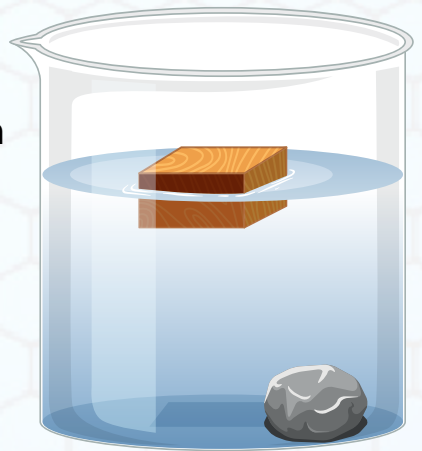


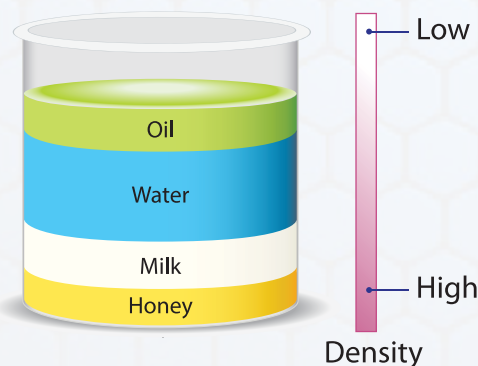
DENSITY

Density is the number of things—which could be objects, animals, plants, or even people—in a certain area. To calculate density, you divide the number of objects by the measurement of the area, or $\text{density} = \text{mass} / \text{volume}$.

Density is an important property because it affects how objects float or sink in liquids. For example, a piece of wood will float in water because it has a lower density than water. But a rock will sink because it has a higher density than water.



Density can also affect how materials behave. For example, materials with a high density are often more solid and heavy, while materials with a low density are lighter and may be more easily broken or crushed.



If you weigh equal amounts of different liquids, the liquids that weigh more are denser. If a liquid that is less dense than water is gently added to the surface of the water, it will float on the water.

Click here for [Density Tower](#) and [Floating Egg](#) experiments.

JR-SCIENTISTS

DENSITY TOWER

See how we set up super easy liquid density tower physics activity for kids!

INSTRUCTIONS:

STEP 1: First, add your ingredients from heaviest to lightest.

STEP 2: First add syrup, then dish soap, then water (color the water if desired), then oil, and lastly alcohol.

STEP 3: After the layers separate, add a drop of food coloring to the alcohol layer.

SUPPLIES

Syrup

Water

Cooking Oil

Rubbing Alcohol

Dish Soap

Large, Tall Jar

Food Coloring

THE SCIENCE

Matter has different densities meaning some will be heavier and some will be lighter. It's hard to imagine that different liquids have different weights, but they do!

Why do some liquids weigh more than others? Like solids, liquids are made up of different numbers of atoms and molecules. In some liquids, these atoms and molecules are packed together more tightly resulting in a denser or heavier liquid like the syrup!

These different liquids will always separate because they are not the same density! That's pretty cool, isn't it? I hope you explore science at home and test out some awesome physics concepts too.

Density Tower Observations

Use this worksheet to process and evaluate your work.



What do you think will happen when you put all of these liquids together?

What happens to the water on top of the corn syrup?

Does it mix or stay separate?

What happens to the oil? Does it float on top or sink to the bottom?

Why do you think the layers turned out this way?

What happens if you turn the jar upside down?

Density Tower Experiment

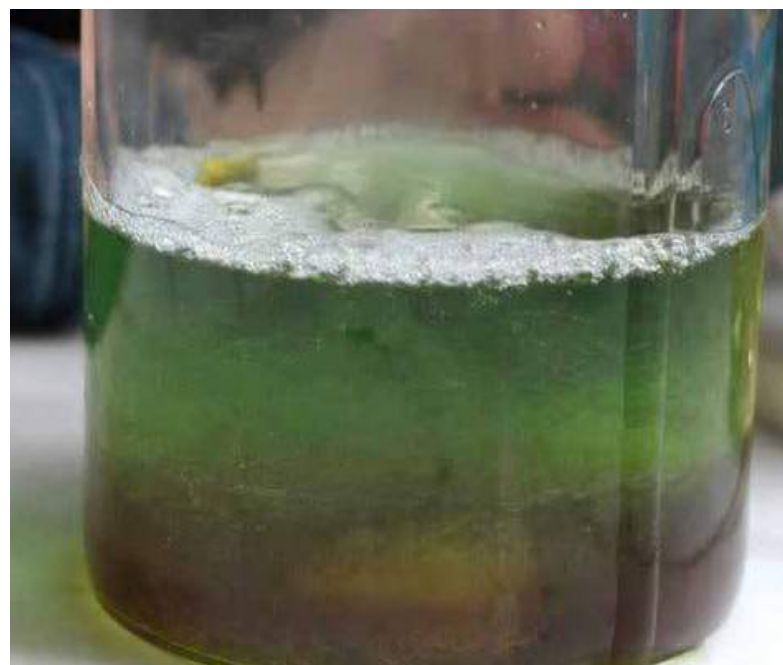
PREDICT: List each object and whether you think they will float or sink.

