is not being researched by a student and discuss why some would be good information sources and others would not be. Example: If researching lions, would “The Lion King” movie, the nonfiction book “Lions” or the fiction book “My Brother, the Lion” be a better information source?
- Have students record appropriate information sources to share with their mentor. Sources should include encyclopedias, nonfiction books, websites provided by the LMS.

Day Four - Five:

- **Location and Access**

- Students will share the list questions that they are seeking answers to with their mentors. With the guidance of their mentors, students will find 2-3 sources, read, extract and record

information from them. Depending on the individual needs of students, this step can have either the student or mentor reading or writing.

- **Use of Information**

- Using a paragraph think sheet, students will, with the help of their mentor, use the information found, to write a paragraph explaining their animal's characteristics and how they meet their needs in their environment.

Day Six - Seven:

- **Synthesis/Evaluation**

- Students will use the knowledge that they have gained to create a shoe box diorama of the environment that their chosen animal lives in. The diorama will include sources of food and water and shelter. The paragraphs can be attached to the box and they can be displayed for others to see or they can take turns presenting to classmates, mentors or parents.

- **Closure**

- Return to the game "What is Wrong with This Picture?" and as a class discuss why the pictures do not work. Encourage students to use their understanding of animal characteristics and needs in their explanations. Example: The polar bear has thick fur to keep it warm in cold weather and that is why it doesn't belong on the warm beach.

Adaptations/Extensions: The use of mentors provides many opportunities for differentiation. They can assist with reading and writing when necessary and can help to keep students focused on the essential questions. They can also challenge students to think about the effects of human activity within an environment. The paragraph think sheet is a helpful tool for many, however, some students will use it only as a guide and others may be capable of composing a paragraph independently.

Resources:

- <http://creativecommons.org/> : access to images that can be used legally
- <http://opi.mt.gov/> : standards and curriculum for second grade
- <http://big6.com/pages/about/big6-skills-overview.php> : Big6 information
- <http://www.nclack.k12.or.us/site/Default.aspx?PageID=419> : has excellent resources for inquiry based activities at all grade levels

Name: _____

How Do Animals Survive in their Environments?

Animal: _____

Questions:

Answers:

1. _____ _____ _____	_____ _____ _____
2. _____ _____ _____	_____ _____ _____
3. _____ _____ _____	_____ _____ _____
4. _____ _____ _____	_____ _____ _____
5. _____ _____ _____	_____ _____ _____

Where will I look?

What resources did I use to find information?

Name: _____

Paragraph Think Sheet

The _____ lives in _____. This
(animal) (environment)

is an environment with _____, _____ and
(descriptive detail) (descriptive detail)

_____. The _____
(descriptive detail) (animal) (characteristic)

helps it to survive in the _____ by _____
(environment)

_____.

Another characteristic that helps the _____ survive in the _____ is its
(animal) (environment)

_____ which _____
(characteristic)

_____. These characteristics are important in helping the

_____ meet its needs of _____,
(animal)

_____, and _____.

ANIMALS

Cactus Wren



Monkey



Penguin



Alligator



Deer



Heron



Polar Bear



Jackrabbit



Squirrel



PLANTS

Maple tree



Ocotillo cactus



Fern



Cattail



Pine tree



ENVIRONMENTS

Tundra



Arctic



www.shutterstock.com · 104815631

Rainforest



Temperate forest



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Desert



Wetlands

