Crestview Primary School
Natural Sciences and Technology

Teacher: Miss Ramothwala
Grade 6
Week 1 (06 July – 10 July)

- Make and label a term page for term 2 by folding a clean page into a triangle. (you can colour in and decorate your term page)
- All work must be pasted in the Natural sciences and technology workbook.(Remember to make page borders)
- Notes are to be pasted on the front side of your book
- Activities are to be pasted and completed at the backside of your book.
- Complete corrections with a pencil when you receive a memorandum the following week.

1. Solids, liquids and gases

Matter can exist in three different states: solids, liquids and gases.

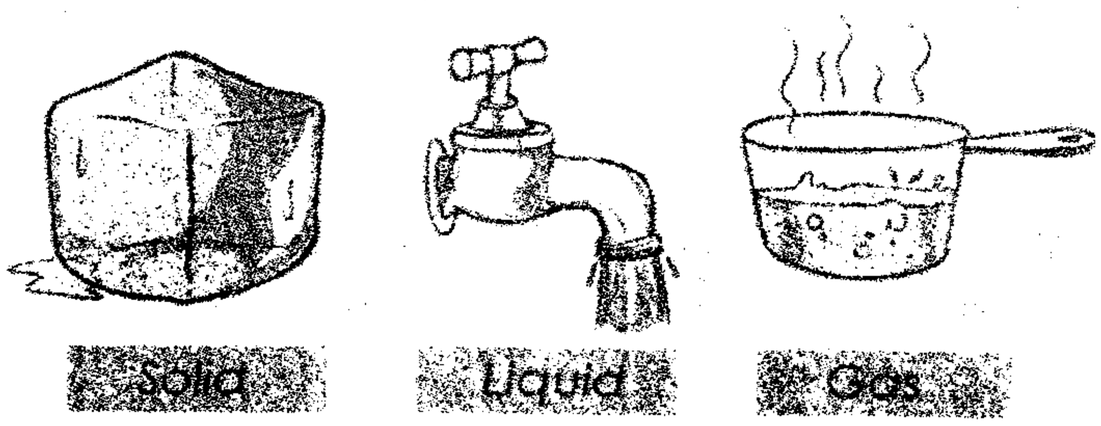
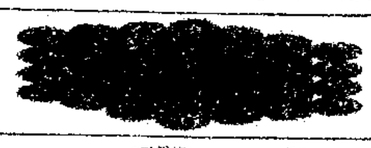
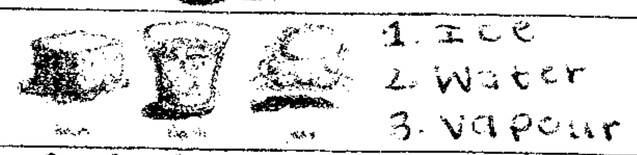
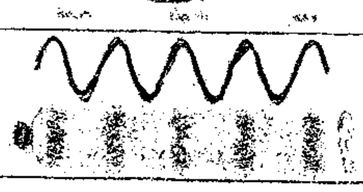


Image by "Star Trek"- PBS kids

New words box

Word	Meaning	Picture
Matter	any substance that things are made of or anything that takes up	
Particle	the smallest part of matter	
States	the three forms in which material exists	
Vibrate	to make small, fast movements from side to side.	

1.1. Arrangement of particles

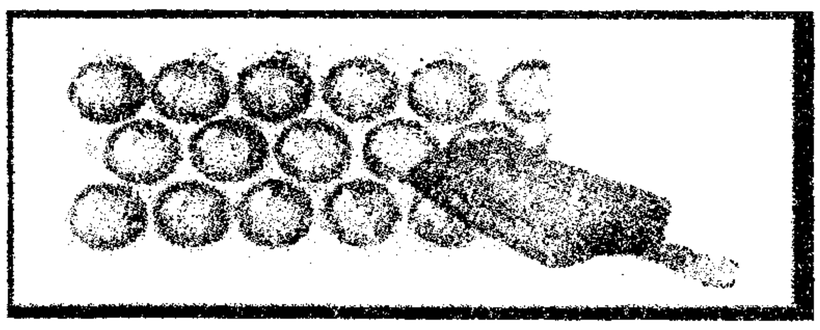
What is a particle? A particle is a small piece of matter. Very small parts that make up matter. Did you know that all matter is actually made up of very small particles? These particles are called atoms and molecules, and we will learn more about them. For now, let us use the term particle to describe the smallest 'building blocks' that matter is made of.

