

Creating a Public Awareness Pamphlet: Animals and their Habitat

Culminating Activity – Grade 4, Life Systems – Habitats and Communities

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Notes to Teachers:



Prior Knowledge and Skills

- Several lessons from “habitat” unit should be completed (the grade 4 science text book is a good starting point for the basic concepts required for this culminating activity – see “resource” section below).
- Students should have an understanding of the variety of habitats species live in.
- Students should understand how animals adapt structurally and behaviourally to their habitat in order to survive.
- Students also require knowledge of, and experience creating food webs, [devoting a lesson or two to activities that demonstrate species interactions (interdependence, food chains/webs) before introducing this assignment is a good idea].

Task Instructions/Considerations

- Prelude to the assignment should include a class discussion about (or review of) habitat and adaptations.
- Some discussion of food webs as a class should come before that section of the assignment; also plan to include a discussion about/review of extinction for the last section.
- Students should have also had lessons in visual arts demonstrating techniques when drawing for a specific purpose as well as practice doing so.
- Providing differing levels of work samples would be a good idea so students understand expectations and can envision a final product (perhaps consider discussing a plant and its adaptations).
- Appendix D is a list of key words to which students may refer. (Definitions are not provided as it is expected students have learned them at this point).
- Rough drafts will need to be revised and polished. Class time should be allotted for this. Perhaps students can exchange written work with a partner for editing. Peer feedback can be provided at this stage. For example, use “Two Stars and a Wish” where students highlight two things their partner did really well and give one suggestion to improve their work.
- Be sure to remind students as they work that the intended audience is the general public, and the purpose is to increase their awareness.

Accommodations

- Extra time might be required for the completion of some/all parts of the assignment.
- Depending on the situation, the teacher may wish to assist in the research process and even scribe pertinent information for the student.

Time Allotment:

Period 1 (Science)

Complete “Habitat Description” handout (Appendix A); might want to book library time/computer lab time to provide further resources for your class

Period 2 & 3 (1 Science and 1 Art)

Sketch (Appendix B) and revised drawing of animal

Period 4 & 5 (1 Science and 1 Language)

Written description of adaptations to habitat and brief natural history

Period 6 (Science)

Create food web

Period 7 (Science)

Written explanation of what would happen if animal removed from ecosystem

Period 8 (Science)

Completion of assignment – final pamphlet produced

Period 9 (Science)

Gallery walk for students to view each other’s work

Materials:

- photocopies of appendices for student handouts (these should be handed out day by day, as they are required: students may lose them or get overwhelmed with the work)
- construction paper and white paper for good copies/final product
- pencil crayons/paint/pastels for drawings of animals

Resources:*Books*

Text book – *Science Everywhere 4* – Unit 1: Science Alive (p. 24-69) Ontario Science Curriculum Document

Websites (relating to animal adaptations, habitat, and food webs)

http://www.uen.org/utahlink/activities/view_activity.cgi?activity_id=4750

<http://www.nhptv.org/natureworks/nwstmiss.htm>

<http://www.zoosociety.org/pdf/GuidedTours/AnimalAdap.pdf>

<http://www.learnnc.org/lessons/jfessler1142004273>

<http://www.nationalgeographic.com/geographyaction/habitats/index.html>

http://www.stoller-eser.com/trial/colorbook/animal_adaptations.html

http://www.arcytech.org/java/population/facts_foodchain.html http://www.fcps.k12.va.us/StratfordLandingES/Ecology/mpages/lesson_1___foodweb.htm

✓ booking library time and/or computer lab time for research aspects of the assignment would be a good idea to supplement classroom resources for this assignment

Assessment Process:

- Rubric (pg. 15): review this with students *before* they begin and outline what learning is expected (be sure to explain any unfamiliar terminology)
- Checklist to ensure students complete steps in order
- Anecdotal/observational assessment should be continued on an ongoing basis throughout the planning/research phase
- Habitat handout and drafts (drawing & writing) are not part of the final product (pamphlet) but should be considered part of the “planning/research” process
- These drafts are also a great opportunity for formative feedback from the teacher as well as peers
- A “gallery walk” where students display their completed work provides an opportunity to interview/confer with students
- Self assessment will be completed by students using the same rubric that the teacher uses (they will submit a 2nd copy with their thoughts & comments about the process and their learning)

**Culminating Activity**

Grade 4, Life Systems – Habitats and Communities

Expectations:

Understanding Basic Concepts

- 1) You will classify animals as omnivore, carnivore, and herbivore.
- 2) You will describe structural adaptations of animals that help them survive in their environment.

