

# UNDER THE SEA

**Grade Level:** First

**Presented by:** Shelly Covarrubias and Wendy Hudson, Hardy Oak Elementary, San Antonio, Texas

**Length of Unit:** 7 lessons

## I. ABSTRACT

The students will learn to appreciate and develop a respect for the ocean environment and its inhabitants. This will be achieved through hands-on multi-sensory approaches incorporating aspects of the landscape, diversity and dangers to ocean life. Students will recognize the forces of nature that cause daily and monthly changes in the oceans' tides and currents. This unit will address the interdependence between living things and their ecological community.

Teaching strategies will include using appropriate children's literature and website connections for each of the seven lessons, compiling a KWL chart, creating a class-size world map and labeling the oceans, the Gulf Stream, a coast and shore, comparing/contrasting different types of water and making models of waves and tides. In this unit, we will also create a class-size mural of the ocean habitat, including geographic features as well as sea life. The students will observe an oil spill simulation and then create informational books about what they have learned throughout the unit. Some of the information learned may be presented in a Hyperstudio or Power Point slide show presentation. (\*\***Note:** "Under the Sea" is Part 2 of a 2-part unit—see "Happenin' Habitats" in 2003\*\*)

## II. OVERVIEW

### A. Concept Objectives

1. The students will understand there are many essential resources come from the ocean.
2. The students will understand there are cyclical changes are common to living systems.
3. The students will understand there is significance within the relative location of the ocean.
4. The students will understand there are ecosystems can be affected by human activity.
5. The students will understand there is diversity of life in the ocean environment.

### B. Content from the *Core Knowledge Sequence*:

1. Locate the oceans: Pacific, Atlantic, Indian, Arctic.
2. Most of the earth is covered with water; oceans consist of salt water.
3. Coast, shore, waves, tides (high and low); currents, the Gulf Stream.
4. Landscape of the ocean floor; mountain peaks and deep valleys (trenches).
5. Diversity and dangers of ocean life.

### C. Skill Objectives:

1. The student knows that systems have parts and are composed of organisms and objects. (Science TEKS 1.6)
2. The student knows that many types of change occur. (Science TEKS 1.7)
3. The student knows that the natural world includes rocks, soil and water. (Science TEKS 1.10)
4. The student knows that organisms, objects, events have properties and patters. (Science TEKS 1.5)
5. The student knows that living organisms have basic needs. (Science TEKS 1.9)
6. The student responds to various texts. (Language Arts TEKS 1.13)
7. The student understands the relative location of places. (Social Studies TEKS 1.4)
8. The student generates questions and conducts research about topics using information from a variety of sources including selections read aloud. (Language Arts TEKS 1.15)

9. The student understands various physical and human characteristics of the environment. (Social Studies TEKS 1.6)
10. The student uses writing as a tool for learning and research. (Language Arts TEKS 1.23)

### III. BACKGROUND KNOWLEDGE

- A. For Teachers: Please select no more than three resources you feel are the best for teachers to use as reference.
  1. Core Knowledge Foundation. *Core Knowledge Sequence*. Charlottesville, VA: Core Knowledge Foundation, 1998. 1-890517-20-8.
  2. Hirsch, Jr. E.D. *What Your First Grader Needs to Know*. New York: Core Knowledge Foundation, 1997. 0-285-31987-8.
- B. For Students:
  1. The students will have a basic understanding that the earth consists of continents surrounded by oceans.
  2. The students will have a basic understanding that there are many types of living things in the ocean.

