Fluids and Density

Focus:

1. To be able to define the term fluid
2. To be able to understand the concept of density
3. To be able to perform density calculations

* A fluid is any form of matter that can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, such as liquids and gases.
* Density is the amount of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ contained in a given volume.
* Less dense materials will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on more dense materials.

Think-pair-share

* Most substances are denser in their solid form than their liquid form, but water is an exception. Why does ice float on top of water? Why is this important?
* Liquids will layer in order of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ - the less dense liquids float on top
* Different densities of air contribute to our \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Layering of Air contributes to our weather. How is a breeze created over land on a hot summer day?

* Hot air is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than colder air. This means that hot air will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ while colder air will \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Altitude also affects density. Because of this, the higher up you ascend, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ so there is less \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Calculating Density

* Density is the amount of mass for a given volume
* The mass of a substance measured in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ can be determined with an electronic scale or balance.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of a block shaped solid measured in cubic centimeters \_\_\_\_\_\_\_\_\_\_\_\_\_ can be calculated by using the equation \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The volume of irregular shaped solids can be measured by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of water in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

Example:

What is the density of a 2 cm3 sugar cube that has a mass of 31.8 g?