Developing Skills of Inquiry, Design, and Communication

- 3) You will ask questions about and identify the needs of animals and plants in a particular habitat, and explore possible answers to these questions and ways of meeting these needs (e.g., predict structural adaptations that help animals survive).
- 4) You will use appropriate vocabulary to describe your findings, explorations, and observations.

Relating Science and Technology to the World Outside the School

- 5) You will construct a food web that includes different plant and animal species.
- 6) You will discuss ways the extinction of a plant or animal species affects the rest of the natural community and humans.

Visual Arts (Creative Work)

- 7) You will produce a two-dimensional work of art (a drawing) for a specific purpose and audience.

Public Awareness Pamphlet: Animals and their Habitat

Instructions

Time Requirement: 2 weeks

Task Description

You are a highly specialized ecologist/zoologist that has just recently discovered a new, rare animal species! Your job is to inform the public about your discovery and the importance of protecting this species so it doesn't become extinct (increase public awareness).

Select an animal from the left column and a habitat from the right column (this is your new species and its corresponding habitat!)



- | | |
|-----------|------------|
| Insect | Rainforest |
| Fish | Desert |
| Mammal | Tundra |
| Bird | Marshland |
| Reptile | Grassland |
| Amphibian | Mountains |
| | Ocean |



Step 1

- 🐾 Research your selected habitat using a variety of resources (books, Internet, etc.) to complete the handout provided

[Habitat Description: Appendix A]

Step 2

- 🐾 Using the information you found about your selected habitat, identify at least 3 structural adaptations your animal might have (ex. colour, feeding structures, locomotion structures, body coverings etc.).
- 🐾 Draw a rough sketch of your animal showing the 3 structural adaptations
- 🐾 Name your animal!

[Animal Description: Appendix B]

Step 3

- 🐾 Using your rough drawing as a guide, complete a final draft drawing of your animal to go on the cover of your pamphlet.

Step 4

- 🐾 In writing, describe the 3 structural adaptations your animal has and how they help it survive in its habitat. Also, describe one behavioural adaptation your animal has and how this helps it survive. Lastly, provide a brief natural history about your animal (lifespan, what it eats, how it reproduces)

Step 5

- 🐾 Using pictures and labels, construct a food web that includes your animal
[See Food Web: Appendix C for example/explanation]
- 🐾 In paragraph form, describe what will happen if this animal is removed from its ecosystem. Why is it important for this new animal to remain in the system and how can we help protect it?

The Final Product:

After completing each component of the assignment you will be able to use your work and create a 4-page public awareness pamphlet

(Front Cover)

Drawing, name of animal, type of habitat

(Inside: Page 1)

Explanation of animal's adaptations for survival in this habitat and some natural history


(Inside: Page 2)

Food Web Diagram including your animal

(Back Cover)

