





Blood Pressure

Symptoms

Do you have high blood pressure?

Normal	Prehypertension	Hypertension Stage 1	Hypertension Stage 2
Less than 120/80	120-139/80-89	140-159/90-99	160 or higher/100 or higher

Effects

How to check

Bleeding Control:

- Bandaging
- Wound Packing
- Tourniquet

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LAVA LAMP

Procedure:

Fill the bottle with a quarter full of water. Use the funnel to fill the water so that water doesn't spill outside. (60mL)

Add vegetable oil in the quarter-filled water bottle until it is full. (120mL)

Now, wait for a few minutes until the water and oil get separate

Add food coloring into the bottle

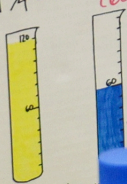
Now we can see that food coloring goes through oil and gets mixed with water.

Cut the fizz tablet into a few smaller pieces and drop only one piece in the bottle. This will start reacting and appears like a lava lamp.

Whenever required, drop another piece of the tablet to make a few of bubbling in case the lava lamp stops.

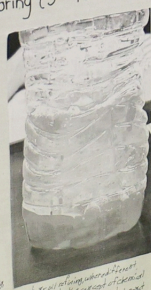
Materials:

> Oil $\frac{3}{4}$ Cup (120mL)
> $\frac{1}{4}$ Cup Water (60mL)



> Alka-Seltzer (1 tab)

> Food Coloring (3-4 drops)



Application to the real world: Our lava lamp project explores various concepts that are used in the real world. Immiscibility is the inability of substances to mix. This is relevant in many industries. For example, in the pharmaceutical industry, it is important for scientists to know which substances can be separated and which cannot. This is also relevant in the food industry, where scientists need to know which substances can be mixed and which cannot.

Objective

Explaining how substances with differing polarities interact with each other while showing that science can still be cool & hip!

Fun Fact!

Oil molecules are nonpolar. Meanwhile, water molecules are electrically polar (+ Hydrogen pole on one side and - Negative Oxygen pole on the other). But since oil doesn't have these charges, the oil is unaffected by the partial electrical charges of water. Another reason as to why oil and water don't mix.

Origins:

- Edward Craven-Walker invented lava lamps in 1963
- Originally intended as decoration, a luxury item but turned into a psychedelic counterculture accessory in the 1960s by hippies.
- In contrast to the experimental lava lamps, actual lava lamps use the heat that comes from a light bulb in the bottom that heats up the wax. This then creates convection currents that makes globs of wax rise as they heat up and later sink as the wax cools down.

Results!















What is this?
High blood pressure, also known as hypertension, is when your blood pressure, the force of your blood pushing against the walls of your blood vessels, is consistently too high.

Anatomy Physiology

Blood Pressure

Symptoms
Moderate or severe headaches, anxiety, shortness of breath, nosebleeds, palpitations, or feeling of pulsations in the neck are some signs of high blood pressure.

Effects

Do you have high blood pressure?

Normal	High Blood Pressure (Hypertension)
Systolic 120	Stage 1 130-139
Diastolic 80	Stage 2 140-159
	Stage 3 160-179
	Stage 4 180+

Way's to Avoid
Eating a healthier diet with less salt, exercising regularly, and taking medications can help lower blood pressure.
Quit smoking tobacco. Stress management consists of a wide spectrum of techniques and controlling a person's level of stress. Exercise is physical activity that enhances or maintains fitness and overall health. Low sodium diet.

How to check?





