

# MARINE DEBRIS

**Subject:** Science, Ecology

**Duration:** 1 hour

**Location:** Classroom

## OBJECTIVES:

To teach students the importance of keeping our waters clean and free from **debris**. To learn about **recycling** and why it is so valuable.

## MATERIALS:

six pack ring	empty soda can	plastic bag	bottle
plastic containers	lunch box	thermos	lunch bag
plastic (or wax) wrap	juice box (disposable drink container)	dessert in wrapper	

## METHOD:

Discuss marine **debris** with students and its effects on the **environment**. A **recyclable** lunch demonstration shows the students how they can participate in helping to reduce **litter**. A children's and teacher's pledge is enclosed to join the movement to keep the Gulf clean. Helping with a beach clean-up or starting a recycling program at school are additional ways to keep America green!

## BACKGROUND:

Marine debris is a major issue with many environmentalists these days and with good cause. Marine debris is not only unsightly and unhealthy, it can be fatal to marine life. Many whales, turtles, dolphins, fish, and seabirds become entangled in floating trash, or sometimes mistake it for food and end up dying from blocked intestines. Why does this happen? When balloons and plastic bags end up in the water, they soon lose color and become transparent. At this stage, they look a lot like jellyfish, a common food item for many marine creatures. They attempt to eat the "jellyfish" by taking bites out of it or sometimes swallowing it completely. As a result, this plastic may clog their intestines either partially or completely, resulting in death.

Six-pack rings and fishing lines are other deadly items in the seas. They get caught around necks of birds, gills of fish, and fins of marine mammals. All types of marine debris are collected and surveyed during coastal beach cleanups: cans, bottles, plastic bags, six-pack rings, rope, fishing line, crates, oil cans, light bulbs, styrofoam and many, many other items. The trash is counted and catalogued. From these surveys it has been determined that the trash is coming from recreational boats, commercial fishing boats, cruise ships, merchant ships, military vessels, oil rigs, and beach goers. The garbage that ends up in the oceans takes many years to disintegrate. Rope takes about 1 year, a tin can about 100 years, an aluminum can between 200 and 500 years, plastic about 450 years, and glass is unknown. Another major problem in our oceans are oil spills. These have more immediate results. If we all do our part

to conserve energy, recycle, and keep our coasts clean, we will help our environment to be healthy and beautiful.

### SUGGESTED PROCEDURE:

- 1) Discuss with the students what marine **debris** is and how it gets into the water. Show them empty soda cans, bottles, six-pack rings, candy wrappers, plastic bags, fishing line, etc. Ask the students who they think is putting garbage such as this into the water? What do they think can be done about it?
- 2) Have the students (and teacher) fill out the enclosed Concerned Citizen's Pledge for keeping garbage out of the water, and cleaning up other trash when possible. Explain to students about releasing balloons, and how they can travel many miles out to sea, even if released from interior states. This creates problems when **marine** animals try to eat these "jellyfish." It's okay to have balloons, just try not to let them go. If the students are interested, they can bring home copies of the Concerned Citizen's Pledge and have their parents and siblings sign them.
- 3) Six-pack rings, plastic bags, and fishing lines are deadly to many sea creatures. Have each student find a six-pack ring and some other type of garbage that has been discarded carelessly by someone. Have them bring this garbage into the classroom. Discuss with the students that every six-pack ring, or other piece of dangerous garbage that they pick up is one less that could end up harming a bird, turtle, dolphin, or other marine animal. Have the students cut the loops off the six pack rings and throw them into the garbage along with the other trash they have collected. Suggest that they cut up all six-pack rings at home before throwing them away, because sometimes animals get into the landfills where the garbage is dumped, and this would prevent an animal from getting caught in it!
- 4) Have a **recyclable** lunch demonstration. Bring in two lunches to show the class. Make one totally recyclable using plastic containers, a reusable lunch box, and a reusable drinking container. Make the other totally disposable, with excess packaging, in a brown bag. Tell the class this experiment will take two days. The first day, eat the lunch in the brown bag and put all of the garbage in a pile. The second day, eat the lunch in the containers and put any garbage left from it in another pile (perhaps just a paper napkin). Discuss with the class how reducing the amount of waste is the first step to solving the garbage crisis. If every students reduced the amount of garbage generated by their lunches, how much less garbage would there be?
- 5) Other activities that feel good to do and are good for the **environment** are to get involved in a beach cleanup and to **recycle** in school. Beach clean-ups are fun, and almost every coastal community has one. The "Take Pride in the Gulf" cleanup is always scheduled on the next to the last Saturday in September. This could be a possible field trip or exercise for extra credit. The materials found could be surveyed by the class,

and the results charted on a graph. Recycling can help reduce the amount of litter around our coasts, and it saves energy and natural resources too. If the school currently has a recycling program, set aside a place to store recyclables (labeled cardboard boxes work great), and then once a week, have the class take their items to the place where the recycled materials are gathered in the school. Tell them that the bigger the piles are in the boxes, the cleaner they are making their environment. The students can also collect items that were littered by other people and recycle them too. Encourage students to recycle at home and to ask their parents to buy recycled products or products with less packaging.

### CONCERNED CITIZEN'S PLEDGE

I am a concerned citizen, and I feel that the waters of the Gulf of Mexico, and all associated waters and coastlines, are important public and environmental resources.

I want to help to protect our coast and be an "Environmental Ranger".

#### AS AN ENVIRONMENTAL RANGER,

I will not throw trash anywhere except in a garbage can.

I will recycle whenever possible.

I will help pick up other peoples' garbage whenever possible.

I will try to prevent accidental loss of garbage, fishing supplies, or balloons.

I will help my coast to stay clean and healthy.

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NAME

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DATE

CONGRATULATIONS!

You are now an "Environmental Ranger"!