Explanation of what will happen should your species become extinct

Scoring Rubric

	Level 1	Level 2	Level 3	Level 4
<p>Front Page (Drawing) 20%</p> 	<ul style="list-style-type: none"> – animal is unnamed – drawing is unattractive and demonstrates fewer than 2 structural adaptations – drawing does not demonstrate any use of skills/techniques taught 	<ul style="list-style-type: none"> – animal is named – drawing is minimally attractive and demonstrates 2 or fewer structural adaptations – drawing demonstrates minimal use of skills/techniques taught 	<ul style="list-style-type: none"> – animal is named – drawing is attractive and demonstrates 2- 3 structural adaptations – drawing demonstrates good use of skills/techniques taught 	<ul style="list-style-type: none"> – animal is clearly named – drawing is very attractive and clearly demonstrates 3 or more structural adaptations – drawing demonstrates excellent use of skills/techniques taught
<p>Planning/ Research (Rough drafts etc.) 15%</p>	<ul style="list-style-type: none"> – no evidence of planning/research – rough drafts not edited or revised 	<ul style="list-style-type: none"> – some evidence of planning/research – some rough drafts edited and revised 	<ul style="list-style-type: none"> – good evidence of planning/research – rough drafts edited and revised 	<ul style="list-style-type: none"> – excellent evidence of planning/research – all rough drafts edited and revised
<p>Explanations of Adaptations & Natural History 20%</p>	<ul style="list-style-type: none"> – adaptations are not appropriate or not clearly explained – animal not identified as carnivore, omnivore, or herbivore – natural history not described 	<ul style="list-style-type: none"> – fewer than 3 structural adaptations and 1 behavioural adaptations are explained or are not appropriate – animal not clearly identified as carnivore, omnivore, or herbivore – natural history minimally described 	<ul style="list-style-type: none"> – 3 appropriate structural adaptations and 1 behavioural adaptation are explained – animal identified as carnivore, omnivore, or herbivore – natural history described 	<ul style="list-style-type: none"> – at least 3 appropriate structural adaptations and 1 behavioural adaptations are explained – animal clearly identified as carnivore, omnivore, or herbivore – natural history thoroughly described
<p>Food Web 15%</p>	<ul style="list-style-type: none"> – contains fewer than 3 other plant and animal species – interactions are inaccurate 	<ul style="list-style-type: none"> – contains 4-6 other plant and animal species – interactions are somewhat accurate 	<ul style="list-style-type: none"> – contains 7-9 other plant and animal species – interactions are accurate 	<ul style="list-style-type: none"> – contains at least 9 other plant & animal species – interactions are very accurate
<p>Explanation of Extinction Consequences 20%</p>	<ul style="list-style-type: none"> – extinction consequences are not well explained or not highly plausible – protection steps and importance not outlined 	<ul style="list-style-type: none"> – extinction consequences are minimally explained and/or somewhat plausible – protection steps and importance minimally outlined 	<ul style="list-style-type: none"> – extinction consequences are explained and plausible – protection steps and importance outlined 	<ul style="list-style-type: none"> – extinction consequences are thoroughly explained and highly plausible – protection steps and importance well outlined
<p>Gallery Walk and Overall Presentation 10%</p>	<ul style="list-style-type: none"> – rarely uses appropriate science vocabulary – language contains many errors – poorly designed and unattractive format 	<ul style="list-style-type: none"> – sometimes uses appropriate science vocabulary – language contains frequent errors – adequately designed and plain format 	<ul style="list-style-type: none"> – usually uses appropriate science vocabulary – language is clear and mostly error free – format is well designed and interesting 	<ul style="list-style-type: none"> – consistently uses appropriate science vocabulary – language is highly readable and essentially error-free – very professional presentation

Comments:

