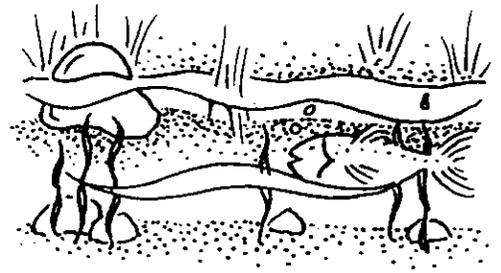


Clean Water

Grades K-1



Overview

The students will observe a fish and discuss its habitat and what it needs to survive. They will do an experiment to see if it is possible to clean dirty water. The students will also make a two-sided puzzle to review the fish's habitat.

Objectives

- To help the students understand that dirty water can be cleaned.
- To help students understand that rivers, ponds, lakes and oceans are habitats for fish.
- To help students understand that by keeping the water clean we can help to protect the habitat of fish.

Materials

For the presenter:

- a fish in a bowl or aquarium
- pictures of fish in rivers, lakes, and the ocean
- a sample of the filter the students will make

For each group of 4 students:

- a clear plastic 2 liter bottle with the bottom cut off (see page 2)
- a jar that the 2 liter bottle will sit in, it will be used to catch the water poured through the filter(see page 2)
- 2 balls of cotton
- pebbles - enough to make a 2" layer when placed in the 2 liter bottle
- gravel - enough to make a 2" layer when placed in the 2 liter bottle
- sand - enough to make a 2" layer when placed in the 2 liter bottle 1 pint jar with a lid - 3/4 full of clean water
- 1 tbs. of pencil shavings
- 2 tbs. of dirt
- spoon for mixing
- plastic tub for holding each group's materials

For each student:

- 1 copy of the fish puzzle
- scissors and crayons
- 1 sandwich bag

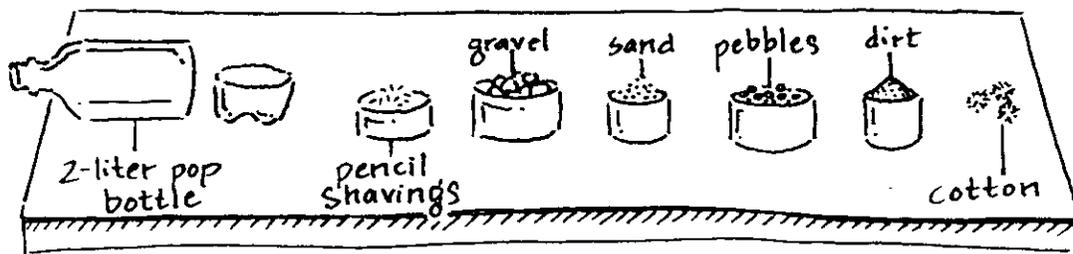
Getting Ready

Activity 1

Put the fish bowl and pictures on a table in front of the class. Write the word *habitat* on the chalkboard.

Activity 2

Make a sample filter to use for demonstration. Cut the bottoms off of the 2 liter bottles. Each group should have a tub with the following items in it: a 2 liter bottle, a jar to hold the filter, cotton, container of pebbles, container of gravel, container of sand, 1 pint jar filled 3/4 full of clean water with the lid on, 1 tbs. of pencil shavings, 2 tbs. of dirt, and a spoon. Place tubs on a table that can be accessed easily by the students.



Procedures

Activity 1: Habitats

Start this activity by showing the students the habitat (*gold fish bowl*) that you brought. Ask: "Do you know what animal lives here? What things do the fish need to live (*food, water and shelter*)? Where do these fish get their food? What would happen to the fish if I didn't feed them? What would happen to the fish if I didn't have clean water for them?" Share the fish pictures that you brought. Ask the students if they know the names of the fish and where they live. Point to the word *habitat* on the board and ask: "Does anyone know what the word *habitat* means? What is the goldfish's habitat?" Hold up the fish pictures again and discuss with the students the different habitats that fish live in. Write the words *pond, lake, river* and *ocean* on the board by habitat. Emphasize with the students that all the habitats must have water, food and shelter. Ask: "What would happen to the fish if the water was not clean? Do you know how the rivers and lakes get dirty?"

