

## EXPERIMENT # 5

NAME: \_\_\_\_\_

### PHYSICAL PROPERTIES OF HOUSEHOLD LIQUIDS

#### REPORT FORM

#### PART I: DENSITY DETERMINATIONS

##### **A: The density of cleaning fluid**

Trial	Volume of liquid (mL)	Mass of cylinder (g)	Mass of cylinder + liquid (g)	Mass of liquid (g)

##### **B: The density of cooking oil**

Trial	Volume of liquid (mL)	Mass of cylinder (g)	Mass of cylinder + liquid (g)	Mass of liquid (g)

##### **C: The density of distilled water**

Trial	Volume of liquid (mL)	Mass of cylinder (g)	Mass of cylinder + liquid (g)	Mass of liquid (g)

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### CONCLUSIONS:

1. (a) The DENSITY of the CLEANING FLUID is : \_\_\_\_\_ g/mL

(b) The DENSITY of COOKING OIL is : \_\_\_\_\_ g/mL

(c) The DENSITY of DISTILLED WATER is : \_\_\_\_\_ g/mL

2. MASS and VOLUME are \_\_\_\_\_ proportional.  
(directly or inversely)

As the \_\_\_\_\_ of the liquid was increased, the \_\_\_\_\_ increased accordingly.

### PART II: LAYERS OF LIQUIDS

#### 1. Solubility

Describe what you observed when you mixed cleaning fluid with distilled water :

\_\_\_\_\_

Describe what you observed when you mixed distilled water with cooking oil :

\_\_\_\_\_

Describe what you observed when you mixed cleaning fluid with cooking oil:

\_\_\_\_\_

Summarize your observations regarding the respective solubilities of the three liquids in each other :

(Note : Use S for soluble and I for insoluble)

CLEANING FLUID and DISTILLED WATER : \_\_\_\_\_

DISTILLED WATER and COOKING OIL: \_\_\_\_\_

CLEANING FLUID and COOKING OIL: \_\_\_\_\_



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### 2. Sink or Float ?

Sketch below the test tube containing the three liquids in a column of three distinctly separated layers. Label each layer and indicate the experimentally determined density of each layer.

In which order did you add the liquids to the test tube

First : \_\_\_\_\_ Second : \_\_\_\_\_ Third : \_\_\_\_\_

Could you add the liquids in a different order and obtain the same column with three distinctly separated layers ? \_\_\_\_\_

Explain how you would this OR why this is not possible:

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What did you observe after mixing the three liquids and letting the test tube stand undisturbed for five minutes ?

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Sketch below this test tube and clearly identifying the contents of each layer.

Calculate below the density of the bottom layer: