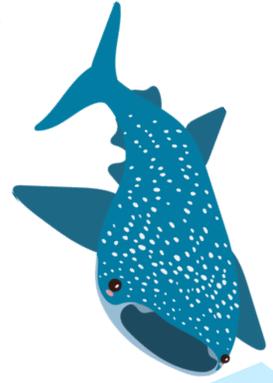


How do Sharks Float?

Sharks come in all shapes and sizes from the dwarf lantern shark that can fit in the palm of your hand to the largest fish known to our ocean, the whale shark. A whale shark can be as long as a bus and weigh up to 20.6 tons. So, how does a shark as heavy as a whale shark float?



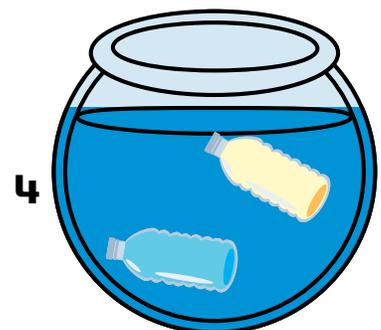
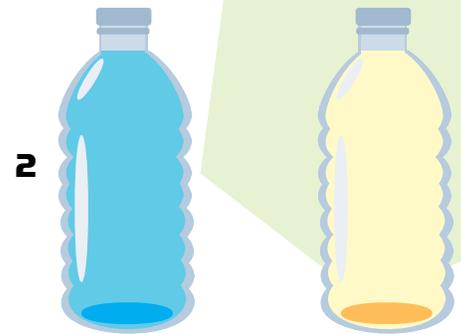
Sharks are very buoyant which allows them to float in water. However, in order to remain buoyant some sharks must constantly swim or else they will sink. Sharks have three key features that help them stay afloat: their special bones, fins, and oily liver. Try this experiment to see how the oily liver works!

Materials:

- 2 Small Bottles or Balloons
- Water
- Permanent Marker (optional)
- Vegetable Oil
- Large Bowl

Procedure:

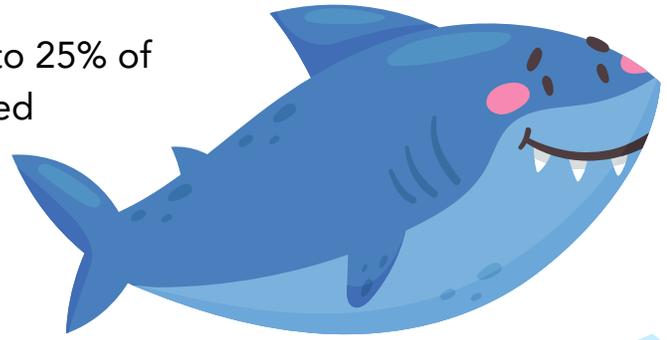
1. Fill your large bowl with water. Make sure to leave some space at the top of the bowl so the water doesn't overflow.
2. Fill one of the bottles with water and the other bottle with oil. Place the caps on top. Make sure they don't leak.
3. **Optional:** Decorate your bottles with the permanent marker. Add fins and gills and make it look like a shark!
4. Place both bottles in the large bowl filled with water. *What happens? Do the bottles sink? Do they float?*



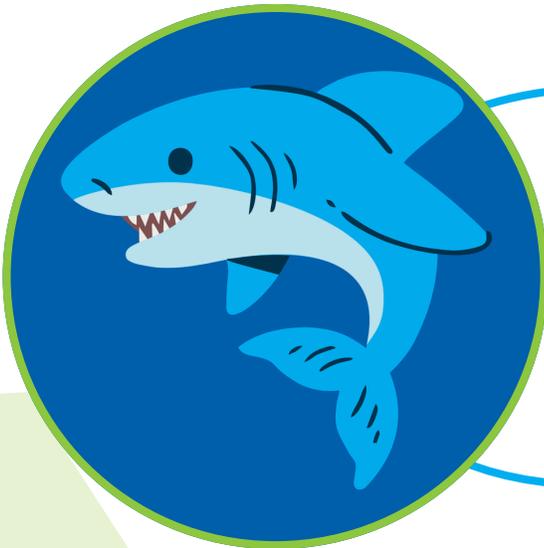
How do Sharks Float?

WHAT'S HAPPENING?

Sharks rely on their large oily liver which can be up to 25% of their body weight. Their liver is filled with an oil called squalene, which is much less dense than salt water, and wants to float above the water. Because of this difference in density, it makes the shark buoyant.



Sharks have skeletons made from cartilage, which weigh much less than bones, also making it easier to float. The shape of their fins allows them swim through the water like the wings of an airplane through the air. But without their liver, it would take much more energy to *just keep swimming*.



DID YOU KNOW?

A **shark biologist** is someone who studies sharks. If you liked this activity, maybe shark biology is for you!