Activity 2: Clean It Up

Tell the students that they are going to do an experiment to see if we can clean polluted water. Ask: "What is water pollution? How does water get polluted? How do we pollute water at school and at home? When you and your family have gone picnicking by a river or stream, what kind of water pollution did you see (*empty can, trash, picnic wastes, leftover food, etc.*)? Is all water polluted? Can we do anything to make water that has been polluted clean?"

Before handing out any materials, show the students the tub of materials and the filter they will be making. Explain that each group will make a filter together. Remind the groups that they need to take turns. It might be helpful to number the members of the group, so they know whose turn it is to be first etc.

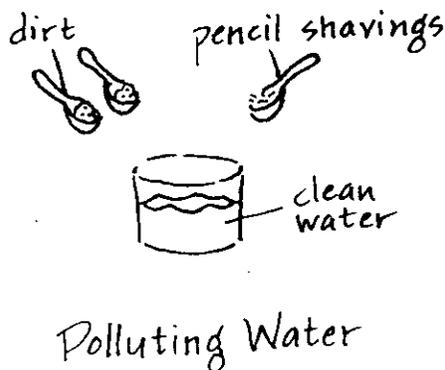
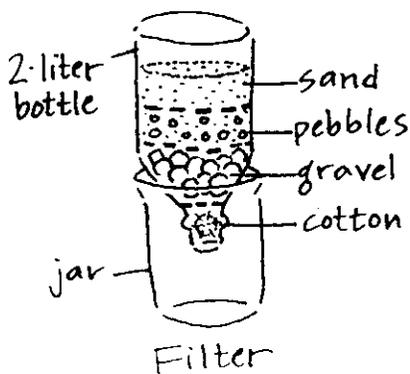
Steps for making the filter:

1. Place the 2 liter bottle upside down in the jar with the neck facing down.
2. Push the cotton down into the neck of the bottle.
3. Put the gravel on the bottom of the bottle on top of the cotton.
4. Put the pebbles on top of the gravel.
5. Put the sand on top of the pebbles.

Steps for polluting the clean water:

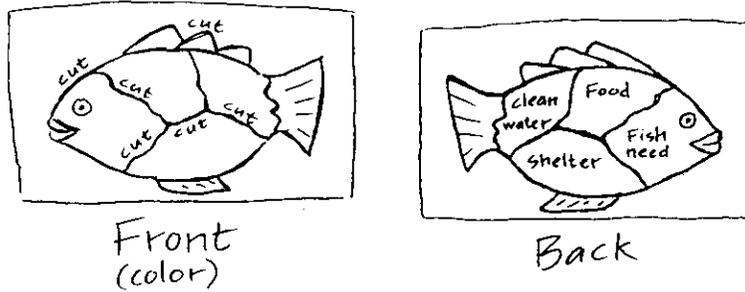
1. Add the dirt to the jar of clean water.
2. Add the pencil shaving to the water.
3. Mix with the spoon.

Have one member of each group pour the polluted water into the filter. Tell the students to observe what happens. Discuss with the students what they discovered. Ask: "What happened to the dirty water? Where is the dirt and pencil shavings? How is the water in the jar different now? Should dirty water be filtered before it is dumped into our lakes and rivers? Will this help to protect the habitats of fish?"



Activity 3

Show the students how to make the two-sided puzzle. Have them color the blank side. Cut out the fish shape and on the puzzle lines as indicated. See sample below. Tell the students to see if they can put the puzzle together the two different ways. They may keep their puzzle pieces in the plastic bag.

