

Make it sink or float, you decide

Change the density of an item to make it float or sink.

What you need

3 film canisters or 3 same size travel containers
Sand
Tall clear container or aquarium
Water
Masking tape
Marker

What you do

1. Fill the clear container almost full with water.
2. Using the masking tape and the marker, label the three film canisters as sink, float, and neutral buoyant.
3. Select the film canister labeled “sink”. Predict and add the amount of sand you think it will take to sink the film canister to the bottom of the clear container.
4. Test your prediction by placing the film canister in the water. Was there enough sand in the canister to make it sink?
5. Select the film canister labeled “float”. Predict and add the amount of sand you think it will take to simply float the film canister on the top of the water in the clear container.
6. Put the container in the water to test your prediction. Did the canister float?
7. Select the film canister labeled “neutral buoyant”. Predict and add the amount of sand you think it will take for it to float in the middle of the water when placed in the container.
8. Test your prediction by placing the film canister in the water. Did it float in the middle of the container?

What you ask

- Why did you have to change the weight of each film canister to accomplish all three goals?
- Would it have made a difference if we used a bigger or smaller film canister?
- Does an object with more ‘stuff’ in it have a higher or lower density?

Did you know?

Density is the measure of how much “stuff” is crammed in one place; that “stuff” can be anything from cereal in a box to people crowded in an elevator. More commonly, the “stuff” is the amount of matter crammed into an object. A bowling ball has more matter crammed into it than a soccer ball. That is why the bowling ball feels heavier and sinks in water.

What’s next?

- Look around your house for an item that floats and find a way to make it sink.
- Look around your house for an item that normally sinks and find a way to make it float.



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