#### Related Web Sites:

[www.oceanlink.island.net](http://www.oceanlink.island.net)  
[www.whoi.edu/](http://www.whoi.edu/)  
[www.seasky.org/seas.html](http://www.seasky.org/seas.html)  
[www.well.com/user/bridge/index.html](http://www.well.com/user/bridge/index.html)  
[www.ourworld.compuserve.com/homepages/jaap/](http://www.ourworld.compuserve.com/homepages/jaap/)

### IV. RESOURCES

- A. Ada, A. *Bernice the Barnacle*. Worthington, OH: McMillan, 1995. 0-02-687108-4.
- B. Andreae, G. *Commotion in the Ocean*. Waukesha, WI: Little Tiger Press, 1998. 1-888444-39-8.
- C. Amazing Animals: *Seashore Animals*. New York: Vision and Partridge Films, 1997. 07894-(VHS)
- D. Berger, M. *Oil Spill!* New York: Harper Collins, 1994. 0-06-445121-6.
- E. Carter, C. *A New True Book: Oceans*. Chicago: Children's Press, 1958. 0-516-01639-3.
- F. Cole, J. *The Magic School Bus: On the Ocean Floor*. New York: Scholastic Inc., 1992. 0-590-41430-5.
- G. Cooney, H. *Underwater Animals*. San Francisco: Time Life Books, 1996. 0-7835-4841-9.
- H. Core Knowledge Foundation. *Core Knowledge Sequence*. Charlottesville, VA: Core Knowledge Foundation, 1998. 1-890517-20-8.
- I. Eyewitness: *Ocean*. New York: Eyewitness, 1977. 078942147-X. (VHS)
- J. Fowler, A. *The Earth is Mostly Ocean*. Chicago: Children's Press, 1995. 0-516-06038-4.
- K. Fowler, A. *Life in a Tide Pool*. New York: Children's Press, 1996. 0-516-20031-3.
- L. George, M. *Coral Reef*. Minnesota: Creative Education, 1992. 0-88682-430-3.
- M. Hirsch, Jr. E.D. *What Your First Grader Needs to Know*. New York: Core Knowledge Foundation, 1997. 0-285-31987-8.
- N. Hook, J. *Sharks and Other Sea Creatures*. Italy: Parragon, 2000. 1-84084-678-X
- O. Jennings, T. *Floods and Tidal Waves*. Minnesota: Thameside Press, 1999. 1-929298-46-3.
- P. Lauber, P. *Who Eats What?* New York: Harper Collins Children's Books, 1995. 0-06-022981-0.
- Q. Krause, B. *Environmental Sounds: Gentle Ocean*. Berkeley, CA: The Nature Co., 1988. Stereo NC-227678.

- R. Maraniss, L. *The Gulf of Mexico: A Special Place*. Dallas: Center for Marine Conservation, 1991. 1-879269-01-5.
- S. Milliken, L. *Ocean Life Activity Book*. Dana Point, CA: Edupress, Inc., 1998. 1-56472-116-7.
- T. *Oceans in Motion*. Washington, D.C.: National Geographic Edventures, 1998. (VHS)
- U. Pallotta, J. *The Underwater Alphabet Book*. New York: The Trumpet Club, 1993. 0-440-84996-9.
- V. Parker, J. *Saving Our World: Oceans*. Brookfield, CT: Copper Beech Books, 1951. 0-7613-3259-6.
- W. *Seashore*. Pittsburgh, PA: Eyewitness, 1996. 07894-0722-1. (VHS)
- X. Simon, S. *Oceans*. New York: Mulberry Books, 1990. 0-688-15478-6.

**Related Web Sites:**

- [www.oceanlink.island.net](http://www.oceanlink.island.net)
- [www.whoi.edu/](http://www.whoi.edu/)
- [www.seasky.org/seas.html](http://www.seasky.org/seas.html)
- [www.well.com/user/bridge/index.html](http://www.well.com/user/bridge/index.html)
- [www.ourworld.compuserve.com/homepages/jaap/](http://www.ourworld.compuserve.com/homepages/jaap/)

**V. LESSONS**

**Lesson One: Where in the World Are Our Oceans?**

A. *Daily Objectives*

1. Concept Objectives
  - a. The students will understand there is significance within the relative location of the oceans
2. Lesson Content
  - a. Locate: Pacific, Atlantic, Indian, and Arctic Oceans.
  - b. Oceans are made up of salt water.
  - c. The earth is  $\frac{3}{4}$  water.
3. Skill Objectives
  - a. The students will shade in the oceans on a world map using blue watercolor.
  - b. The students will identify the fraction of  $\frac{3}{4}$  by folding a circle into four quadrants and coloring three of them.
  - c. The students will label the names of the four oceans on a world map.

