

Name _____

Teacher's Guide for: *What In The World Are Swim Bladders and Why Are They Important?*

Goal: To help students understand that the smaller or more deflated a fish's swim bladder, the deeper that fish can swim. Fish swim bladders inflate, like balloons, to allow fish to swim closer to the surface.

Students will discover the following:

Observe: The balloon without air will sink to the bottom. The balloon with the greatest amount of air will be near the surface and the one with less air will be below it.

Evaluate: Fish live in a three dimensional world. The environment changes (see the temperature and salinity experiment) and fish need to move vertically to find food, avoid predators, and reproduce.

Enrichment: If fish were unable to regulate their depth, they could not survive in a complex, deep aquatic environment. If bottom-dwelling fish are brought to the surface too quickly, they can be killed by the changes in pressure and the swim bladders injured.

Extension: Submarines typically regulate their buoyancy by pumping water in or out of their ballast tanks. Fish swim bladders inflate and deflate much like a balloon.

Personal Experience: Scuba divers add weights to dive to depths and must surface at slow rates to avoid injury.