8-2011

Animal Interdependence

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UNDERSTANDING BY DESIGN

Unit Cover Page

Unit Title: Animal Interdependence

Grade Level: 2

Subject/Topic Area(s): Science

Designed By: Christy Custer

Time Frame: 15 days

School District: Northeast Independent School District

School: Oak Meadow Elementary

School Address and Phone: 2800 Hunters Green
San Antonio, TX
78231
210-407-5800

Brief Summary of Unit (Including curricular context and unit goals):

This unit is meant to be taught after second graders have learned about plants and the basic needs of plants. In this unit students will explore how plants and animals rely on each other for survival. Through concrete, hands-on, and multimedia activities, students learn about food chains, basic needs, and what is required for survival in different habitats. As a culminating activity students will choose a habitat and a natural or man-made event that occurs in that habitat. Students will then draw a picture showing what the habitat looks like before the event and make predictions about how the habitat will change, specifically how the animals will react to the change. Next, students will draw a picture showing the habitat after the event and write a newspaper article to inform the public of the changes.

Animal Interdependence (2nd Grade)

Stage 1 – Desired Results

2.3 A: identify and explain a problem in his/her own words and propose a task and solution for the problem such as lack of water in a habitat
2.9A: identify the basic needs of plants and animals
2.9B: identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things
2.9C: compare and give examples of the ways living organisms depend on each other and on their environments such as food chains within a garden, park, beach, lake, and wooded area.

Transfer

Students will independently use their learning to…

Draw a picture and write a newspaper article describing how a park, forest, or ocean habitat will change after a particular event.

Meaning

Understandings

Students will understand that….

- in a particular habitat all living things depend on each other for survival
- plants and animals have basic needs

Essential Questions

1. How does a particular environment affect the way an animal looks or acts?
2. How can one animal hurt or help another animal's survival?

Acquisition

Knowledge

Students will know…

- Basic needs include food, water, shelter, light, and space.
- Survival is being able to meet basic needs.
- Living organisms depend on each other and their environment to survive

Vocabulary

Interdependence, habitat, migration, hibernation, dormancy, food chain, carnivore, herbivore, omnivore

Skills

Students will be able to…

- recognize the various parts of a food chain
- explain how plants and animals depend on each other in order to meet basic needs
- explain how animals react to changes in the environment

Stage 2 – Evidence

CODE (M or T)	**Evaluative Criteria** (for rubric)	
T		<u>Performance Task</u> You are a park ranger in a national forest, Hardberger park in San Antonio, or a marine specialist in an ocean habitat. A particular event occurs in your area (students will choose a card). How will the environment change? How will the animals survive? How will the plants survive? Make predictions about how the habitat will change. Draw a picture of what the habitat will look like before and after this particular event. Write a newspaper article explaining to the public how the forest, park, or ocean will be different now that this event has occurred. **Park Habitat** -students draw cards to see what happens in that particular habitat (flood, drought, fertilize the grass, all the trees get cut down,)

		Forest Habitat - Students draw cards (fire, snow, trees get cut down, new trees planted, all bears get hunted, stream floods, abundance of fish) **Ocean Habitat** - Students draw cards (Hurricane, oil spill, trash, pollution from boats) *As an extension, students can type their article in the word newspaper template then draw a picture after printing. Students can also use www.fodey.com to produce newspaper clippings that can later be uploaded to a glog at www.glogster.com. --- **Other Evidence** Brain checks, journal entries, teacher observation, mini-assessment, class discussions

Stage 3 – Learning Plan

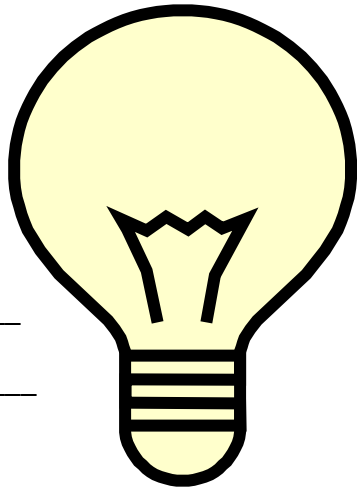
CODE (A, M, T)	Pre-Assessment This unit should be done after a unit on plants and their basic needs. On Day 1, students will write in their journals a response to the questions "How can one animal hurt or help another animal's survival?" and "How does a particular environment affect the way an animal looks or acts? Class will then discuss student responses.	
	Learning Activities Through the unit name tables as habitats. For example- table 1 would be the forest table, table 2 could be the ocean table, etc. Each student would be a certain part of the habitat- the food, water, or shelter. You could give stickers as rewards that fit each habitat. If during the unit one student is missing, use that as a teaching tool to discuss as a class what would happen in that habitat.	**Progress Monitoring** (e.g., formative data)
A	**Day 1:** Hook the students with the question "How many of you have a pet at home? What do you need to do to take care of that pet? What would happen if you took one of those things away from your pet? Write responses on the board. Students might also bring in pictures of pets or teacher can show pictures of his or her pet. After discussion, students will respond in journals to the questions "How does a particular environment affect the way an animal looks or acts?" and "How can one animal hurt or help another animal's survival?" Follow with class discussion about responses.	Journal Entry
A/M	**Day 2**: Review what a habitat is by referring to the previous day's activity. What is your pet's habitat? What does it have in that habitat that helps it live? What does it need to live? What is our habitat? What do we have in	