B. *Materials*

1. Class-size world map
2. Student copy of world map
3. *The Earth is Mostly Ocean* by Allan Fowler
4. *Oceans* by Seymour Simon
5. Watercolor paints
6. Salt
7. Cups
8. KWL chart (appendix A)
9. Pre-assessment (appendix B)
10. Sing a Sea Song (appendix M)

C. *Key Vocabulary*

1. environment: the surroundings of an ocean.
2. fresh water: water with a salinity of less than .5 parts per 1000, no taste of salt.
3. salt water: ocean or sea water containing dissolved salts. Has salinity of about 35 parts per 1000.
4. salinity: the amount of saltiness in water.

5. habitat: the place where an animal or plant is normally found.
  6. ocean: the whole body of salt water that covers nearly  $\frac{3}{4}$  of the surface of the earth.
- D. *Procedures/Activities*
1. To introduce the unit, have students write or draw what they know about the ocean on an index card and compile data under the “What I **Know**” section of a KWL Chart. Students will pose questions and add them to the “What I **Want to Learn**” section of the chart. (see appendix A)
  2. See appendix B for pre-assessment in which students “x” whether they agree/disagree with true/false statements about the ocean.
  3. Introduce the song, “Sing a Sea Song” to the tune of *My Bonnie Lies Over the Ocean*. (see appendix M)
  4. Read: *The Earth is Mostly Ocean* and *Oceans*. Discuss and share pictures in books.
  5. Students will taste unlabeled cups of both fresh and salt water; discuss similarities and differences.
  6. Students will fold a circle of paper into four quadrants and color 3 of the four blue. Explain to students this represents that  $\frac{3}{4}$  of the earth’s surface is covered with oceans.
  7. Introduce class-size world map; show location of oceans and label them; students will watercolor oceans and allow map to dry.
- E. *Assessment/Evaluation*
1. Students will color oceans in blue; continents in green on individual world map.
  2. Students will label Pacific, Indian, Atlantic, and Arctic oceans on their map.

## **Lesson Two: The Ups and Downs of Ocean Life**

### A. *Daily Objectives*

1. Concept Objectives
  - a. The students will understand that cyclical changes are common to living systems.
2. Lesson Content
  - a. Identify coast, shore, waves, tides (high and low), currents.
  - b. Identify the Gulf Stream.
3. Skill Objectives
  - a. The students will simulate the wave action of the ocean by blowing into a bowl of water, linking arms with each other to make human wave action and by creating a wave in a bottle.
  - b. The students will observe and discuss pictures of the shoreline and its daily changes due to tides.
  - c. The students will use watercolor paints to paint a picture of the shoreline while listening to ocean sound recording.

### B. *Materials*

1. *Life in a Tide Pool* by Allan Fowler
2. *Floods and Tidal Waves* by Terry Jennings
3. Shoreline photographs
4. Ocean sound recording (*Gentle Ocean* by Bernie Krause, available through The Nature Company)
5. Watercolors
6. Tub of water
7. Empty 20 oz. plastic drink bottles
8. Blue food color
9. Vegetable oil
10. World map from lesson one
11. Index cards

