

Food Chains

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Project Description:

This activity can be used during a unit of study on Habitats and Communities or as a culminating project. After working through a unit on habitats and communities, students will research an animal of their choice, create a food chain and give an oral presentation on their research animal and its food chain.

Grade: 4

Subject(s)/Strand(s) Covered: Science and Technology, Life Systems

Estimated Time Frame: Classroom time will vary according to classroom schedule

Computer Time Required: 2-3 periods of 40 minutes

Computer Program(s) Used: Kidspiration, Inspiration

Prerequisite skills: Knowledge of software, accessing shared directory, saving to personal directory, scanning, downloading pictures from the Internet.

NETS COVERED	
✓	1. Use keyboards and other common input and output devices (including adaptive devices when necessary) efficiently and effectively. (1)
	2. Discuss common uses of technology in daily life and the advantages and disadvantages those uses provide. (1, 2)
	3. Discuss basic issues related to responsible use of technology and information and describe personal consequences of inappropriate use. (2)
✓	4. Use general purpose productivity tools and peripherals to support personal productivity, remediate skill deficits, and facilitate learning throughout the curriculum. (3)
✓	5. Use technology tools (e.g. multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom. (3, 4)
✓	6. Use telecommunications efficiently and effectively to access remote information, communicate with others in support of direct and independent learning, and pursue personal interests. (4)

	7. Use telecommunications and online resources (e.g., e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities for the purpose of developing solutions or products for audiences inside and outside the classroom. (4, 5,)
✓	8. Use technology resources (e.g., calculators, data collection probes, videos, educational software for problem solving, self-directed learning, and extended learning activities. (5, 6)
	9. Determine when technology is useful and select the appropriate tool(s) and technology resources to address a variety of tasks and problems. (5, 6,)
	10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources. (6)

MINISTRY EXPECTATIONS COVERED		
	Subject/Strand	Expectation
	Science and Technology Life Systems	4s4 - identify, through observation, various factors that affect plants and animals in a specific habitat (e.g., availability of water, food sources, light; ground features; weather conditions)
	Science and Technology Life Systems	4s5 - classify organisms according to their role in a food chain (e.g., producer, consumer)
	Science and Technology Life Systems	4s6 - demonstrate an understanding of a food chain as a system in which energy from the sun is transferred eventually to animals, construct food chains of different plant and animal species (e.g., carrot -> rabbit -> fox), and classify animals
	Science and Technology Life Systems	4s12 - use appropriate vocabulary, including correct science and technology terminology, in describing their investigations, explorations, and observations (e.g., habitat, population, ecological niche, community, food chain)
	Science and Technology Life Systems	4s17 - construct food chains that include different plant and animal species and humans (e.g., grass -> cattle -> humans)
	Language Oral and Visual Communication	4e61 - use the conventions (e.g., sentence structure) of oral language, and of the various media, that are appropriate to the grade (see below).
	Language Oral and Visual Communication	4e63 - use effective openings and closings in oral presentations (e.g., begin by asking questions of listeners; conclude by summarizing key points);
	Language Oral and Visual Communication	4e64 - use appropriate tone of voice and gestures in social and classroom activities;

Teaching/Learning (Lesson Outline)

Materials Required:

Computer workstations with Kidspiration/Inspiration loaded, data projector or TV monitor attached to a PC, examples of food chains, old magazines for pictures, library time for research, teacher created food chain template (optional), *The Magic School House Gets Eaten* (or any other appropriate story about food chains).

1. This project is a culminating project for a unit on Habitats and Communities. It should be completed toward the end of the unit of study.
2. Read the story *The Magic School Bus Gets Eaten* and discuss the plot, characters and events in the story.
3. As a class, develop the “Food Chain” based on the story.
4. Discuss any other food chains that the students may know based on prior knowledge.
5. Introduce the assignment, show and discuss the Assessment of Information Technology and Expectation Rubric that will be used to evaluate the project.
6. Provide computer lab time and library research time for students to research their chosen animal.
7. When students have researched their animal or gathered their information they may begin to work on the Food Chain in Kidspiration/Inspiration. A template may be used or the students can begin from scratch.
8. Students will hand in their completed project to the shared directory, and save it to their personal directory for the oral presentation.
9. The final task is for students to give an oral presentation to the class using the data projector or TV monitor.

Suggested Extension Activities:

1. Students could be asked to design an animal giving it characteristics they choose. They must state the habitat that their animal lives in and create a Food Chain based on this mystery animal.
2. Students could create a diorama or habitat in a box for their animal.

Assessment of Information Technology:

Skill	Needs Assistance	Some Assistance	Independently	Independently (peer tutor)
Accessing shared directory				
Using software tools appropriately				
Adding graphics				
Adding text				
Printing/Saving				
Computer basics (eg. opening programs, logging on, etc.)				

Assessment of Ministry Expectations:

Criteria	Level 1	Level 2	Level 3	Level 4
Communication of required knowledge	communicates with little clarity and precision.	communicates with some clarity and precision.	generally communicates with clarity and precision.	consistently communicates with clarity and precision.
Understanding of basic concepts	demonstrates many misunderstandings of food chains.	demonstrates some misunderstandings of food chains.	demonstrates understandings of most of the concepts of food chains.	demonstrates understandings of all of the concepts of food chains.
Relating of science and technology to each other and to the world outside the school	shows little understanding of connections between science and technology and the world outside the school.	shows some understanding of connections between science and technology and the world outside the school.	shows understanding of connections between science and technology and the world outside the school.	shows understanding of connections between science and technology and the world outside the school, as well as their implications.
Presentation skills	student's voice is not audible and clear eye contact is not maintained.	student's voice is somewhat audible and clear. Eye contact is made some of the time.	student's voice is audible and clear. Eye contact is made most of the time.	Student's voice is audible and clear, words are clearly enunciated, eye contact is made.

Suggested Report Card Comments for Information Technology:

Level 1: During our study of Habitats and Communities, _____ required assistance to demonstrate an understanding of food chains. He/She required assistance using the software program Kidspiration/Inspiration to complete a graphic display of his/her researched food chain.

Level 2: During our study of Habitats and Communities, _____ required some assistance to demonstrate an understanding of food chains. He/She required some assistance using the software program Kidspiration/Inspiration to complete a graphic display of his/her researched food chain.

Level 3: During our study of Habitats and Communities, _____ demonstrated an understanding of food chains with no assistance. He/She used the software program Kidspiration/Inspiration effectively to graphically represent his/her researched food chain.

Level 4: During our study of Habitats and Communities, _____ demonstrated clearly an understanding of food chains. He/She used the software program Kidspiration/Inspiration very effectively to graphically represent his/her researched food chain.

Example of Template:

