

DOLPHIN RESEARCH CENTER

Out of the Ocean

Grade Level: 3rd-5th

Objectives: Students will increase their awareness that what goes into our ocean can either be ingested, entangle marine animals or wash out of the ocean onto land. Students will demonstrate their knowledge that every high tide leaves an array of objects on the beach by writing an ocean journal of the various objects they have found. Students will research their discoveries by tracing each item back to its use, or misuse, before it ended up into the ocean and onto shore. Students will combine their concept of “story” and environmental awareness in a creative way.

Florida Sunshine State Standards:

Language Arts

LA.B.1.2 The student uses the writing process effectively.

LA.B.2.2.3 The student writes for a variety of occasions, audiences, and purposes.

LA.B.2.2.5 The student creates narratives in which ideas, details, and events are in logical order and are relevant to the story line.

Science

SC.D. 2.2.1 The student knows that reusing, recycling, and reducing the use of natural resources improve and protect the quality of life.

Social Studies

SS.B.2.2.3: The student understands how human activity affects the physical environment.

National Science Education Standards:

Content Standard F (K-4) - Changes in Environments: Changes in environments can be natural or influenced by humans. Some changes are good, some are bad, and some are neither good nor bad. Pollution is a change in the environment that can influence the health, survival, or activities of organisms, including humans.

Content Standard F (5-8) - Natural hazards: Human activities also can induce hazards through resource acquisition, urban growth, land-use decisions, and waste disposal. Such activities can accelerate many natural changes.

Background: Read **Threats to dolphins** information file.

Materials:

- Pens
- Paper
- Book, *Out of the Ocean* by Debra Frasier
- (optional: costumes)
- (optional: Items for Biodegradation timeline- see below)



Out of the Ocean

Teacher Prep Notes: Read the book, *Out of the Ocean*. Prepare a sample of an Ocean Journal in which you illustrate items found on the beach and write a story about where it came from and how it ended up in the ocean. Write three examples: one tracing the use of an item and how it got onto the beach, one tracing the misuse of an item, and one tracing the proper use of what to do once items are found on the beach. “Don’t teach your trash to swim”, what might happen if you didn’t pick it up, the effects of marine debris, and what we can do to prevent it from getting into our waters are all good examples.

Procedures:

1. Read *Out of the Ocean*
2. Discuss what kinds of objects students have found or seen on the beach. Where did they come from?
3. Choose a few items to trace the possible path from where it originated, how it entered the ocean and how it ended on the beach.
4. Discuss how long certain things might have been in the ocean. How do we know? (Rust, corrosion, etc.)
5. Do some things take longer to decompose or biodegrade?
6. How do we know?
- 7. BIODEGRATION TIMELINE: SEE BELOW**
8. Does everything that washes into the ocean wash back out onto the beach? What might happen to it? (i.e. ingested by marine animals.)
9. Things may not be as they appear- plastic bags = jellyfish, cigarette butts = shrimp
10. What else?

Have students choose at least one item to illustrate and write about for their Ocean Journal.

Choose one of three options to write:

1. Write a story about how the use of something could cause it to end up in the ocean, i.e a dive flag blew off its pole in the wind and is now on the reef. (accidental/functional)
2. Write a story about the misuse of something that could cause it to end up in the ocean, i.e. throwing a candy wrapper on the ground.
3. Write a story about why picking up cigarette butts helps save lives. Sea turtles might think they are shrimp, etc. Don’t teach your trash to swim!

BE CREATIVE! Encourage students to have a message/mission to their story.

Key Terms

Biodegradation: The break down of matter over time.

Marine debris is anything from a discarded sandwich bag to a lost fishing net. Every ocean in the world is littered with some form of debris, which resembles food for marine life. Many animals accidentally eat marine debris causing internal injury, intestinal blockage, and starvation.

Human impact: the effect of human presence on an area or environment

Conservation: the official care and protection of natural resources



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Wrap Up: Compile Ocean Journal entries and make a class book; present to younger grades to show to make sure that our trash is NOT what comes out of the ocean!

Taking it Further:

- Discuss things too big to carry home as discovered treasures - sand, sunsets, sunrises, waves, water, the tides, the moon, creatures, mammals- choose one and write another journal entry.
- Parade: Out of the Ocean Parade- dress up as an item found on the beach. Read entry/story to the class and have a parade at your school/ in your classroom.

Biodegradation Timeline Activity:

Individually or as a group/s

1. Set up a table with the time cards in order making a time line.
2. Place the items on the table in random order.
3. Give students five minutes to place the items along the time line.
4. Check students' work and silently move the incorrect items back from the time line. They have three chances to check their work.

Newspaper - 6 weeks

Waxed milk container - 3 months

Styrofoam cup - 50 years

Tin soup can - 50 years

Aluminum can - 200 years

6-pack rings - 400 years

Diapers - 450 years

Plastic bottle - 450 years

Fishing line - 600 years