### C. *Key Vocabulary*

1. shore: the place where the ocean meets the land.
  2. tide: the alternate rise and fall of the ocean caused by the gravitational pull between the earth, the sun and the moon.
  4. current: the part of a body of fluid moving continuously in a certain direction.
  5. coast: the place where the water of a sea or lake meets land.
  6. waves: a regular movement of the surface of water caused by wind.
  7. ebb tide: when the water moves out from the shore.
  8. flood tide: when the water moves into the shore.
- D. *Procedures/Activities*
1. Read *Life in a Tide Pool* and show pictures from *Floods and Tidal Waves*.
  2. Fill tub with water and explain that the water in the tub is like the ocean on a windless day. Ask students to predict what they think will happen if they blow on the water. Have volunteers blow on the surface and record what they observe. What do they think will happen if we blow harder? Discuss predictions and test theory. Lead students to the conclusion that the harder the wind blows, the bigger the waves. Have volunteers run their fingers quickly through the water. Discuss how this is like the ocean currents and the Gulf Stream. Label the Gulf Stream on the world map from lesson one.
  3. Have students line up shoulder to shoulder, holding hands. Starting with the end person raising their arm, have subsequent students raise the arm of the next student down the line until the move is smooth and rhythmic, creating a human wave effect.
  4. Create wave bottle by putting a mixture of  $\frac{1}{2}$  blue colored water with  $\frac{1}{4}$  vegetable oil into an empty drink bottle. Replace lid tightly and let students rock bottle back and forth to observe wave motion.
  5. Show picture of shoreline; discuss clues that show that the tide rises and falls throughout the day.
  6. Have students listen to ocean sounds and visualize the shoreline. Create a shoreline using watercolors.
- E. *Assessment/Evaluation*
1. Using the world map from lesson one, students will label the Gulf Stream, a coast, a shoreline, and draw in and label waves and tides.
  2. On an index card, students will write/draw one fact they learned and add it to the “What I Have **L**earned” section of the KWL chart.

### **Lesson Three: So Much More to the Ocean Floor**

- A. *Daily Objectives*
1. Concept Objectives
    - a. The students will understand there is diversity of life in the ocean environment.
  2. Lesson Content
    - a. Identify landscape features of the ocean floor; mountain peaks (volcanoes) and deep valleys (trenches).
  3. Skill Objectives
    - a. The students will contribute to an ocean mural by drawing and labeling the landscape features of the ocean floor.
    - b. The students will illustrate each type of landscape feature in a fold book.
- B. *Materials*
1. *The Magic School Bus: On the Ocean Floor* by Joanna Cole
  2. *Coral Reef* by Michael George
  3. Clear tub with sand, rocks, shells and coral
  4. Landscape cube (see appendix D)
  5. Various art medium for creating mural
  6. Large butcher paper

7. Index cards
- C. *Key Vocabulary*
1. coral reef: a deposit of dead coral skeletons and living corals which sit on the sea floor or in shallow waters.
  2. volcano: a hole or tear in the earth's crust from which molten rock, called lava, flows.
  3. valley: a low-lying strip of land between steep hills or mountains.
  4. trench: a long, narrow, steep-sided cut on the ocean floor.
  5. peak: the top of a hill or mountain.
  6. continental shelf: the underwater land that slants down and away from the edge of the world's continents.
- D. *Procedures/Activities*
1. Read *The Magic School Bus: On the Ocean Floor* and show pictures from Coral Reef.
  2. Show a clear tub filled with water that has sand, rocks, and coral pieces at the bottom. Discuss that this is like the bottom of the ocean floor; discuss the various geographic features and the difference between them—coral reef, volcano, mountain peak, trench and valley.
  3. The students will begin an ocean mural by drawing and labeling the landscape features of the ocean floor. They will use various medium such as sand, paint, chalk, crayons and/or markers on butcher paper. Each cooperative group will be responsible for contributing to the creation of one of the geographic features mentioned above and labeling it on the mural.
- E. *Assessment/Evaluation*
1. Students will create a landscape cube (see appendix D) illustrating each type of landscape.
  2. On an index card, students will write/draw one fact they learned and add it to the “What I Have **Learned**” section of the KWL chart.

