

Best Practice of Technology Integration

Title: *Creature Features*

Subject: Science, Language Arts, Technology

Intended Grade Level: 2nd - 4th

Description:

This project is designed to be used as a culminating activity following a unit of study on animals. It provides a method for students to creatively present information obtained during independent research on an animal of their choosing. After researching an animal, the students will develop a HyperStudio® presentation to share what they have learned about their animal's habitat, adaptations, and predator/prey relationships.

Narrative:

Children are fascinated by animals, yet they rarely stop to think about why animals have so many unique features. Throughout this project, the children will be asking themselves how the physical and behavioral characteristics of animals help them to survive. The students will also discover that an animal's habitat is part of the reason for its adaptations, and as habitats are altered, the animal may not be as well suited for survival.

This project has been tremendously successful in our classroom. The topic, animals, is guaranteed to arouse interest in the students. By the time they complete the HyperStudio® project, they are 'experts' on an animal of their own choosing, and they have a computer project that they are very proud of and eager to share. I have combined science curriculum mandates with the Language Arts skills of reading, note-taking and writing, while exposing the students to many different aspects of technology that they will be using repeatedly in the coming years. The use of technology gives this animal study more pizzazz thereby increasing the interest level of the students. It is a topic that lends itself very easily to the HyperStudio® format, allowing me to save the more traditional presentation formats for other areas of study.

As this lesson develops, the students become very aware of the importance of the many adaptations animals use for survival. The relationship between animals in the wild is also explored. They come to understand the necessity of the predator/prey relationships, despite the unpleasantness of it. Balance is also explored as we study habitats and realize what does happen as the environments are altered. These are the goals of our district's curriculum as interpreted from the State of Michigan Curriculum Benchmarks. Throughout the project, students are using higher-order thinking as they gather and synthesize information for the HyperStudio® project. By the end of the project, students are able to connect what they have learned to life beyond the classroom because they understand how changes in the environment, brought about by man, can lead to changes in animal populations.

Curriculum Benchmarks:**MI.SCI.III.4.E.2**

Explain how physical and/or behavioral characteristics of organisms help them to survive in their environments.

MI.SCI.III.5.E.2

Explain common patterns of interdependence and interrelationships of living things.

MI.SCI.III.5.E.3

Describe the basic requirements for all living things to maintain their existence.

MI.ELA.11.EE.2

Identify and use resources that are most appropriate and readily available for investigating a particular question or topic. Examples include knowledgeable people, field trips, library classification systems, encyclopedias, atlases, word processing programs, and electronic media.

Detailed Timeline:

*Classroom instruction - This will vary depending on your curriculum requirements and teaching style. I usually spend 5 to 7 thirty minute class periods dealing with the scientific vocabulary and concepts presented in our curriculum.

*Research- may be completed as homework; 2 or 3 thirty-minute periods if completed in school

*Pre-project planning sheet - 30 minutes

*Computer lab time to create HyperStudio® project-4 thirty minute periods

*Sharing completed projects- 30 minutes

Materials/Hardware/Software:

HyperStudio® 3.1

Kid Pix™ Studio

Multiple computers

Project planning sheet-included

Research form-included

Scoring rubric-included

Various non-fiction books to be used for research (optional)

Encyclopedia-either hard copy or CD-Rom (optional)

Wild World of Animals CD-Rom by Creative Wonders™ (optional)

Digital camera and disks (optional)

The following two documents have been helpful to me, but are not addressed specifically in the activity section:

Habitats using Kid Pix™ , student activity - included

Research/Report form for special needs students - included

Teacher Preparations:

Since this project is intended as a culmination of a unit of study on animals, the teacher will have to provide the necessary instruction and experiences to develop the concepts of habitat, adaptations and predator/prey relationships. There are two planning forms included with this lesson, which will need to be printed and copied for the children, as well as a scoring rubric.

Prerequisite Student Skills:

Students will have to be familiar with the vocabulary used in the unit -- habitat, adaptations, predator, prey and any other terms found in your curriculum and materials. This should be presented in a variety of ways by the teacher prior to attempting this culminating activity.

Necessary computer skills will be taught as the project progresses.

