

Best Practices of Technology Integration

Title: Creatures of the Sea

Submitted by:

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Subject Area: Thematic Lesson - Science, Language Arts, Art

Intended Grade Levels: This lesson was developed as a collaborative project between a kindergarten and a fourth grade class.

Description: This thematic unit focuses on the Creatures of the Sea. Both classes learned about the physical characteristics of the oceans and animal environments. The Creatures of the Sea unit was developed to expand the knowledge of the different animals in the ocean and their adaptation and survival. Ocean concepts were presented to each class at their level. The development of a Creatures of the Sea Alphabet Big Book was completed by the cooperative efforts of both groups individually and as they met as “buddies.” The HyperStudio version of the alphabet book was the culminating activity of the unit.

Narrative: From the tiniest plankton to the most awesome whales, the sea is filled with all kinds of life. Like a sunken treasure, the sea’s splendors are hidden from view. This ocean animal unit encourages students to make discoveries about the exquisite creatures of the sea through books, Internet sites, and interactive laser discs. Both kindergartners and fourth graders showed a high level of interest in the ocean topics and especially were interested in the wonders of the creatures of the sea. Many of the fourth graders had previously written reports on a variety of subjects, but this unit seemed to expand the basic elements of reporting to a search for more specific information. Using the “Great Ocean Rescue” laserdisc library of information was a powerful way for students to find out more about the animals they were studying. The children learned how to use Yahoo!igans to search for the information they needed on the Internet. Each student became an “expert” on their chosen sea creature. The kindergarten class was excited by the total room decoration that made them feel as if they were in an ocean with sea weed floating and sea

creatures hanging around the room. Using the names of the sea creatures to learn the letters of the alphabet was a connection not soon to be forgotten by the children. They will always remember J is for jellyfish and S is for starfish after making their own models of these sea creatures! The completion HyperStudio stack was a great way to celebrate the wonder of these sea creatures and to share it with others!

Curriculum Benchmarks:

MI.ELA.2.LE.1 Write fluently for multiple purposes to produce compositions, such as stories, reports, letters, plays, and explanations of processes.

MI.SCI.III.2.E4 Compare and contrast food, energy, and environmental needs of selected organisms. (Key concepts: Life requirements—food, air, water, minerals, sunlight, space, habitat. Real-world con-texts: Germinating seeds, such as beans, corn; aquarium or terrarium life, such as guppy, goldfish, snail.)

MI.SCI.III.4.E2 Explain how physical and/or behavioral characteristics of organisms help them to survive in their environments. (Key concepts: Characteristics—adaptation, fitness, instinct, learning, habit. Traits and their adaptive values—sharp teeth or claws for catching and killing prey, color for camouflage. Real-world contexts: Common vertebrate adaptations, such as white polar bears, sharp claws and sharp canines for predators, changing colors of chameleon; behaviors, such as migration, communication of danger, adaptation to changes in the environment.)

Total amount of time for lesson: In the Kindergarten classroom, the Creatures of the Sea Unit is an extensive 2-month undertaking because this theme is integrated into most of the Kindergarten curricular area. However, the specific portion of the development of the Alphabet Book would take about a 2-week period. In the fourth grade, the ocean covers a 9-week grading period, but the Alphabet book is also about a 2-week portion of it.

Materials/Hardware/Software:

Access to the Internet and World Wide Web
HyperStudio 3.1 (available for both Mac and PC)
Activity sheet (attached)
Alphasmarts (individual keyboards) optional
The Great Ocean Rescue laserdisc or CD by Tom Snyder - optional
(lots of great ocean animal information)

Books about the ocean such as:

[The Sillywish Jellyfish](#)

[The Magic School Bus Under the Ocean](#) by Joanna Cole

[The Rainbow Fish](#) by Marcus Pfister

[The Rainbow Fish and the Big Blue Whale](#) by Marcus Pfister

[The Ocean Alphabet Book](#) by Jerry Palotta

Sea Squares by Joy N. Hulme

A-Maze-Ment Park Sea Creatures by Paul Woodruff

Teacher Preparation:

To make the ocean come alive in your classroom, it is very helpful to have your room decorated in an ocean theme or have displays of ocean artifacts and thematic bulletin boards. You can prepare this prior to the unit, or have the children display artwork as the unit progresses.

Prerequisite Student Skills:

Basic ocean concepts were taught prior to the teaching of the Creatures of the Seas unit. The fourth grade students had a basic knowledge of keyboarding, word-processing, and beginning Internet searching. HyperStudio was introduced during this unit and developed by designing a card based on the alphabet page they had already done.

