

What In The World Are Swim Bladders and Why Are They Important?

Question -

How do fish travel to different depths of the ocean?

Write your hypothesis.

Materials -

big jar or bowl, water, three balloons, three marbles, and centimeter ruler

Procedure -

1. Fill the jar with water.
2. Place one marble in each balloon.
3. Tie a knot close to the marble in the first balloon. Do not put any air in the balloon.
4. Take a second balloon and do the same. But this time put a small amount of air into the balloon.

5. Repeat the procedure with the third balloon, blowing more air into this balloon.
6. Drop all three balloons into the water.

Observe -

What happens to each balloon? Measure the distance in centimeters from the bottom of the jar to each balloon. Record your results.

Balloon 1	Balloon 2	Balloon 3

Fish have an organ called a swim bladder that acts like the balloon in your experiment. This swim bladder is located in the body cavity of the fish.

Evaluate -

Why do you think that fish need to regulate their swim bladders?

Enrichment -

If fish didn't move to different depths of water, what might happen?

Nets may entangle fish at a deep depth. The net is pulled up to the surface. What do you think happens to a fish when it is pulled to the surface too quickly?

Extension -

Look in a reference book and read about submarines. What is the difference between the way a submarine regulates its buoyancy and the way a fish regulates its buoyancy?

Personal Experience -

Interview someone who has been snorkeling or scuba diving. Ask them what special things they had to do to dive to different depths. What precautions did they take when surfacing from deep water?

I interviewed _____

Here is what they told me.