<u>Object</u>	<u>Sink</u>	<u>Float</u>

OBSERVE: Record your observations here.

<u>Object</u>	<u>Sink</u>	<u>Float</u>

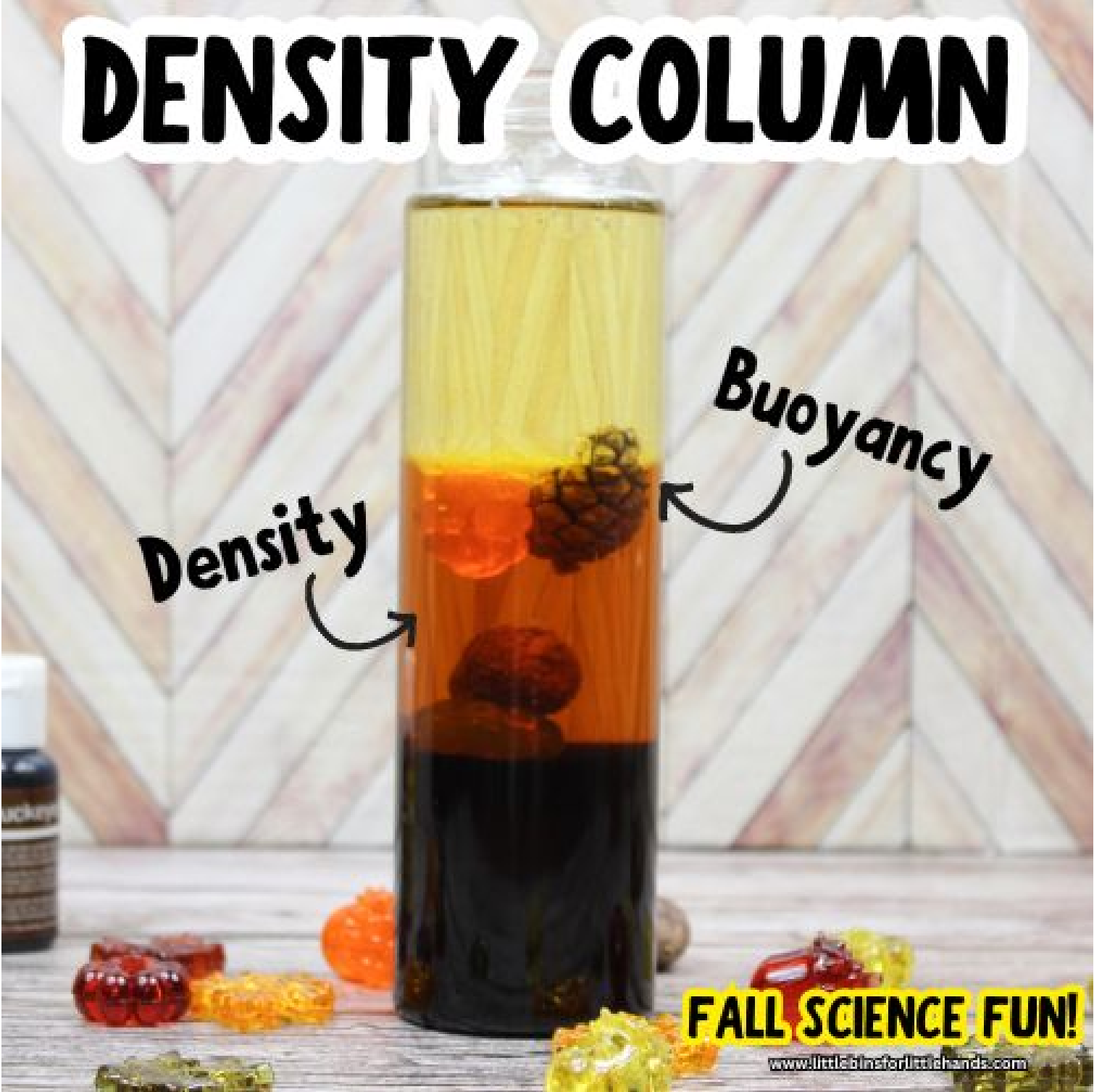
RESULTS: Draw your tower with layers and where each item was located.



DENSITY COLUMN

Density

Buoyancy



FALL SCIENCE FUN!

www.littlebinsforlittlehands.com