Student Activities/Procedures:

Kindergarten Activities

Paper Plate Jelly fish

Skills: Fine Motor, Creativity, Cutting, Gluing, Language Arts

Time: 20 minutes

Activity:

1. Gather a package of paper plates, glue, streamer rolls, and scissors.
2. Allow the children to work in pairs, and give each child a paper plate, scissors, crayons, glue and a long strip of crepe paper.
3. Each strip should be cut in half down the center and pre-marked into sixteen 6” sections.
4. Instruct the children to have one partner fold and cut the paper plate in half, while the others partner cuts the crepe paper on the designated marks.
5. Have each child take a paper plate half on the table so the straight edge is facing him. Instruct the student to take eight strips of crepe paper and glue them along the bottom edge of the paper plate. These will be the jellyfish’s tentacles.
6. Allow the student to add details to his jelly fish using markers or crayons.

This is incorporated into our language arts curriculum as we teach the letter “J” for jellyfish.

3-D Starfish

Skills: Tracing, Fine motor skills, Following Directions, Gluing, Language Arts.

Time: 30 minutes

Activity:

1. Make starfish templates from tag board or poster board.
2. Fill several salt shakers with sand or use of shredded wheat cereal.
3. Gather the needed supplies of pencils, craft sticks, glue and paper on the table.
4. Allow small groups of children to work together.
5. Instruct the children to use starfish patterns and pencils to trace several starfish on their papers.
6. Then cover them with glue and use the craft sticks to spread the glue into thin, even layers.
7. Have children shake the sand on the glue or crumble the shredded wheat on the glue.
8. Shake the excess, then set aside to dry.

This is incorporated into our language arts curriculum as we teach the letter “S” for starfish.

Buddy Activities

Alphabet Big Book

1. Assign fourth grade students letter of the alphabet and brainstorm animals that would fit each letter. Some examples are: angelfish, anchovy, butterfly fish, clownfish, dolphin, electric eel, flying fish, flounder, giant fish, giant squid, hammerhead shark, ice fish, iguana, jellyfish, killer whale, lobster, lumpfish, manatee, narwhale, octopus, porcupine fish, quahog, queen angelfish, ray, redbfish, starfish, tiger shark, turtle (leatherback sea turtle), urchin, viperfish, whale, xanthidae, yellowtail flounder, yellowfin tuna, zebrafish.
2. Students are required to complete an activity sheet for their creature. Students find information in reference books, Internet resources, and electronic encyclopedias. Using the questions on the research record, students gather the information about their animal, its habitat, and adaptations. Sources of information are also noted on the research record.
3. Allow a number of days for children to conduct their research. “The Great Ocean Rescue “ is a great kickoff for finding some basic information about some of the creatures. (Use side2 which contains a library of ocean topics and animals.)
4. Each student then creates text for the Alphabet Big Book using a word-processor or an Alphasmart. The text is edited and proofread and rewritten.
5. If students are using Alphasmarts, the text is downloaded to the classroom computer and printed in large font.
6. Text can then be glued onto the large paper.
7. Fourth graders will then draw the sea creature with some appropriate background.
8. The fourth grader and kindergarten buddy then work together on the process of adding color to the drawing.
9. The front and back cover for the Big Book can also be assigned to students.

My Sea Creature’ Home (Buddy activity) (Allow one hour for this activity)

1. Provide each team with a shoe box or let children bring in their own.
2. Have a variety of arts and crafts materials available, such as watercolor paints, crayons, markers, colored paper, pipe cleaners, glitter, clay, yarn, glue, tape, sand , shells, rocks, pebbles, pieces of natural sponges, pieces of driftwood, gravel and any other marine-type materials.
3. Buddies work together to create a model of their animal’s home inside it. Be sure to include the animal in the model.
4. Extension activity: “Ocean Condominiums” Have children work together as a class to stack

the shoeboxes so that the animals that live near the bottom of the sea are on the bottom of the stack and the animals that live near the surface of the ocean are on the top of the stack. Use duct tape to make the stack solid, stacking it against a wall to help support the condominium.

Fourth Grade Culminating Activity

HyperStudio Creatures of the Sea Stack

1. If students are not familiar with HyperStudio, introduce them to the program.
2. Using the information that they found for the alphabet book, each student will design a card about their sea creature. They should include a drawing or scanned image of the creature along with text and possibly sounds or their recorded voice.
3. Along with the basic information in the alphabet book, this project should include more information and can also include website connections through the New Button Actions.
4. When completed, this electronic alphabet stack can be shared with the class buddies and other classes.

Assessment/Evaluation: Assessment is on-going throughout the unit.

Kindergarten assessment: Checking for letter recognition can be assessed by showing pictures of the sea creatures. The HyperStudio project can also be projected to the entire classroom or to individual students for evaluation of letter recognition and knowledge of sea creature and its habitat.

Fourth Grade assessment: Each student “expert” can share basic information about his sea creature with his buddy. The “expert” can also teach the other fourth graders about his creature and its habitat, leading to a discussion of comparison and contrast between the different creatures. A basic rubric can be used for the Alphabet Book and for HyperStudio Project.

[View or print the assessment rubric \(pdf\)](#)

[View or print the activity sheets \(pdf\)](#)