Buoyancy

Do you think a grape will sink or float in water, cooking oil, or corn syrup?
Hypothesis:

_____
_____
_____
_____

Test the grape for buoyancy in three liquids.

Material	Buoyancy Yes or No
Water (Blue Coloring)	
Cooking Oil	
Corn Syrup	

Remove the grapes from the liquids.

1. **Pour some corn syrup into a clear cup.**

2. **Next, pour water into the cup with the corn syrup. Observe what happens.**

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_____

3. **Last, pour the cooking oil into the same cup with the corn syrup and water. Observe what happens.**

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Why do you think these three liquids form layers?

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Thinking about the buoyancy of the grape in the three different liquids, what do you think will happen when a grape is dropped in the cup with the three liquids together?

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_____
_____

What will happen when you place other objects in the three liquids? Will each item sink or float in the different liquids?

Materials	Oil	Water	Corn Syrup
Metal Screw			
Styrofoam Peanut			
Plastic Lego			

If you place each liquid on a balance and find its mass, the mass of the corn syrup should be greater than the mass of the water and oil. The mass of the water should be greater than the mass of the oil.

Materials	Mass (grams)
Corn syrup	
Cooking Oil	
Water	

What happened?

The grape should sink through the water and oil, because the grape has more density than both the water and oil. However, the grape should float on the corn syrup within the water above. The corn syrup has more density than the grape.

The three liquids float on top of each other because they each have a different density. The most dense liquid remains on the bottom. This is the corn syrup. The least dense liquid floats on the top. This is the cooking oil. The density of the water is in between the density of the corn syrup and the cooking oil.