Habitat Description: Appendix A

Habitat Name _____

Climate _____

Temperature _____

Precipitation _____

Landscape Features _____

Other Animals _____

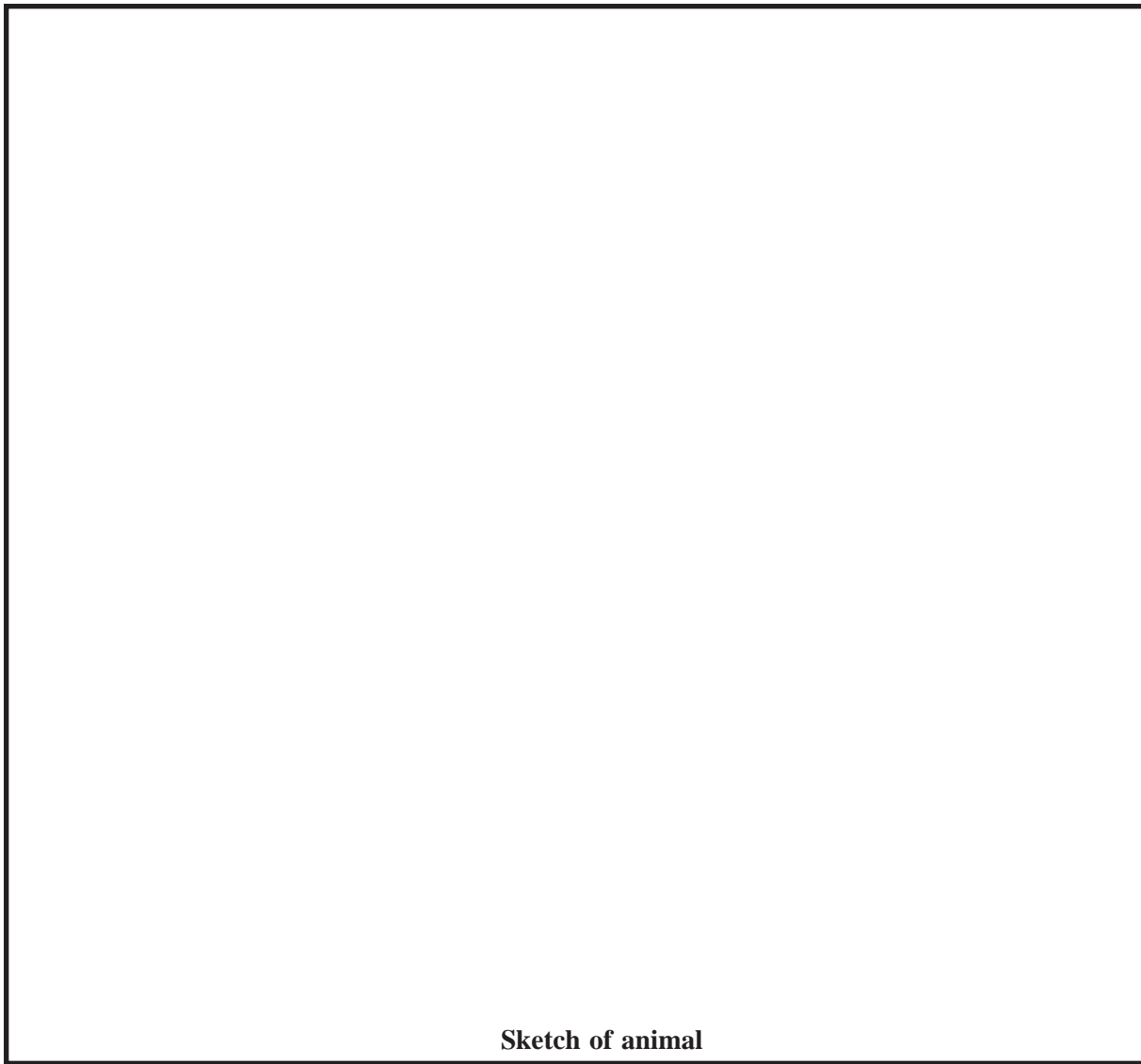
Plants _____

Additional Information _____

Animal Description: Appendix B

Name of Animal _____

Habitat _____



Structural Adaptations

- 1) _____
- 2) _____
- 3) _____

Behavioural Adaptation

- 1) _____

Food Web: Appendix C

A food web is a series of interacting food chains. Food chains show the order in which animals consume food. Food chains and food webs are made up of Producers, Consumers, and Decomposers.

Producers: Plants. Plants pull nutrients from the soil and transform those nutrients into matter which animals, fungi, or bacteria can use.

Consumers: Animals or other organisms which consume (eat) something. Consumers eat producers (plants) or other consumers. An animal that eats a plant is a primary (first level) consumer. An animal that eats an animal that eats plants is a secondary (2nd level) consumer.