M	our habitat that helps us live? Discuss as a class and emphasize that these things we need to survive are called our basic needs (food, water, shelter, space, and light). Refer back to the plant unit and how plants meet their basic needs. Include in the discussion ideas about how their pets might live in the wild and how the pets would meet basic needs outside your home. Students then draw a picture of their own habitat making sure they include a description of how their basic needs are being met. **Day 3:** (you will need to make the habitat envelopes before this lesson) Give each table an envelope with a letter on it. In the envelope are cards with things they might find in a particular habitat (forest, ocean, park). Students will then need to identify what habitat they have (put the choices on the board), and how the animals in that habitat meet their basic needs. Groups will then need to explain their thinking to other groups. End with a brain check.	Brain Check
M	**Day 4**: Use the activity cards from the previous day to focus on the animals in each habitat. Students discuss the weather in each habitat and answer the question in their journals "Why do these animals live in this habitat?" Give students the sentence stem: A ____ can live in the (forest, ocean, park) because _____. They will also respond to the question "Are there any other animals that might affect each other in this habitat? How?" Class discussion follows. Make sure you discuss the physical characteristics of the animals and how that affects where they live. Teacher might want to provide books with pictures and descriptions of the habitat to help students.	Journal Entry
A	**Day 5**: Refer to the previous day's activity and explain to students that some of the animals in their habitats depend on each other to meet basic needs. Discuss thoughts on how they depend on each other. After discussion, write the words "food chain" on the board and students will respond with a chalk talk. Discuss student responses then display the food chain powerpoint and sing the food chain song! (play video of food chain song) Discuss the slides and how they relate to the habitat projects students worked on in the previous days. Draw a food chain with arrows to describe the food chain in the food chain song. Students end with a response in their journals to the question "What is a food chain?" If time, students can draw a food chain example in journals. After students understand the food chain, discuss what each animal eats. Introduce the terms carnivore, herbivore, and omnivore based on the food chains discussed in the powerpoint.	
M	**Day 6**: Start by reviewing the basic needs of plants and animals then play the animal needs game on the projector: http://www.harcourtschool.com/activity/animalneeds/ Discuss the animals and how their basic needs are being met. At recess or some other time during the day students will play the habitat chain tag game. Students will be in groups of 4, each student representing either food, water, shelter, space, or light. See the following link for directions on how to play the game. http://www.nps.gov/shen/forteachers/upload/edu_steward_interdependence.pdf	Brain Check

A	End with a class discussion about the various aspects of the game when you return to the classroom. Students respond about the experience in their journals. Brain check at the end of the lesson. **Day 7:** Review the game played the previous day and what were the results of the game. Have students write their own definitions for interdependence in their journals. Allow time to share ideas and suggestions. Show several examples of how animals depend on each other using these websites: http://video.nationalgeographic.com/video/player/kids/animals-pets-kids/mammals-kids/hippo-fishclean-kids.html http://magma.nationalgeographic.com/ngexplorer/0601/articles/mainarticle.html As students see each animal, ask questions about how the animals help each other. After the discussion, review student responses to definitions of interdependence then see if ideas have changed. Next draw and discuss an ocean food chain together. Students will then describe and draw *food chains* from the list. (desert, park, forest). Have students label animals as carnivores, herbivores, or omnivores. Remind them about the important role that sunlight plays as the primary source of energy. Provide books about these various habitats to help students create their food chains. End with the question How can one animal hurt or help another animal's survival?	Journal Entry Ask Essential Question
A	**Day 8**: Teacher walks in with a heavy coat on and asks students why they are not wearing coats. After some discussion take off the coat, put on sunglasses and a hat. Ask students why they are not wearing a hat and sunglasses. Remind students about what they learned in the previous weather unit. Humans wear clothing to help them stay comfortable. Animals also make changes to help them stay comfortable! Introduce the new vocabulary words hibernation and migration. (dormant will be taught during the plant unit, but can be reviewed again here) Write student responses about what they already know about these words. Give students the worksheet that displays these 2 concepts. Students will write what they notice about the pictures. After writing an initial response, teacher will lead discussion and eventually bring students to the word that matches each picture. End the discussion by reviewing the vocabulary words.	
M	**Day 9**: Begin with a vocabulary review game where you ask students to demonstrate what hibernation would look like (they should sleep). Then ask a student why he or she is hibernating. Next ask students to demonstrate migration. (they should move to a different place). Ask a student why he or she migrates. Play the Brain Pop Jr. video that explains hibernation then take the quiz as a whole group. Students will then draw 4 sections in science notebooks to show 4 things they learned from the video. http://www.brainpopjr.com/science/animals/hibernation/preview.weml If time, students can also watch the video about migration	Vocabulary Review Game
A/M	**Day 10**: Begin by asking students if they have seen butterflies flying across Texas during the year. Explain that these butterflies are migrating.	

