

Norwood Science Center

Animals Grade 1

Background Information:

Fish belong to the group of animals that are called cold blooded. They do not have cold blood; rather their environment governs their blood temperature. Cold water, cold fish, warm water, warm fish. This characteristic is shared with all animals on the planet Earth with the exception of the birds and mammals.

Fish also belong to a group that is characterized by the presence of a backbone. While there is some variety amongst the fish groups, for our study they will all be considered bony animals with a backbone.

While fish share many traits with animals from other groups they have a few specialized features. The first would be the presence and use of gills. Gills are the breathing organs of most aquatic animals, including mollusks and crustaceans. Fish have gill slits or a flap of skin covering the gills. Under these gill slits are the gills themselves. The gills are very thin blood vessels. Water is pulled into the mouth of the fish with the gill slits closed. As the mouth is closed the water is pumped past the gills and out the gill slits. As the water passes amongst the gills oxygen passes into the blood and carbon dioxide passes from the blood to the water.

TITLE: **FISH**

PURPOSE: Observe fish breathing
 Observe fish moving

MATERIALS: (per group of 3-4)

Fish Worksheets (3-4)
Liter fish tank (1)
Goldfish (1)

Pencils (as needed)
Notebooks
Aquarium Water as needed

PROCEDURE:

01. Group the students around a single desk.
02. Distribute worksheets
03. Have the students fold the worksheet in half so they can see only the top portion of the sheet.
04. Tell the students they will be seeing a fish in a few moments. But first they are to draw what they think a fish looks like on their worksheet. Students can brainstorm momentarily, and then they must draw a fish in the upper half of the worksheet.
05. Distribute the plastic fish tanks.
06. Fill the tanks three quarters full with aquarium water.

Aquarium water is simply water that has been left out for two days and checked for pH. Leaving the water out allows for the temperature to level off at room temperature and any harmful gases to evaporate. The water used in the Science Center lesson is water from an actual aquarium; it will be less stressful for the fish.


07. Place one fish in each fish tank.

***The teacher might find it helpful
to prepare the fish
ahead of time.***


08. Allow the children to observe the fish for several minutes in complete silence. Then they make observations regarding the anatomy (the body parts), physiology (the function of these parts) and any interesting behaviors.
09. After a few minutes of silent study, the students are to discuss any changes or differences they found between what they expected and what they observed.
10. Students are to draw their fish on the lower half of their Fish worksheets.
11. Explain to the students that the gills are the "lungs" of the fish. Students should understand the gills are the sites of gas exchange in the Respiratory System of the fish.
12. Explain to the students that the fish takes "breaths" like higher animals on land. The breaths can be counted by watching how many times the gill slits or covering (operculum) open and shut.
13. Have the students count the number of times the fish "breathes" in 15 seconds.

SOURCE:


01. Critters. AIMS Education Foundation, 1992.
02. The Usborne Illustrated Dictionary of Science.




Draw a fish



Draw a fish



Draw a real fish



Draw a real fish