



Lesson Plan (Garbage!) At the Beach

This lesson plan works very well with children preschool through second grade. The lesson lasts between 45 minutes to an hour, based on the number of books read. To orient the children to what it means to be a scientist, think scientifically and “do science,” use the **A Scientist Is... and Scientific Method** handouts available at the end of this lesson plan.

SING

Begin with your favorite welcome song.

SCIENCE CHAT

Begin a storytime about water pollution (aka marine debris) at circle time by freestyle asking the children what is garbage, where does it come from and where does it wind up. They may be surprised to learn that it often winds up in the waterways.

MARINE DEBRIS BRAINSTORM

(Have in hand waste basket with examples of garbage we find in the water)

What is **garbage**? Can anyone give **general examples of garbage**?

Who **makes garbage**? Do YOU make garbage? What kind?

Where does garbage go?

Does garbage always go where it is supposed to? Where else does it go? (Lead conversation to the water, the beach)

What do we call garbage in our oceans, lakes, rivers, and streams? **Marine Debris**

For more information, please contact:

Wisconsin Water Library | Phone: (608) 262-3069 | Email: askwater@aqu.wisc.edu

PHYSICAL ACTIVITY Have kids stand up and imagine they are fish in the lake or ocean. Have them swim around using their hands as pretend fins, and the floor as their pretend water, then DROP items of marine debris from waste basket in their path.

As fish, what do they think will happen when they get entangled with all that trash? If you are feeling adventurous, keep the rope back and entangle all the fish with it - this is a real life example of what might happen to fish in our waters.

Supplies for Physical Activity

Garbage can (filled with items):
Plastic grocery bag
Plastic water bottle
Rubber glove,
Tin can
Styrofoam cup
Plastic silverware
Rope
Socks

Glass bottle
Bottle caps
Ziploc bags
Balloons
Six-pack rings
Food wrappers
Flip flops
Straws
Rope

An added piece of interest for a slightly older group the marine debris that is found on the beach and in the waters often breaks down. In the case of plastics, they break into what scientists call "microplastics" but also include originally manufactured products such as microbeads found in cosmetics and personal care products, industrial scrubbers used for abrasive blast cleaning, and resin pellets used in the plastic manufacturing process. 'Microfibers' are another type of microplastic that are generated from washing synthetic clothing made of polyester and nylon (petroleum-based materials).

have been found in the stomachs of many marine organisms from plankton species to whales. Chemical additives can leach out of microplastics into the ocean; conversely, contaminants from the water may adhere to microplastics. There is ongoing research to determine whether these contaminants may transfer through the food chain.

To learn more, NOAA has a [great website](#) all about marine debris.

READ

Suggestions from the Wisconsin Water Librarians, but feel free to swap out with your own OR visit our

subject specific reading lists: [Beach combing](#) and [Water Pollution](#).

READ: [Bats at the Beach \(2006\)](#) by Brian Lies

READ: [Beach Day \(2001\)](#) by Karen Roosa illustrated by Maggie Smith

READ: [A Beach Tail \(2010\)](#) by Karen Lynn Williams illustrated by Floyd Cooper

READ: [Surf's Up \(2016\)](#) by Kwame Alexander illustrated by Daniel Miyares

SING

Use any song you like adapted to the theme of fish (who come upon marine debris). Tell the children to imagine themselves, again, as fish in the water, running into marine debris. Here is one suggestion:

I'm a Little Fish

(to the tune of "I'm a Little Teapot")

I'm a little fish, I like to swim

(put hands in prayer position facing away from you... they're the fish. Wiggle them back and forth like a fish swimming through the water.)

You can't catch me, 'cause I have fins

(shake finger back and forth "no no no")

When I swim past my friends, I hear them say

(put hand to ear like you're listening)

Stop your swimming and come and play!

(make a STOP gesture with hand and then jump up in the air)

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CRAFT IDEA: WATER BOTTLE FISH



Supplies needed:

Water bottles (used)

Scissors

Clear scotch tape (to tape up edges where you cut out the triangle pieces from water bottle)

Elmer's Painters Opaque Paint Markers (or any paint markers available at your art supply store that will work on plastic)

Paper plate for each kid as work surface/or lay down butcher paper

Glue Dots if googly eyes don't have sticky backs

Large googly eyes

How To:

Discuss being good water citizens with children by cleaning up garbage at the beach and re-using plastic bottles. One way to do this is to make beautiful tropical fish out of plastic bottles.

- Flatten/crush plastic bottles
- Cut triangles out of both sides of each bottle to form the tail
- Tape cut sides shut (because they can be sharp)
- Use paint markers to decorate fish body
- Add googly eyes

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A SCIENTIST IS SOMEONE WHO...

- Observes and wonders
- Asks questions
- Listens to ideas of others
- Conducts experiments
- Shares his/her ideas and discoveries
- Explores the world around him/her
- Uses tools to solve problems

A SCIENTISTS SAYS...

- I agree with you because...
- I disagree with you because...
- Why do you think that?
- So, what you're saying is...
- Can you tell me more?
- Can you give me an example?
- How could we test that?
- That reminds me of...

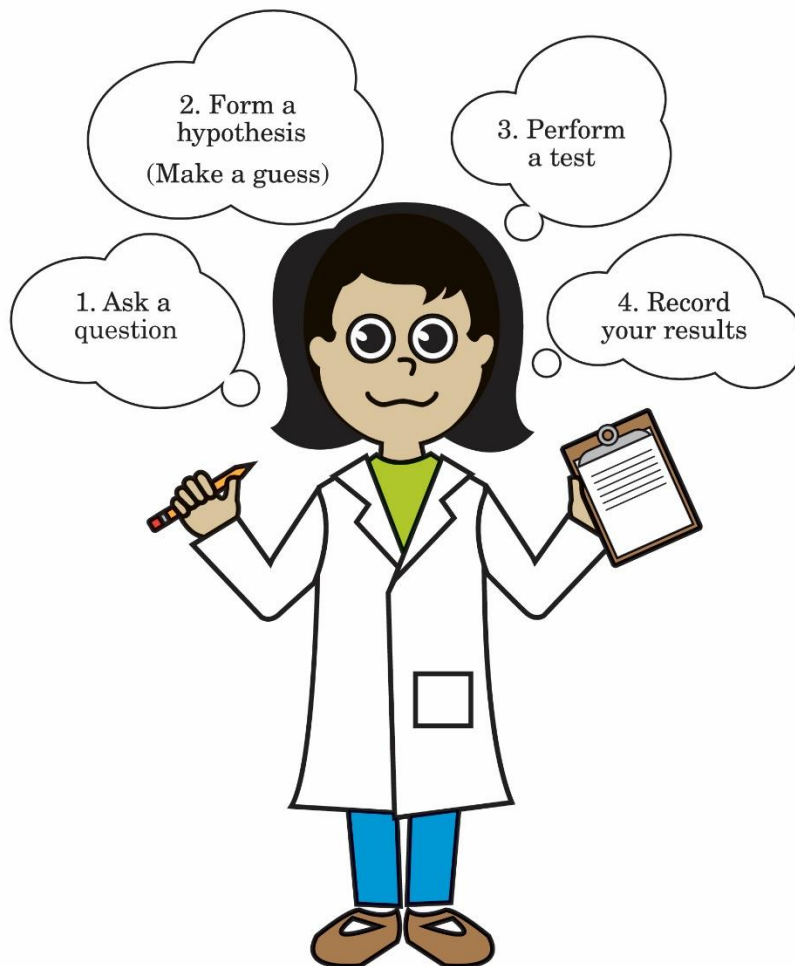


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DOES IT SINK OR FLOAT? SCIENTIFIC METHOD

THINK LIKE A SCIENTIST



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