#### **Lesson Four: Arctic Whale to Zooplankton (Part I)**

- A. *Daily Objectives*
1. Concept Objectives
    - a. The students will understand that there is diversity of life in the ocean environment.
  2. Lesson Content
    - a. There are organisms found in the ocean that range in size from those too small for the eye to see (zooplankton) to very large creatures (whales).
    - b. Ocean animals are divided into three groups: zooplankton; nekton; benthos
    - c. Identify the common characteristics of all fish.
  3. Skill Objectives
    - a. The students will sort ocean animals into the three categories.
    - b. The student will make a fish fact book listing common characteristics of all fish.
- B. *Materials*
1. Ocean animal category list (see appendix E)
  2. “All Fish Have . . .” folding fact book (see appendix F)
  3. Index cards
  4. *Commotion in the Ocean* by Giles Andreae and David Wojtowycz
  5. Ocean animal pictures from three categories listed on appendix E
- C. *Key Vocabulary*
1. zooplankton: ocean animals that float.
  2. nekton: ocean animals that actively swim.
  3. benthos: ocean animals that live on the shore, coral reef, or ocean bottom.

4. gills: the breathing organ of most animals that live in water, such as fish and crustaceans.
  5. fins: movable structures on the outside of a fish's body that help it swim and keep its balance.
  6. scales: the thin, flat, overlapping plates forming the outer covering of many fishes.  
swim bladder: an internal organ that allows fish to adjust their buoyancy or ability to float, a balloon-like bag that fish can either inflate or deflate.
  7. vertebrate: having a backbone.
- D. *Procedures/Activities*
1. Read *Commotion in the Ocean*; discuss similarities/differences between animals in story.
  2. Present students with pictures of animals from the three categories; lead students to discover their commonalities. Discuss the three categories: zooplankton, nekton and benthos.
  3. Using information presented in appendix E, have students sort ocean animals into the three categories.
  4. Discuss common characteristics of all fish: all are vertebrates, all hatch from eggs, breathe through gills, are cold-blooded, have a swim bladder.
  5. Students will create a fish fact book entitled "All Fish Have . . ." which lists the common characteristics of fish.
- E. *Assessment/Evaluation*
1. Successful completion of fish fact book.
  2. On an index card, students will write/draw one fact they learned and add it to the "What I Have **Learned**" section of the KWL chart.
  3. Sorting of ocean animals into the three categories.

### **Lesson Five: Arctic Whale to Zooplankton (Part II)**

- A. *Daily Objectives*
1. Concept Objectives
    - a. The students will understand that there is diversity of life in the ocean environment.
  2. Lesson Content
    - a. There are organisms found in the ocean that range in size from those too small for the eye to see (zooplankton) to very large creatures (whales).
  3. Skill Objectives
    - a. The students will create an ocean animal to add to the class mural.
    - b. The student will write facts about and present information about their ocean animal to peers.
    - c. The students will compile their information together to make a class ABC book.
- B. *Materials*
1. *Bernice the Barnacle* by Alma Flor Ada
  2. Various medium to create their ocean animal
  3. ABC Ocean Animal List (see appendix G)
  4. *What Your First Grader Needs to Know* by E. D. Hirsch
  5. Ocean Creature Fact Sheet (see appendix H)
  6. *The Underwater Alphabet Book* by Jerry Pallotta
- C. *Key Vocabulary*
1. see lesson four\*
- D. *Procedures/Activities*
1. Read *Bernice the Barnacle*; discuss ocean creatures and their relative sizes.
  2. Read *The Underwater Alphabet Book* as an example of an ABC book.

3. See ABC Ocean Animal List (appendix G). Each student will be assigned an animal beginning with a different letter of the alphabet. (i.e. child 1 = anchovy, child 2 = barracuda, child 3 = coral, etc.) They will create *two of the same* ocean animal using various medium and write three facts about it on the Ocean Creature Fact Sheet (appendix H). One animal will become a page in a class ABC book. The other animal will be placed on the class ocean mural, keeping in mind where their animal dwells within the ocean environment.
  4. The student will then present their facts to the class. Teacher refers to *What Your First Grader Needs to Know*, pg. 284-285.
- E. *Assessment/Evaluation*
1. Student writes three accurate facts about their ocean animal.
  2. Student places ocean animal in its proper place on the ocean mural.

