

WORKING WITH DENSITIES

As we saw in the previous class and task, density is the physical magnitude that relates mass with the volume that a body occupies. In this case, we will do two simple experiments that show us the consequences that density has when a particular matter gets in touch with another in nature.

PRACTICE 1: BUOYANCY

When a body submerges in a fluent environment, liquid in this case, two different things may happen: it may float

It may sink

Both cases depend on the fluid's density, so variations on its density can influence in its buoyancy. Materials:

- egg
- 3 transparent glasses
- water
- Salt (NaCl)
- spoon

Procedure:

1. Fill two glasses with water
2. Add to one of them five salt spoonfuls and mix until it dissolves
3. Introduce the egg in each glass and observe if it sinks or float
4. In the third glass, putt the egg, add water until it is covered and carefully, add water with salt. Observe where the egg floats. More water can be added without salt and then add water with salt again to observe again what it happens.

QUESTIONS:

- Draw the buoyancy differences between the glass with salt and the glass without salt.

search the web for information about the Archimedes' principle and relate it to the experiment

PRACTICE 2: DENSITY COLUMNS

When several fluids of different densities mixed, they arrange in a way that the thickest stay at the bottom and the least thick on the top without getting together.

Materials:

water

spoon

nail

cork or wood

oil

Alcohol

honey

glass

Procedure:

Pour in a glass container, the different liquids in the following order: honey, water, oil and alcohol.

add the nail

watch the distribution of liquids and nail

questions:

make a drawing of the final experiment result