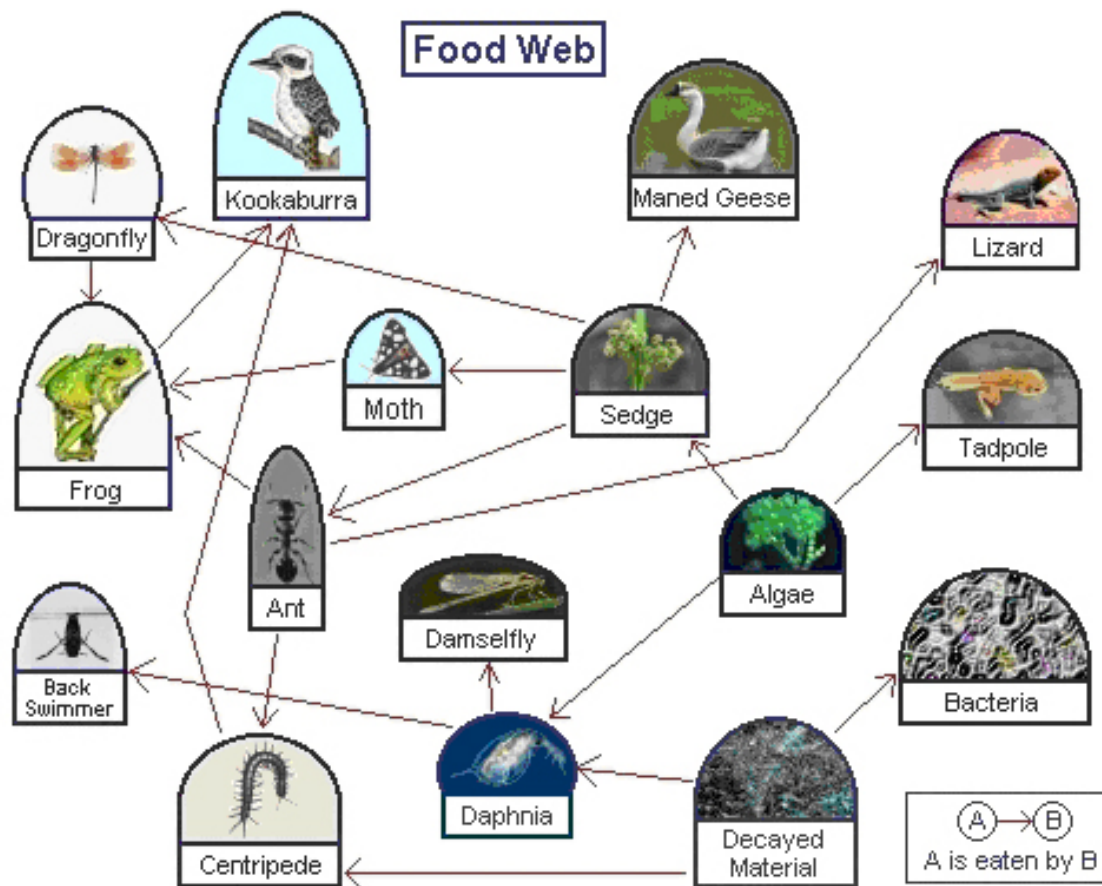
Herbivores are those that eat only plants or plant products. Examples are grasshoppers, mice, rabbits, deer, beavers, moose, cows, sheep, goats and groundhogs.

Carnivores, on the other hand, are those that eat only other animals. Examples of carnivores are foxes, frogs, snakes, hawks, and spiders.

Omnivores are the last type and eat both plants (acting as primary consumers) and meat (acting as secondary or tertiary consumers). Examples of omnivores are:

- Bears – Eat insects, fish, moose, elk, deer, sheep as well as honey, grass, and sedges.
- Turtles – Eat snails, crayfish, crickets, earthworms, but also small plants, and algae.
- Monkeys – Eat frogs and lizards as well as fruits, flowers, and leaves.
- Squirrels – Eat insects, moths, bird eggs and nestling birds and also seeds, fruits, acorns, and nuts.

Decomposers: Animals, fungi, or other organisms which break down animal or plant matter after it dies. This puts minerals back into the soil for plants to use again.



Keyword List: Appendix D

Adaptation	Food Web
Behaviour	Habitat
Camouflage	Herbivore
Carnivore	Omnivore
Consumer	Predator
Decomposer	Prey
Ecosystem	Producer
Environment	Scavenger
Extinct	Survival
Food Chain	