

Name:













Date:

PROPERTIES OF MATTER - density

Activity 2

Let's test the effect of heat on density.

A) You need:

- | | | | | | |
|--------------------------------|---|--------------------------|----------------------------|---|--------------------------|
| ➤ A big, transparent container |  | <input type="checkbox"/> | ➤ Some big plastic bottles |  | <input type="checkbox"/> |
| ➤ A permanent felt-tip pen |  | <input type="checkbox"/> | ➤ Dark food colouring |  | <input type="checkbox"/> |
| ➤ Two identical small jars |  | <input type="checkbox"/> | ➤ Cling film |  | <input type="checkbox"/> |
| ➤ Scissors |  | <input type="checkbox"/> | ➤ Two elastic bands |  | <input type="checkbox"/> |
| ➤ A pencil sharpener |  | <input type="checkbox"/> | ➤ Cold water |  | <input type="checkbox"/> |
| ➤ A kitchen cloth |  | <input type="checkbox"/> | ➤ Hot water |  | <input type="checkbox"/> |

B) Instructions and diagram:

1. Put cold water into two or three big plastic bottles (with this water you will fill the big, transparent container and one of the jars).
2. Cut two pieces from the cling film bigger than the top of the small jars.
3. Write on one of the small jars "cold" and on the other "hot".
4. Add the same amount of food colouring to the small jars.
5. Pour cold water from the big bottles into the "cold" jar and pour hot water into the "hot" jar. Fill them to the brim and wipe off any water that spills out.
6. Place a piece of cling film, on top of each jar and secure them with an elastic band.
7. With the sharpened pencil, carefully, make two small holes in each plastic. Wipe off any water.
8. Carefully, place the two small jars into the big container. Use a cloth or oven gloves when you hold the hot water jar.

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9. Fill the big container with the cold water from the big plastic bottles. Be careful! Don't pour water into the small jars! But you have to keep adding water until it is quite a few centimetres above the jars, the more the better to see the effect.

Diagram

C) What happened? _____

D) Why? _____



Activity 2

- C) - Water from the “hot” jar *goes up just a few millimetres/goes up/doesn't move* and floats in the *cold/hot* water.
- After a while, the hot water *is mixed/is not mixed* with the cold water in the big container.
- D) - *Cold/Hot* water is less dense than *cold/hot* water for this reason *cold/hot* water molecules float in *cold/hot* water molecules.