### **Lesson Six: Who Eats Who?**

- A. *Daily Objectives*
1. Concept Objectives
    - a. The students will understand that cyclical changes are common to living systems.
    - b. The students will understand that there is diversity of life in the ocean environment.
  2. Lesson Content
    - a. Ocean animals are connected by food chains that make all ocean creatures dependent upon one another.
  3. Skill Objectives
    - a. The students will color, cut and paste ocean sea animals into their appropriate place on a food chain.
    - b. The students will use computer technology to create a food pyramid using ocean life stamps in KidPix.
- B. *Materials*
1. Ocean Life Patterns (see appendix I)
  2. Construction paper
  3. *Who Eats What?* By Patricia Lauber
  4. KidPix software, computer
  5. Food pyramid (see appendix J)
  6. Index Cards
- C. *Key Vocabulary*
1. food chain: an hierarchical arrangement of organisms in an ecological community such that each uses the next lower member as a food source
  2. herbivore: plant eater
  3. carnivore: flesh eater
  4. omnivore: both plant and animal eater
- D. *Procedures/Activities*
1. Read *Who Eats What?*
  2. Discuss the food chain. Animals rely upon each other for survival. The largest creatures depend on the increasingly smaller animals. For example, tiny animals eat microscopic plant life to use the nutrients for their own growth. These small animals, in turn, become food for other animals. As one animal eats another, the nutrients are passed on. When the largest animal in the food chain passes on, its decaying body provides nutrients to help the microscopic plants grow.
  3. Give students a copy of appendix I, Ocean Life Patterns. They will color and cut out the animals. Cut strips of construction paper (2" x 11") to make the food chain. Paste animals on the chain as they fit into the food chain.

4. Using KidPix, students will create a food pyramid (see appendix J) and use ocean animal stamps to place smallest plants at the bottom to increasingly larger animals, until the largest animal is at the top of the pyramid.
- E. *Assessment/Evaluation*
1. Students will write in journals describing their own example of a food chain or pyramid.
  2. Students will properly place animals on the food chain and pyramid.
  3. On an index card, students will write/draw one fact they learned and add it to the “What I Have **Learned**” section of the KWL chart.

### **Lesson Seven: Dangers to the Deep**

- A. *Daily Objectives*
1. Concept Objectives
    - a. The students will understand that many essential resources come from the ocean.
    - b. The students will understand that ecosystems can be affected by human activity.
  2. Lesson Content
    - a. Environments are constantly changing, and this can sometimes pose dangers to specific habitats.
    - b. Dangers to ocean life include things such as pollution and oil spills.
  3. Skill Objectives
    - a. The students will observe and record their observations of simulated oil spill.
    - b. The students will respond to questions about pollution and oil spills.
- B. *Materials*
1. *A New True Book: Oceans* by Katharine Jones Carter
  2. *Saving Our World: Oceans* by Jane Parker
  3. *Oil Spill* by Melvin Berger
  4. Tub of colored water
  5. Vegetable oil
  6. Feathers, paper, other objects to put into oil/water mixture
  7. Oil Spill Lab Record (see appendix K)
  8. Index cards
- C. *Key Vocabulary*
1. pollution: the introduction of elements, compounds, or any other matter into places which results in living organisms being harmed.
  2. ecology: the study of relationships between living things and their environment
- D. *Procedures/Activities*
1. Read *Oil Spill* and discuss how oil spills and pollution pose a threat to our oceans and the animals that live there.
  2. In a tub of blue colored water, mix in some vegetable oil. Talk about what happens to the water. Place feathers, paper and other objects into the water and have students observe what happens when you take the objects back out of the mixture. Lead students to an understanding that this is what happens to the fish, birds, or other animals in an ocean when there is an oil spill.
  3. Students will record their responses to the simulation on their oil spill lab record (appendix K).
  4. Students will write in their journals about what they think oil spills and other pollution do to our ocean environments.
  5. Read *A New True Book: Oceans* and show pictures from *Saving Our World: Oceans* as a summation of the unit.
  6. Students will complete the post-assessment checklist on appendix B.
- E. *Assessment/Evaluation*
1. The students will respond to questions about the oil spill lab (appendix K).