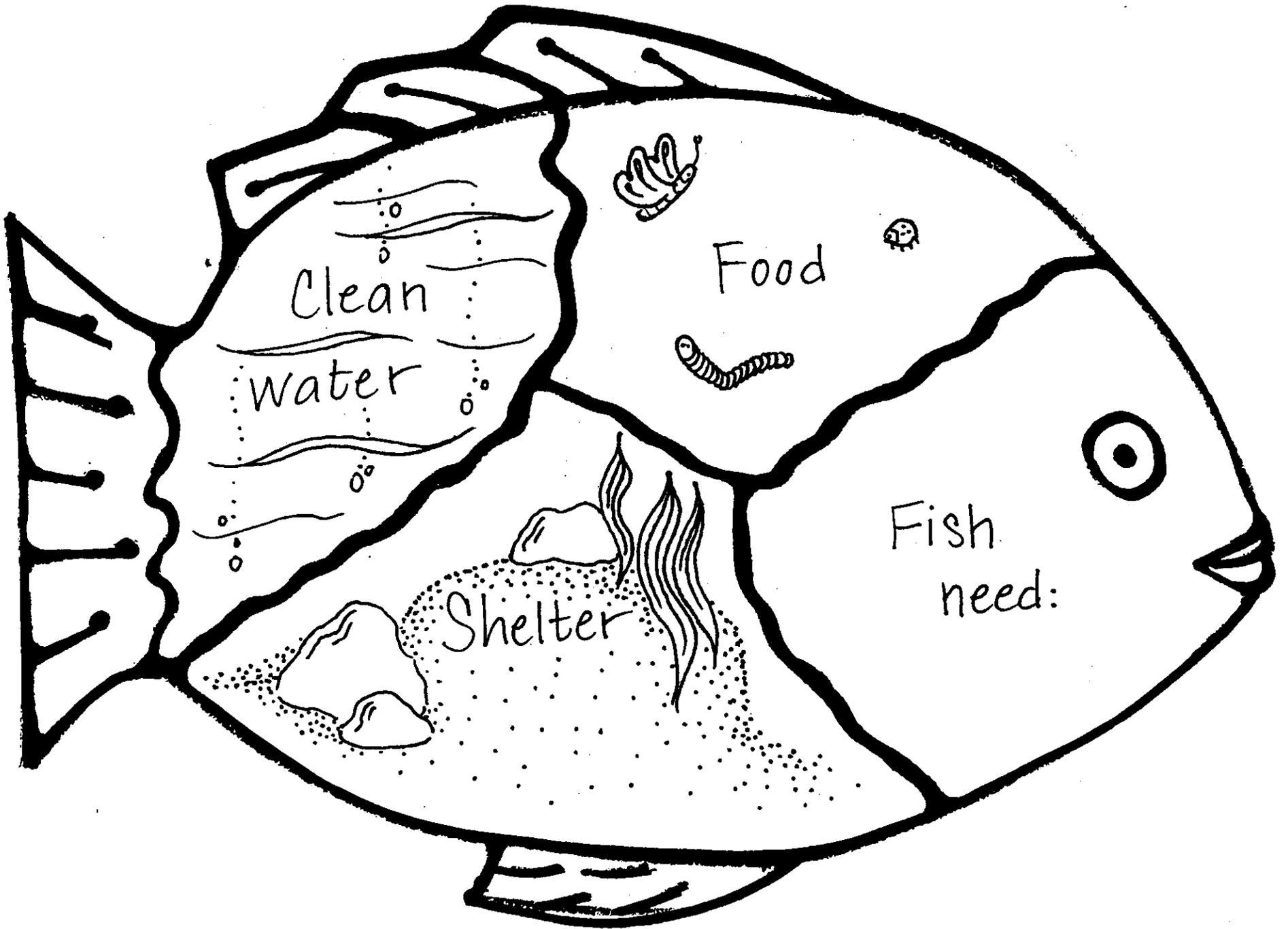


Closure

Tell the students to whisper to their neighbor what they can do to help protect the habitats of fish. Ask a couple of students to share with the class their ideas.

Clean Up

Each group should put all their materials in the tubs and one member can put the tub on the table where you had them.



