March 12-14, 1998

Oceans

Grade Level: Pre-Kindergarten

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Length of Unit: 1 to 2 weeks

I. ABSTRACT
This unit will develop an awareness of ocean life by exploring a variety of topics such as, What is an ocean? Oceans verses Lakes, Sea Life, and Seashore Environment. These topics will be explored through the integration of language arts, science, math, visual arts and spatial abilities. These will be accomplished by “hands-on” lessons and activities which are developmentally appropriate for pre-kindergarten. The lessons in this unit will be addressed by stated objectives, materials and procedures. Assessment suggestions are provided when applicable.

I. OVERVIEW
A. Use adjectives and describing words.
B. Familiar songs and poems.
C. Attend to and listen to picture books.
D. Develop an awareness of written print and matter.
E. Listen to stories read aloud.
F. Develop fine motor skills.
G. Simple measurement skills.
H. Recite number sequence.
I. One to one correspondence with concrete objects
J. Creating representative group
K. Compare more than or less than
L. Identify globe by name and indicate ocean and land areas.
M. Move to music
N. Participate in a group
O. Observe and describe basic properties of water.
P. Demonstrate memory of visual details.

III. BACKGROUND KNOWLEDGE
A. Hechtman, Dr. Judi: Grove, Sandra Ford; and Mester, Tonya. The Ocean. Cyprus, Ca.: Creative Teaching Press, 1994
D. The Preschool Mailbox February/March, 1997

IV. RESOURCES

Books for Shared Reading


M. Cutting, Brian and Jillian. The Hermit Crab. San Diego, CA: Sunshine Books


R. Freeman, Don. PELICAN. New York: Viking Press


U. Guggen, Josef/Lucht, Irmgard. Wonder-Fish from the Sea. New York: Parents’ Press, Magazine


V. LESSONS

A. Lesson One: What is an Ocean?

1. Objective/Goal:
The student will be able to distinguish between land and bodies of water on a globe and gain increased awareness of oceans and life.

2. Materials:
globe, maps, pictures of oceans, The Seashore First Discovery Book by Scholastic

3. Key Vocabulary:
   water, oceans, globe, land mass, gulf, continents

4. Procedures:
The teacher will read the book, The Seashore. After reading the book, show children a globe, discuss how the bodies of water are blue and land masses are other colors. Show different land masses and identify continents and show the place where we live.

5. Activities
   b. Science: Use a water table or large tubs, fill with water and put in plastic sea creatures. Wear goggles and fins, and use plastic fishing poles to “fish” for creatures.
   c. Math: Counting Fish- Use precut fish and blue construction paper and instruct students to put on eyes and mouth. Children can then count and group. Sing the song 1 Little, 2 Little 3 Little Fishes to the tune of "Ten Little Indians" (Appendix A).
   d. Art: Fish Bowls - Cut a fish bowl pattern from a 12x18 piece of construction paper, folded in half. Place two sheets of wax paper in the fold as indicated on the pattern. Use green and blue shades of shaved crayon and sprinkle between wax papers. Children can then add strips of tissue to simulate seaweed and/or cut fish from construction paper. After it is all assembled teacher will iron wax paper together and glue to the fish bowl (Appendix B).

B. Lesson Two: Oceans verses Lakes

1. Objective:
Student will be aware of the differences between ocean water and lake water by smelling, tasting and seeing.

2. Materials:
salt, water, two large plastic containers, pictures of lakes and oceans, "Big Al" by Andrew Clements, small drinking cups, spoons, coffee stirrers.

3. Key Vocabulary:
salt, water, lake, float, sink

4. Procedures:
a. Introduce a lake and show pictures of a local lake. Then the teacher will tell students that our drinking
water comes from a lake.
b. Review what an ocean is and show poster or picture of an ocean. Discuss how oceans and lakes are both water but we can’t drink ocean water because it’s too salty.
c. Read the book “Big Al” by Andrew Clements.
d. After reading the book, discuss with students that sea water is salty. If some are not familiar with salty taste, have them think of how popcorn taste. Show them salt.
e. Have two plastic containers filled with water, and discuss how they are same. Then begin adding large amounts of salt to one of the containers until dissolved. Then ask if they are the same? Why or why not? As students are discussing, let them taste the difference by pouring into small paper cups and use coffee stirrers to taste.
f. Close discussion by telling students that the salty water is like the ocean and the plain water is like our lakes.

