

Grade 8 Science – Fluids **Some Characteristics and Phenomenon**

Name: _____ Class: _____ Date: _____

Use the following words from your vocabulary to fill in the following blanks so they make the most sense: Viscosity, Flow Rate, Cohesion, Surface Tension, Capillary Action and Adhesion

How thick a fluid is known as the VISCOSITY of the fluid.

The viscosity of a fluid is determined through that fluid's FLOW RATE.

The VISCOSITY of a liquid is closely related to the fluid's FLOW RATE.

The internal attraction of a fluid's particles is referred to as COHESION.

When particles of a fluid attract themselves to particles of something else we call this ADHESION.

Milk residue left on a glass after consumption is an example of ADHESION.

Balancing a paperclip carefully on the surface of a container of water is an example of COHESION (SURFACE TENSION).

The wicking of wax up the wick of a burning candle is ADHESION.



The formation of raindrops as water falls from the sky is COHESION (SURFACE TENSION).



Water wetting a sponge or rag is an example of ADHESION.



A honey spoon uses what characteristics of fluids: ADHESION and COHESION/VISCOSITY.

Fill in the information from the video that you see at the following link:

https://youtu.be/P_jQ1B9UwpU

Explain the three factors that affect Viscosity:

1. **STRENGTH OF INTERMOLECULAR FORCES**
2. **SIZE AND SHAPE OF MOLECULE**
3. **TEMPERATURE**



Explain why water forms droplets on glass and in air differently:

On glass, it is adhesion since it is interacting with another material but in a raindrop, the water is interacting with only other water molecules and it creates surface tension.

Explain why the surface curves differently when water or mercury are placed in a glass container:

Water molecules interact preferentially with the glass through adhesion greater than cohesion. Mercury has greater cohesive forces and that is why it is relatively less adhesion forces and greater cohesive forces and therefore the curve is upward and not down like in water.

Explain why a paper clip or bug stays on top of the water (ask for demonstration).

A paperclip can stay on top of the water due to the cohesive bonds between water molecules. This tight bond creates surface tension that acts like a stretched rubber surface. This surface tension will support a paper clip or bug on the surface.

What is capillary action and what makes this happen?

Capillary action results from attractive forces between the water molecules and the molecules within the tissue or tube (Adhesion) which draws up the water into the material.