Activity 2.1 Investigating the properties of solids, liquids and gases

Activity type

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In this activity you are going to be conducting a series of tests on each state of matter – **SOLIDS, LIQUIDS** and **GASES** to investigate their properties.

Comparing the properties of solids, liquids and gases

What to use:

Each STUDENT will require:

- *Science by Doing* ***Notebook***
- safety glasses.

Each GROUP will require:

- wooden block.
- 100 mL of water in a measuring cylinder
- 100 mL beaker
- 250 mL beaker
- syringe.

Start by conducting all tests on the solid, then the liquid and finally the gas.

Think about the best way to display your results in your *Notebook*.

WHEN CLASSIFYING MATERIALS AS SOLIDS, LIQUIDS OR GASES SCIENTISTS USE THESE PROPERTIES:

SHAPE

Shape tells you something about the dimensions of the substance.

VOLUME

Volume is the amount of space a substance takes up.

COMPRESSIBILITY

Compressibility refers to whether or not a substance can be squeezed into a smaller space.

Test 1: Shape

What to use:

Each GROUP will require:

- 100 mL beaker with "test" matter
- 250 mL beaker.

What to do:

Step 1
Predict what you think will happen to the shape of the matter when it is placed into the 250 mL beaker.

Step 2
Place the matter in the 250 mL beaker.

Step 3
Record your observation.

Step 4
Explain your observation.

Test 2: Volume

What to use:

Each GROUP will require:

- 100 mL beaker with "test" matter
- 250 mL beaker.

What to do:

Step 1
Predict what you think will happen to the volume when you pour the matter into the larger beaker.

Step 2
Pour the matter into the beaker.

Step 3
Record your observation.

Step 4
Explain your observation.

Test 3: Compressibility

What to use:

Each GROUP will require:

- 100 mL beaker with "test" matter
- syringe.

What to do:

Step 1
Predict what you think will happen when you push on the matter with the syringe plunger.

Step 2
Remove the plunger from the syringe.

Step 3
Replace the plunger.

Step 4
Place your finger over the end of the syringe and push the plunger as far as you can.

Step 5
Record your observation.

Step 6
Explain your observation.

Click here to explore the three states of matter further.

Share your thoughts with the class.