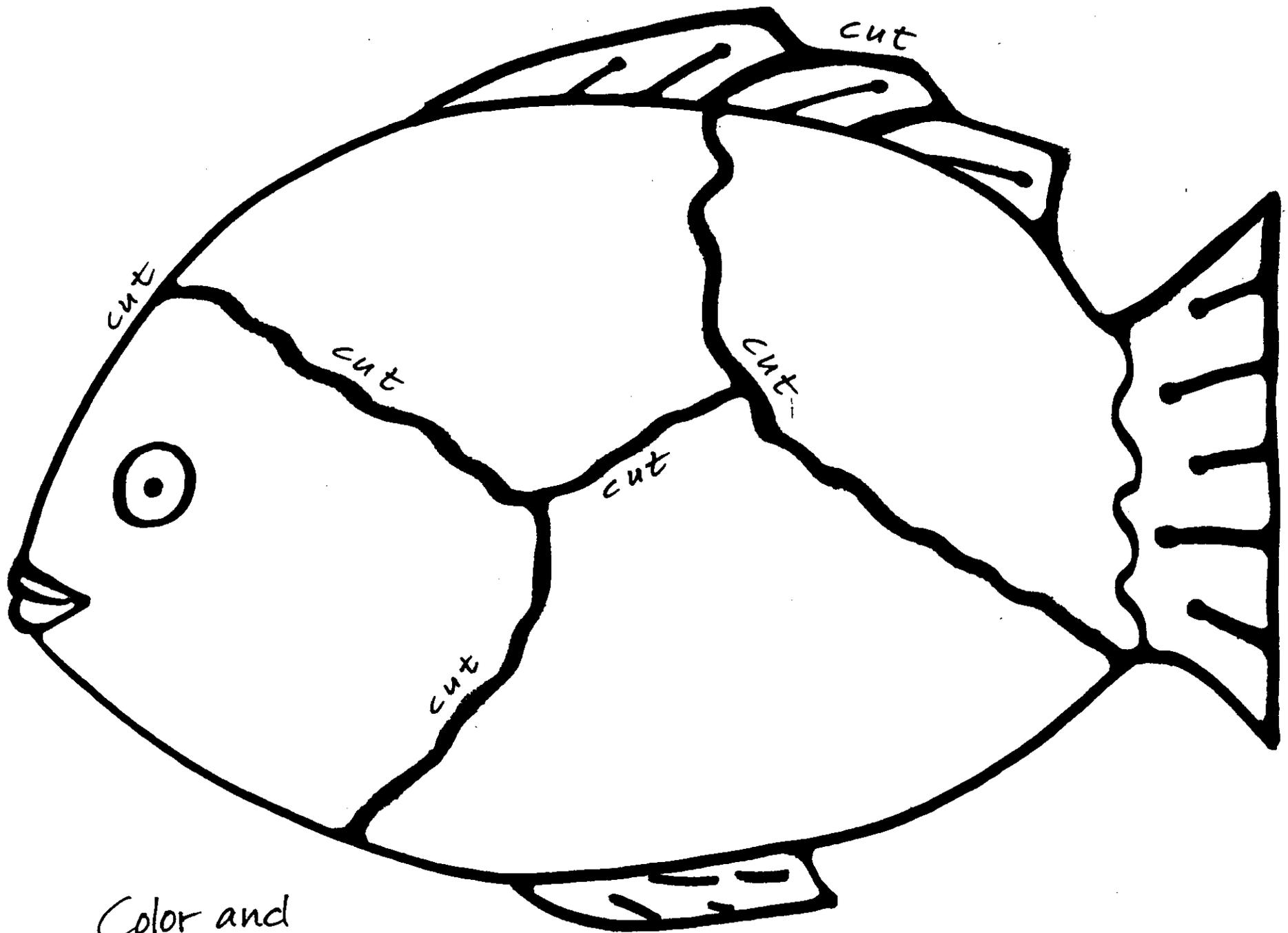
Clean

water

Food

Shelter

Fish
need:



Color and
cut out