2. The students will write an appropriate response about what they think oil spills and other pollution do to our ocean environments.
3. On an index card, students will write/draw one fact they learned and add it to the “What I Have **Learned**” section of the KWL chart.
4. The students will accurately “x” the true/false statements from appendix B.

## VI. CULMINATING ACTIVITY

- A. Upon completion of the “Happenin’ Habitats” and “Under the Sea” Core Knowledge units, students will rotate among classrooms, participating in each of the following activities:
  - **Ecosystem Lab:** Students will observe live fish, snails and various plants in a pond environment and record their observations in their Explorer’s Log.
  - **Desert Habitat (Part I):** Students will color a desert scene on white construction paper and cover it with a layer of wax paper.
  - **Desert Habitat (Part II):** Students will draw and cut out desert animals and plants from contact paper and place them on the wax paper desert scene, creating a stick and peel model.
  - **Layers of the Forest:** Students will create a tri-level flip book showing the three levels of the forest.
  - **Video Viewing:** Students will watch *Amazing Animals: Seashore Animals* and record observations in their Explorer’s Log.
  - **Underground Habitat:** Students will observe earthworms and how they react to light and dark colors of paper. They will measure their length and record their observations about how the earthworms move in their Explorer’s Log.
  - **Ocean Habitat:** Students will make a model of a starfish by cutting a starfish out of tan construction paper and gluing Cheerios onto them as suckers
  - **Forest Habitat:** Students will use props and creative interpretation to perform a one-act play about life in a forest.
  - **Tasty Treats:** Students will participate in preparing habitat snacks.
  - **The Food Chain Game:** Students will stand in a circle and pass a stuffed fish from person to person while ocean music is being played. When the music stops, the student left holding the fish is considered “eaten” by the bigger animal, and must sit down. The game continues until there is only one person left standing—this person is the “Big Winner.”

## VII. HANDOUTS/STUDENT WORKSHEETS (APPENDICIES)

- A. KWL Chart
- B. Pre/Post Assessment Checklist
- C. World Map
- D. Fold Book
- E. Animal Category List
- F. All Fish Have . . . (Fish Fact Book)
- G. ABC Ocean Animal List (*distributed at conference session only*)
- H. Ocean Creature Fact Sheet (*distributed at conference session only*)
- I. Ocean Life Patterns (*distributed at conference session only*)
- J. Food Pyramid (*distributed at conference session only*)
- K. Oil Spill Lab Record Sheet (*distributed at conference session only*)
- L. Explorer’s Log for journal writing (*distributed at conference session only*)
- M. Sing a Sea Song
- N. Literacy Center Materials (*distributed at conference session only*)

**Note:** *Appendices G – N are available at the conference session only. Please contact [sscova136@neisd.net](mailto:sscova136@neisd.net) for copies)*

## VIII. BIBLIOGRAPHY

- A. Ada, A. *Bernice the Barnacle*. Worthington, OH: McMillan, 1995. 0-02-687108-4.
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### Related Web Sites:

- [www.oceanlink.island.net](http://www.oceanlink.island.net)
- [www.whoi.edu/](http://www.whoi.edu/)
- [www.seasky.org/seas.html](http://www.seasky.org/seas.html)
- [www.well.com/user/bridge/index.html](http://www.well.com/user/bridge/index.html)
- [www.ourworld.compuserve.com/homepages/jaap/](http://www.ourworld.compuserve.com/homepages/jaap/)

WL Chart- appendix A

What do I <u>know</u> about Oceans?	What do I want to <u>learn</u> about Oceans?	What did I <u>Learn about</u> Oceans?
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Pre/Post Assessment Checklist- appendix B

