

## **DO NOT WRITE ON**

**Complete on a google document and turn it in on google classroom**

# **Investigating Density!**

Two properties of matter are mass and volume. When mass is divided by volume, density is found. Density is defined as the amount of matter per unit of volume. There is a connection between density and the transfer of heat in fluids. In this investigation, you will determine the density for a given substance and hypothesize what can change density in a substance.

## **Part 1: Determining the density of clay**

Part of the scientific process is creating a procedure for an investigation. In part 1 of "Investigating Density," you will create instructions for determining the density of clay. Try to create instructions that are in paragraph form and do not simply say "First . . . . , Second . . . . , Third . . . . , etc . . . ." Once your procedure is created, follow it and record your data in a data table.

## **Part 2: Determining how density is changed when a substance broken into pieces**

Now that you have determined the density of clay, you will determine if breaking the clay into pieces will change the density. Create a hypothesis which provides a potential solution to that question. Once you have created your hypothesis, construct a procedure to determine if your hypothesis is correct. Collect and organize your data and provide a conclusion that is substantiated with your data.

## **Part 3: Determining how density is changed when a substance has heat/pressure added or removed**

To finalize your investigation into density, you will write a paragraph that discusses how heat and/or pressure would affect the clay's density.

## **Part 4: Food for thought**

Use concepts learned in this investigation to explain the following:

- a. How do thermometers work?
- b. Why do hot air balloons rise?
- c. Why would Saturn float in water?
- d. Why do engineers construct bridges with cracks in them?