AIR – IT’S REALLY THERE

Question to Investigate:

- How do heating and cooling affect a gas?

Demonstration- Basketball and Compressed Gas

- As you watch the demonstrations, answer questions 1 and 2 on your lab activity sheet.

EXPLAIN IT WITH ATOMS AND MOLECULES:

- As you watch the animation of gas molecules inside a balloon, answer question 3 on your lab sheet.
- Do the molecules of a gas have a strong or weak attraction?
- Are the molecules of a gas randomly or orderly arranged?
- When the molecules of a gas hit each other, do they normally stick together or bounce off?

Particles of a Gas

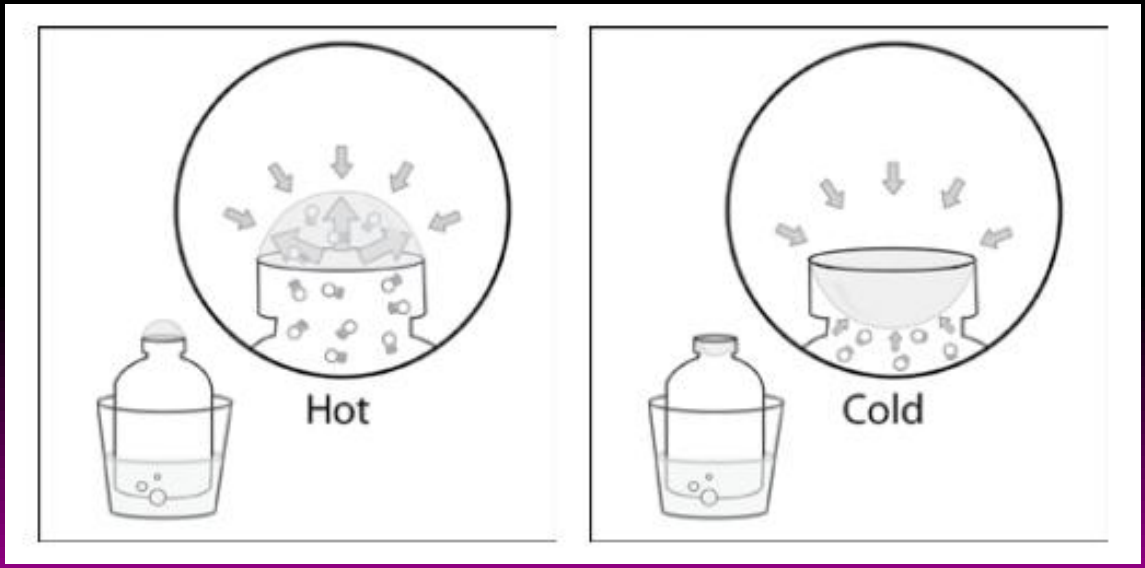
ACTIVITY:

- You will be doing the activity with the detergent solution and bottles (15 minutes)
- Answer questions 4, 5 and 6 on your lab activity sheet.

IAN page

HEATING AND COOLING GAS IN A BOTTLE

- As you watch the animation, answer the questions in your **Interactive Notebook**

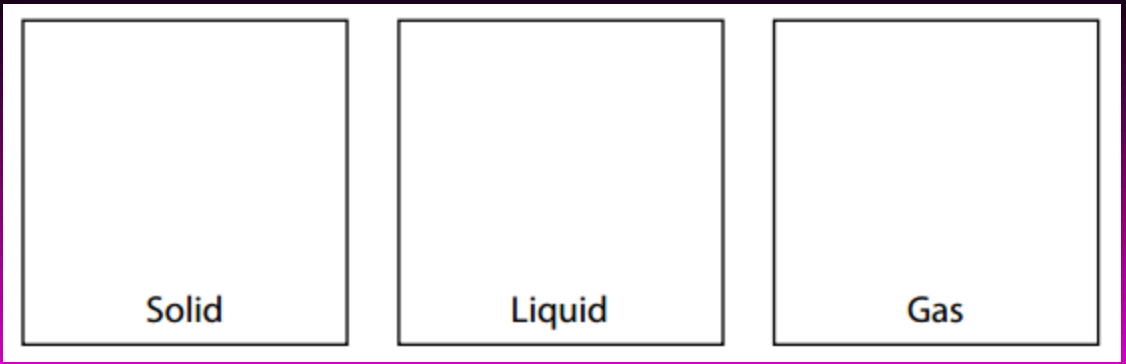


Heating/Cooling Gas in a Bottle

IAN page

COMPARING SOLIDS, LIQUIDS AND GASES

- While watching the animation, draw circles to represent the molecules in a solid, a liquid and a gas.
- Under each picture, write about the arrangement and motion of the molecules and the attractions the molecules have for one another.



Comparing Solids, Liquids, Gases (link goes to one

Key Concepts:

- In a gas, the particles have weak attractions for one another. They are able to move freely past each other with little interaction between the.
- The particles of a gas are much more spread out and move more independently while compared to the particles of liquids and solids.
- Whether a substance is a solid, liquid, or gas at a certain temperature depends on the balance between the motion of the particles at that temperature and how strong their attractions are for one another.
- Heating a gas increases the speed of its atoms and molecules.
- Cooling a gas decreases the speed of its atoms and molecules.