Name: \_\_\_\_\_



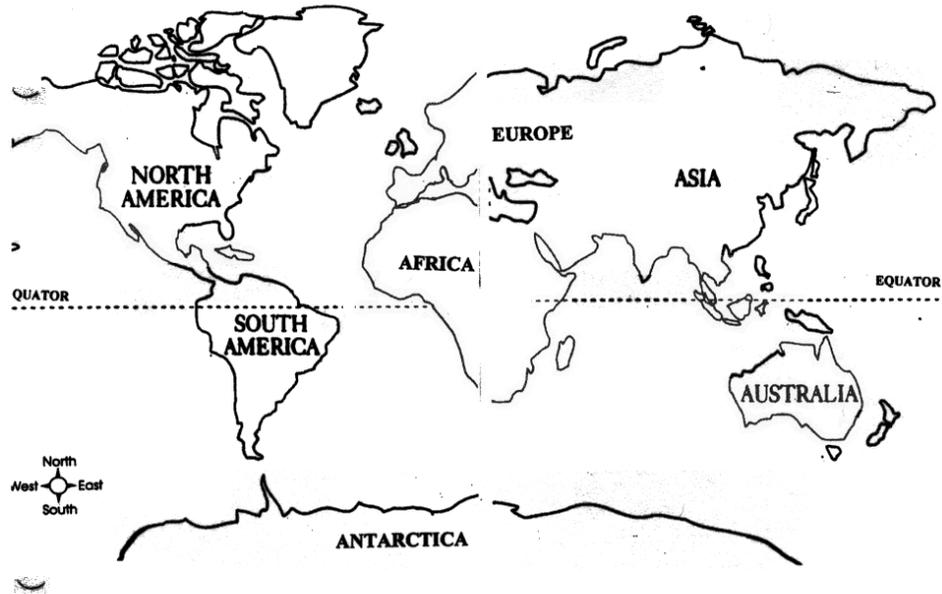
## What Do We Know?



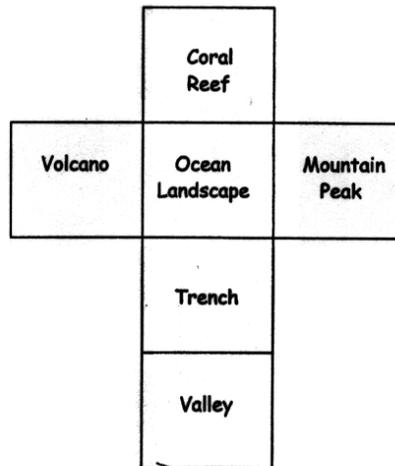
Read these sentences and type an "x" to show what you think is true.

Before		After	
Yes	or	No	No
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>
There are 6 major oceans.			
Waves are made by wind.			
All whales have teeth.			
Tides rise and fall every day.			
Salt water can be used to water all plants.			
There is more water than land on earth.			
The ocean floor is flat.			
Fish breath under water.			
Sharks are fast swimmers with razor sharp teeth.			
Jellyfish are fish.			
Parts of the ocean flow like rivers called ocean currents.			

/World Map- appendix C



Landscape Cube- appendix D



## Animal Category Lists- appendix E

<u>Zooplankton</u>	<u>Nekton</u>	<u>Benthos</u>
Copepod	Anchovy	Sponge
Arrowworm	Squid	Worm
Sea Gooseberry	Eel	Clam
Dinoflagellate	Sailfish	Oyster
Portuguese man-of-war	Whale	Coral
Jellyfish	Octopus	Mussel
Crab Larva	Butterfly Fish	Starfish
Comb Jelly	Sea Lion	Crab
Barnacle Larva	Barracuda	Sea Anemone
	Shark	Sea Urchin

## Fish Fact Book- appendix F

All Fish Have ...

- 1.
- 2.
- 3.
- 4.
- 5.

## **“Sing a Sea Song” -appendix M**

( Sing to the tune of" My Bonnie Lies Over the Ocean")

So salty and cold is the ocean. The Earth is all covered with ocean. So salty and cold is the sea.  
The Earth is all covered with sea. So salty and cold is the ocean. The Earth is all covered with  
ocean. Too cold and too salty for me. More water than land, don't you see?

Repeat Chorus Chorus:

Water, water, there's water allover Atlantic, Pacific, the Artic, The world, the world. And there's  
the Indian too. Water, water, there's water allover There's oceans allover our planet The world. I  
named all of them, now can you?

Repeat Chorus