T T	Play discovery streaming video (Monarch Butterfly: A Migration Journey 5:59). After the video, students answer the question in their journals "What is migration?" and draw a picture to show migration. Students will then mimic a migration by moving to a warmer place (the playground). When it is time for recess, tell the kids they are birds and ask why they might need to migrate? What will they do when they migrate? Students can flap wings as they head out to recess. Discuss after recess what they did and why they might come back, etc. End with the question "How does a particular environment affect how an animal looks or acts?" **Day 11and 12**: (this lesson can also be incorporated into the reading and writing block) Begin with the mini-assessment. Teacher will then display on the Aver camera several newspaper and magazine articles describing animals and/or habitats. Also display articles describing real world events that have occurred such as fires, floods, etc. Discuss as a class the features of the articles and how they are written. Make a chart describing these features. (students will refer to this chart as they write their final project). As a class, write a newspaper or magazine article about the Oak Meadow habitat. Discuss how we depend on the other people on our campus (custodians, principal, cafeteria workers) and how they help us meet our basic needs. What would happen if one of those things was taken away? (example- if there was a fire then we would migrate away from the school and go to a different school- we would not have shelter, etc.) This activity will help students prepare for their final project. **Day 13-15**: Students choose a habitat (forest, ocean, park) and an event card then draw what the habitat would look like before and after. The following questions should be displayed for students to answer before and after the event: How will the environment change? How will the animals survive? How will the plants survive? Students will also write a newspaper or magazine article to explain to the public how the habitat has changed. Use www.fodey.com or word template if students have more time.	Ask essential question Mini-Assessment

Brain Check



One thing I learned is … _____

_____

_____

_____

I want to learn more about …

_____

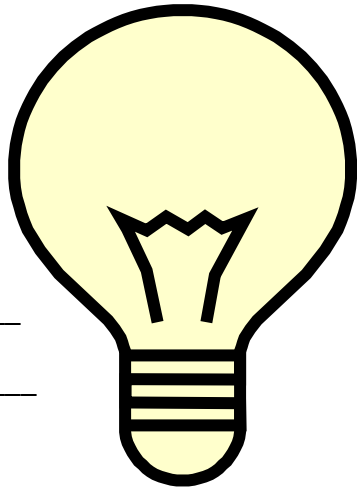
_____

I still don't understand…

_____

_____

Brain Check



One thing I learned is … _____

_____

_____

_____

I want to learn more about …

_____

_____

I still don't understand…

_____

_____

What do you notice about these pictures? Write your response next to each picture.

Name _____ Date _____

Animals Mini-Assessment

1. What is hibernation? Draw a picture and write a sentence to explain your picture.

2. What is migration? Draw a picture and write a sentence to explain your picture.

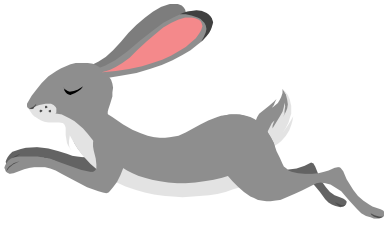
3. Draw an example of a food chain in an ocean, park, or forest habitat.