5. Activities:
a. Science: Egg Float - Fill two containers with water; add generous amounts of salt to one and stir until dissolved. Place a raw egg in each container. The egg in the unsalted water should sink and the one in the salted water should float. Discuss why they float or sink.
b. Art: Salt painting - Mix a variety of colors of dry tempera with salt have students brush thinned glue on a pattern (Appendix C). Then students sprinkle on different color salt to create an ocean scenic.
c. Math: Salt measuring - Using salt or sand and assorted measuring spoons and cups. Let student free explore measurements and compare amounts.
d. Cooking: Edible Oceans - Students will spoon soft set blue gelatin into serving cups; sprinkle in gummy fish and sea creatures. Eat and enjoy.
e. Music/Movement: Large motor game similar to "Duck Goose."

The fish can live in the lake.
The fish can live in the sea.
The fish jumped out of the water.
Can the fish really catch me?
This song is to the tune of "My Bonnie Lies over the Ocean." As the students sing, one person is it and walks around the circle tapping each child on the head. At the end of the verse the child who is tapped chases the “it” and tries to catch him/her before they make back to their place.

6. Extended Activities:
Read Rainbow Fish and discuss how generous and caring the Rainbow Fish is to his friends. A follow-up activity is to make a Rainbow Fish. To do this use the pattern provided and copy onto a multi-colored piece of construction paper. Have children use fabric paint (glitter, shiny or puff) to make the scales on Rainbow fish. Finish the fish by putting a large silver sequin in his fin. Also may be done with paint, tissue paper or torn construction paper. (Appendix D)

C. Lesson Three: Sea Life in the Ocean

1. Objective:
Student will locate the three layers of the ocean. Student will recognize common ocean life.

2. Materials:
Sea Life by Educational Insights, plastic sea creatures, poster of layers in ocean, pictures of ocean and ocean life.

3. Key Vocabulary:
sea life, creatures, ocean floor, ocean surface, open sea

4. Procedure:
Introduce students to the creatures of the sea by showing the book Sea Life. Relate to students that not all creatures in the sea are fish, and they all live at different levels in the ocean. Show that there are small and large creatures. After sharing the book, show students the layers of the ocean poster and point out the different layers that some of the creatures live in. Following this exercise the student can place flannel, model or real sealife in its appropriate layer in the ocean. (Appendix E)

5. Activities:
a. Language: Class Big Book - Create a class big book “Starfish, Starfish, What Do You See?” Let each child think of a different ocean animal. Have pre-cut pictures of different ocean animals. Each child can choose his/her animal and the teacher can print the text to match the picture.
b. Math: Goldfish graphing - Use three different types of goldfish crackers (pretzel, cheddar and plain). Have children sort according to color and lay on graph. While sorting, the children can count the different fish. The teacher can then instruct the student to place an X or glue a paper fish in the corresponding box Appendix F.

c. Art: Japanese Fish Prints: Purchase a medium size fish from the market with good size scales and fins. Paint the fish then let children put paper on top and press down to create a fish print. Reapply paint as needed. Show pictures and read parts of “What it’s Like to Be a Fish.”

d. Science: Ocean Life water globes - Using clean baby food jars, fill with a mixture of water and glycerin. Children add glitter and sequin fish. They can decorate the outside with of the jar with fish stickers.

e. Cooking: Tuna fish sandwiches - Mix tuna, mayonnaise, and pickle relish together. Students can use a star cookie cutter to cut out “starfish” from sliced bread. Spread tuna mixture on bread, eat and enjoy.

f. Dramatic Play: Using clear vinyl or a clear shower curtain, hang from dowel rod. Staple pictures of sea creatures and fish. Children can use this area for reading or dramatic play. (Various styles could be hanging from ceiling with four sides or draping over a table.)

D. Lesson Four: What’s on the Seashore?

1. Objective:
The student will be introduced to the seashore environment. The environment may include sand and its changes, rocks, shells and other life forms.