Student Activities/Procedures:

1. The class should spend as much time as need to develop an understanding of the concepts required by your district' s curriculum framework. There are many methods to do this including, but not limited to, reading non-fiction texts, watching videos, visiting appropriate web sites and completing activities that help to classify and categorize the information so that it is meaningful and useful to the student. My class generally spends 5 to 7 thirty minute class periods engaged in lessons prior to the actual research project.

2. Toward the end of the instructional time, the students are asked to select an animal that they would like to research in order to learn more about it. They may not choose a domesticated animal.

3. At this time, our class is able to take a field trip to a zoo. While there, we take photographs of the animals they have chosen, with a digital camera. These photos will become part of the

HyperStudio® project. If someone's animal is not found at the zoo, we will find a picture for their project at another time.

4. Research for the project may be done as a homework assignment, in which case the report form is sent home on a Monday. The research and form must be completed and turned in by the following Monday. As an alternative, the research may be done in school, with the help of the media specialists. There are many books as well as informational CD-ROMs available. There are many web sites geared toward specific animals as well. I have done it both ways, and prefer to send the research portion of the project home with the students. The parents seem to enjoy it as well.

5. Planning for the project. There is a planning sheet included on which the student should sketch the pictures for each of the three information cards. This can be done in 30 minutes.

6. The HyperStudio® project will require 4 thirty minute periods to complete. My students have had very little experience with this program, therefore, we work together as a group, with them following oral directions for each step of the project. My students have access to 15 computers and a computer technology specialist. Each student will complete the project using the information gathered about their chosen animal. The project consists of a four-card stack. The first page is the title page and it contains the buttons, which lead to the other three cards. I will explain each card separately.

Card one- Title card: This card needs to contain a picture of the animal, a title, the student's name, and three buttons to lead to the other cards. The three buttons should be labeled habitat, adaptations, and predator/prey. The picture can be imported using the photo taken with the digital camera. If this isn't possible, I have also had each student locate a picture of their animal using the CD, Wild World of Animals. Pictures may also be taken from suitable websites. Once a suitable picture is found, it can be pictified and imported onto card one. A third alternative is simply to have the students use the drawing tools to draw a picture of their animal, but I prefer to use one of the other two methods.

Card two- Habitat: On this card, the student should draw a picture of the animal's habitat, including text if necessary to tell in which part of the world the animal is found.

Card three- Adaptations: The students draw their animal on this page and label three adaptations their animal uses for survival. In addition to a one word label, they include a phrase describing how the adaptation helps. For example, when writing about a turtle, the shell would be labeled like this: shell-protects turtle from predators. They would draw a line from the body part out to the side and type the text there.

Card four- Predator/prey: This card can most easily be created using Kid Pix™ and then imported into the project. The use of stamps makes the drawing much easier for the students to create and clearer for the audience to interpret. This card should include a picture of the animal, in its natural habitat. Also included should be two animals that are preyed upon by it, and two animals for which it is prey.

Cards 2,3, and 4 will also need a button to return to the title card. You may wish to add buttons so they can return to any card they wish. The transitions will need to be completed once you decide which routes to take.

7. The projects may be displayed to the entire class using a television hook-up if it is available in your building. I have also had the kids rotate around the computer lab. Each student ends up showing their presentation 10 to 15 times, depending on the number of students in the class. I require my students to present the information orally as they are showing the cards. If the technology is available at your school, you can transfer the project to a video tape as part of a portfolio of the student's work in computer lab.

Assessment/Evaluation:

The students are evaluated using the rubric that is included. Since the computer skills were being introduced for the first time, and most of the work was completed together, the only score for lab time evaluates the students use of time and ability to focus and follow directions. The last two follow-up activities may also be used to assess understanding of the concepts beyond the factual information presented in the HyperStudio® project.

Follow-up Activities:

The students are split into groups of 8 to 10 and asked to sort and classify their animals based on similar characteristics within the categories of habitat, adaptations and predator/prey relationships.

The habitats of the animals chosen can be plotted on a world map.

Students may be asked to write a report using their information.

Students can be presented with "What would happen if. . ." questions, such as, "What would happen if a zebra did not have stripes?"

Students can create a new species of animal designed to live in a given habitat. This new animal should have adaptations which enable it to survive.

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