Forest Habitat

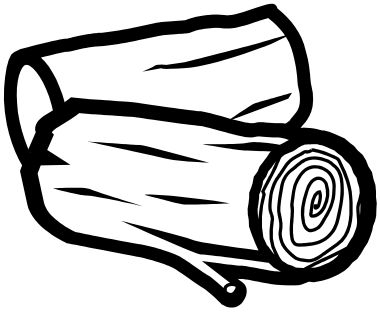
Trees

river

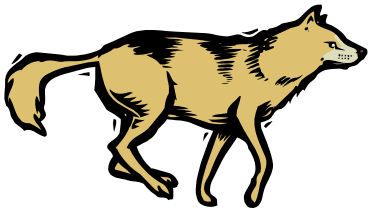
nuts



rabbit



logs

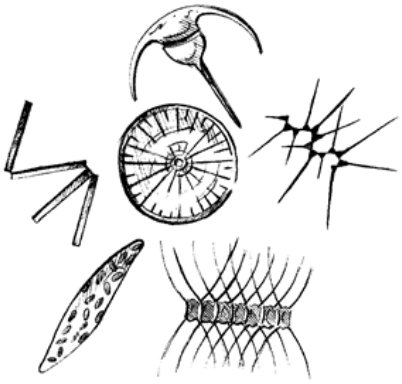


wolf

bear

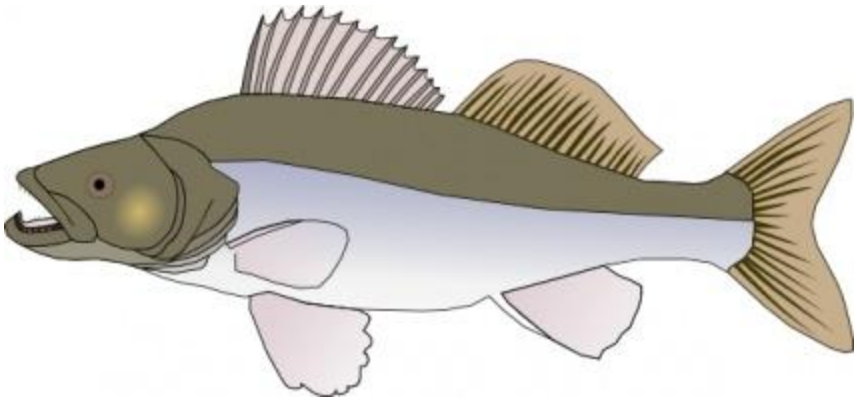
moose

Ocean Habitat



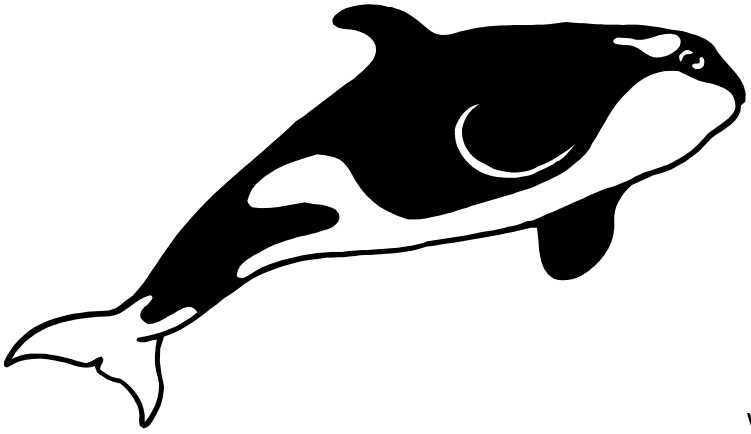
phytoplankton (mini plants)

small fish



large fish

kelp

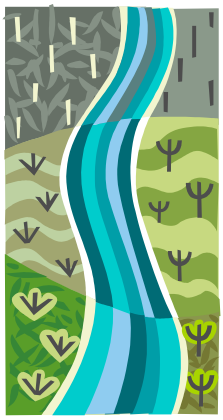


whale

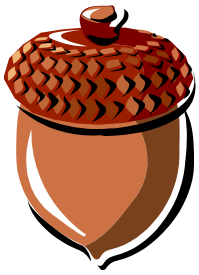
Park Habitat

trees, grass, soil

squirrel

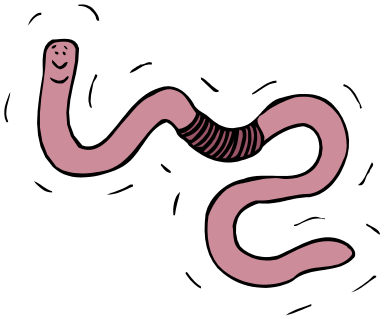


stream



acorns

bird



worm