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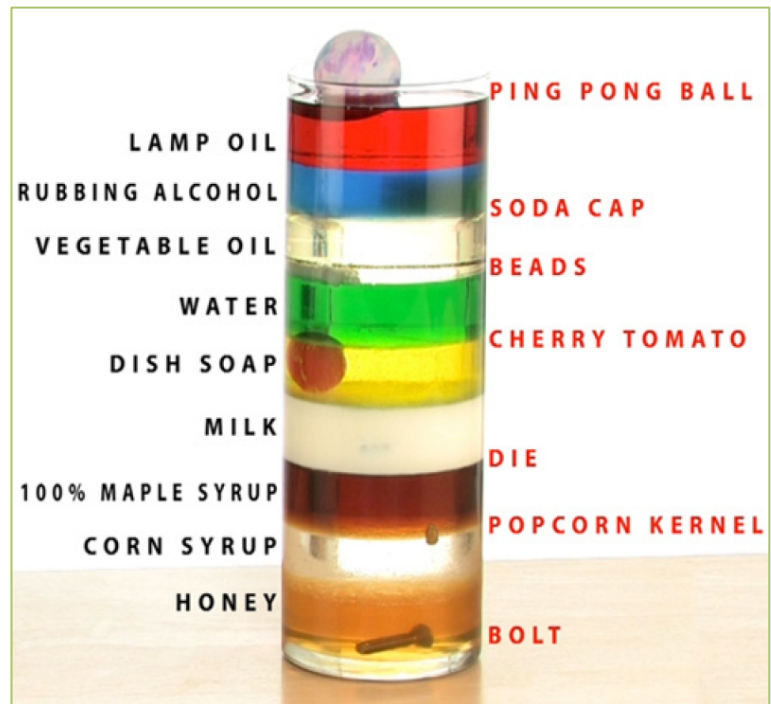
Dazzling Density

Recap: What's Density?

What do you know about density?

Are the more-dense objects on top or bottom?

Can a solid be as dense as a liquid or a gas?



A Cartesian Diver

Materials:

- Straws
- Sticky Tack
- Empty Pop Bottle
- Glitter (Optional)



Instructions:

1. Fill the bottle 2/3 full of water, and add some glitter.



2. Cut a straw in half. Take a piece and fold the sticky tack on one end to make a rounded weight. This is your "diver".



3. Place the diver in the bottle. Add or take away sticky tack until it floats.



Try it Out:

Squeeze the bottle. What do you observe?



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Questions to Consider:

What does density have to do with this diver?

What is the relationship between mass, volume, and density?

What changes when the bottle is squeezed: mass or volume?

Why does the diver sink when the bottle is squeezed?



Other Ideas:

Try to make a Cartesian Diver with an eyedropper or ketchup package, since they have enough air in them to replicate the diver you made before.

Consider also changing the liquid inside! How would syrup work instead of water?



Cartesian Corner

The Cartesian Diver is named after **Rene Descartes**, who is said to have invented the toy. Descartes was a famous French scientist, mathematician, and philosopher who did important work in geometry, algebra, buoyancy, and pressure. Ever heard of the Cartesian plane? That was his work as well! Pretty smart fella!



Salty Situation

If you've ever swam in the ocean, you might have noticed that it's much easier to float. Why do you think this is?

