

NATURAL SCIENCES AND TECHNOLOGY GRADE 6

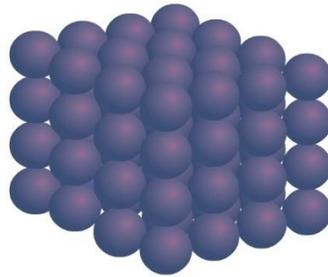
TOPIC 5: SOLIDS, LIQUIDS AND GASES (PAGE 55)

ARRANGEMENT OF PARTICLES IN SOLIDS, LIQUIDS AND GASES

All solids, liquids and gases are made up of **matter**, and matter consists of **particles**.

A. THE PARTICLES IN A SOLID

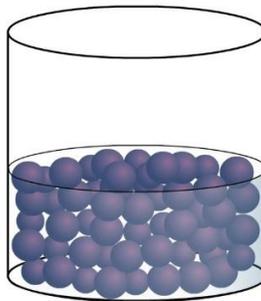
1. The particles in the solid are **packed tightly** together. This explains why solids **cannot be squeezed** into a smaller shape-solids **cannot be compressed**.
2. There are **small spaces** between particles.
3. The particles in the solid have **fixed positions**; they **cannot move** from their positions, they **cannot vibrate freely** or fast This explains why **solids keep their shape**.



The arrangement of particles in a solid

B. THE PARTICLES IN A LIQUID

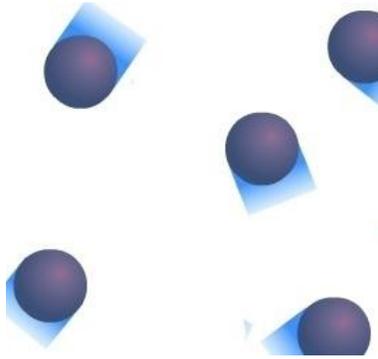
1. The particles in the liquid are very **close together**, but further apart than in solids. Like solids, liquids **cannot be compressed(squashed)** either.
2. Unlike solids, the particles in a liquid **do not have fixed positions**.
3. They are **always moving** around and they can vibrate fast and move freely past one another. This explains why **liquids flow, to take the shape of their container**.



The arrangement of particles in a liquid

C. THE PARTICLES IN A GAS

1. The **particles** in the gas are **far apart**. The **spaces** between the particles are **huge** compared to the size of the particles themselves.
2. These **spaces are empty!** We call this a **vacuum**.
3. The particles can move freely in all directions and are not held together strongly.
4. The large spaces between the particles allows **gases to be compressed** - they can be **squeezed into a smaller shape by pushing them closer together**. The spaces between them become smaller.



The arrangement of particles in a gas

5. The particles of a gas are always moving freely. If they are **in a closed container**, they will spread out to **fill the whole container**.
6. If they are in **an open container** they will not stay inside for long. They will **flow out** of the container, and **disperse** (disperse means to spread out over an area or space.)

TASKS TO BE COMPLETED

1. Draw AND DECORATE a theme page for TERM TWO – MATTER AND MATERIALS.
2. Write out all the keywords from Topics, 5, 6 and 7.
Start with 1. Particle(Page 56) and end with 24. Rate(Page 81)
3. Activity 1...Page 55.
Write answers only, but answer in full sentences, provide headings for your answers for each question.
4. Activity 4...Page 55
Write answers only, but answer in full sentences, provide headings for your answers for each question.

When you draw, make sure that your particles(circles) are all the same size, and that they are complete circles. Draw in pencil only!

5. Topic Revision...Page 60

1. Science language activity

Write down the sentences and underline the words you fill in.

2. Revision activity

1(a) and (b).