

How do fish breathe?



Fish like us need oxygen to breathe but fish use gills instead of lungs to breathe. Gills take oxygen out of the water. How do gills work? Let's do this experiment and find out

Curriculum links

Geography, Science.

Learning Objective

To learn about how fish breathe underwater with this fun interactive experiment.

Materials

Two glasses or jars

Water

A tablespoon of coffee grounds

Elastic band

Coffee filters (you can also use paper towel)

Water (H₂O) contains oxygen which fish need to live. Instead of breathing using lungs they use gills. Fish breathe underwater by swallowing the water and letting it out through its gills. Gills are an organ, which are very thin and filters the water to capture the oxygen the water and release carbon dioxide.



Experiment

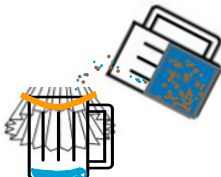
For this experiment the coffee grounds represents oxygen.



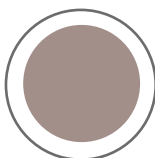
- Fill one cup halfway with water and ask a student to add the coffee grounds into the glass. Tell the students that the coffee mixing is like the water in the ocean, it has different elements, and the coffee is oxygen, but we can not see oxygen in real life.



- Take your second glass and put a coffee filter or kitchen paper over the top of the glass and secure it with an elastic band, make sure that the filter is not too tight. The filter represents the gills of a fish.



- Take your coffee and water filled glass – your oxygen filled glass, and slowly pour it on top of your filter covered glass. You will now see the water filter through the coffee filter.



- What is left behind in the coffee filter, well that's coffee grounds that represents oxygen in this experiment. This is how fish breathe, they swallow water, and the gills filter the oxygen out of the water.

For further information visit this [website](http://www.greenschoolsireland.org)