2. Materials:
   Is this a House for Hermit Crab? by Megan McDonnell, shells, driftwood, hermit crab, pictures of seashore, starfish, sand dollar, sand

3. Key Vocabulary:
   seashore, beach, driftwood, shells, hermit crab,

4. Procedure:
   a. The teacher will refer back to the sea life information from the previous lessons and remind students where the seashore is located. Read the book Is this a House for Hermit Crab?. Discuss with students the different things on the seashore in the book.
   b. Talk with the children how a hermit crab outgrows his house and has to look for a new shell to live in. Teacher can bring in a hermit crab (available from pet stores) to show how they look and feel.
   c. This is also the time to introduce different shells and brainstorm what might have lived in them.
   d. Teacher should also use this time to discuss driftwood; it is wood that is washed up on the shore at the beach.

5. Activities:
   a. Art- Starfish- Cut out a starfish shape from tan construction paper. Brush with glue and sprinkle on crumbled Shredded Wheat cereal, or use an actual starfish to make starfish prints by brushing the starfish with paint and print on paper.
   b. Music- "Down by the Shore" - (tune of "Down by the Bay")

   Down by the Shore
   In the sand and the sun,
   I like to dive,
   and splash and run
   and as the waves
   roll out and in
   I’ll get warm in the sun
   and have lots of fun
   Down by the shore.
   c. Language - Ocean Life Memory game- Matching pictures of ocean life. This can be a teacher made or published product.
   d. Math - Colored shell matching- Make a game board using three different colors of construction paper. On each paper write the color word for that paper. Gather assorted shells and paint them each a different color to correspond to the game board colors. Have children sort into different color groups. Also students may sort by size or shape.
   e. Small motor skills - Use sea scented playdough and star shapes to make starfish.


"Sea Scented Playdough Recipe"

3 cups flour
1.5 ounces cream of tartar
3/4 cup salt
3 tbsp. cooking oil
3 cups water
1 tbsp coconut extract
yellow food coloring
gold glitter

Combine the first five ingredients in a large pot. Whisk together until free of lumps. Stir in the coconut extract and yellow food coloring. Stir the mixture constantly over medium heat until it pulls away from the sides of the pot and forms a large ball. Knead the ball lightly on a flour board until the dough is smooth. (Be careful it is hot.) Knead in the desired amount of glitter. After cooled store in airtight container.

f. Cooking - Cinnamon Toast - Students can make their own “sandy” cinnamon toast by spreading the bread with soft margarine and sprinkling on a cinnamon and sugar mixture. Toast in toaster oven with teacher supervision.

6. Extended Activities:
   a. Fish Eyes - Read the book Fish Eyes, and do related math and counting activities.
   b. Swimmy - Read the book Swimmy, and discuss cooperation and working together to solve a problem.
      Follow up by doing a sponge painting activity using little fish sponges and painting in an outline of a big fish. Students can present a school of fish puppet play where they can use puppets to act out finger plays, sing songs, and do movement activities.
   c. Pick a Pocket Time - Place sayings, poems, songs, rhymes, and pictures on 3”x5” cards. The cards are randomly placed in an apron with ten numbered pockets. Children select a pocket and remove the card. Classroom participation of the selected item teaches or reinforces activities that were previously introduced. The students look forward to this activity. This activity may be used any of the previously explained lessons.

VI. CULMINATING ACTIVITY:
   A. Beach Party - An end of the unit beach party can be planned for indoors or outdoors. For an indoor beach party, students wear or bring swimsuits, towels, sunglasses and other appropriate beach wear. Play beach tunes, such as the Beach Boys or other surf tunes. Hang posters of beach scenes from a travel agent. Bring in the sand and water in wading pools or tubs. Provide beach toys, such as buckets, shovels, beach balls etc. Serve snacks like lemonade and popsicles. If you are lucky enough to live where it is warm during this unit, have a Beach Blast outside. Provide many of the same props, and in addition to the small pools, have a slip and slide. Invite parents to the party and remember to provide sunscreen and appropriate shade if outdoors.
   B. Trip to Aquatic Center to see an ocean life show.
   C. Field trip to exotic pet store that would have ocean life aquariums.
   D. Trip to a marina or beach, or a fish hatchery.

VII. HANDOUTS/STUDENT WORKSHEETS
Appendix A - Counting fish pattern and song
Appendix B - Fish Bowl pattern
Appendix C - Salt paint pattern
Appendix D - Rainbow Fish pattern
Appendix E - Ocean layer poster
Appendix F - Goldfish graph