The particles that matter is made of are much too small to see with the naked eye. They are even too small to see with a strong microscope. So how do we know they exist? Scientists, with special microscopes and other special scientific instruments, have collected evidence that they exist. It is now a well-known and accepted fact that all matter is made up of particles.

Particles move around all the time.

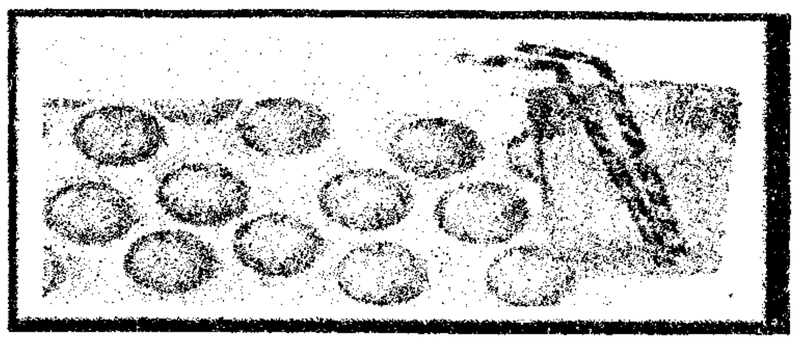
The particles in solids, liquids and gases are all arranged differently.

Solid particles



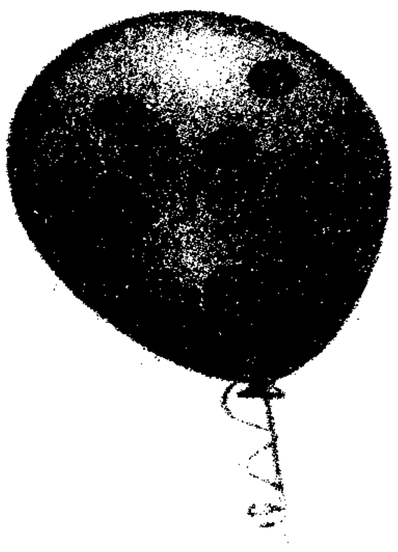
The particles in solids e.g. (ice lolly) are closely packed together in a regular pattern. The spaces between the particles are small and the particles vibrate in one place. The particles in ice do not move around much, they cling together to form a solid.

Liquid particles



The particles in liquids e.g. (orange juice) are closely packed together but in no fixed pattern. The spaces between the particles are also small and the particles can move around each other. The particles in a liquid move around freely

Gases particles

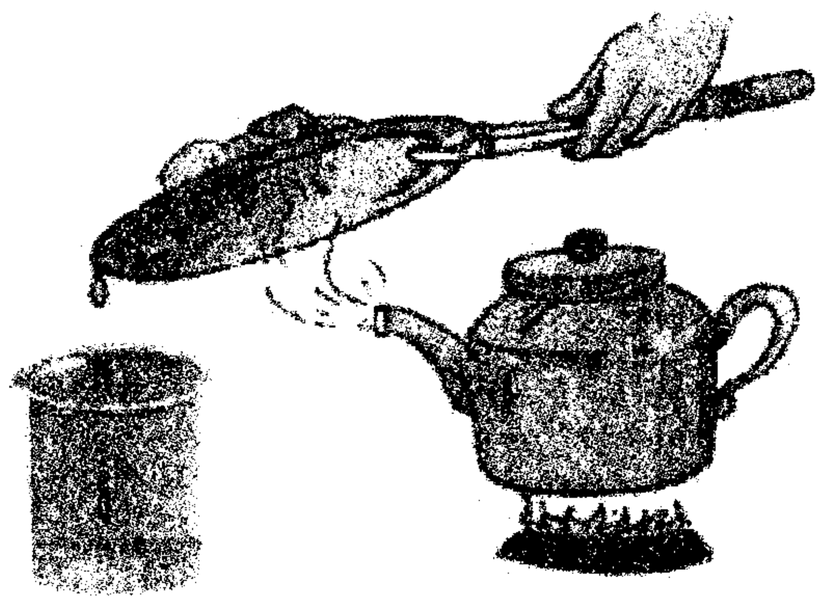


The particles in gases (helium gas in a balloon) are far apart from each other. The spaces between the particles are big and the particles move in all directions. In gases the particles move quickly and spread out.

Further reading, listening or viewing activities related to this sub-topic are available through the following web links:
https://goo.gl/Aw1VgN (1min 50sec) [Arrangement of molecules in matter]

https://goo.gl/j4MUXU (5min 41sec) [3 States of matter]

https://goo.gl/bq2AW6 (3min) [States of matter]



When a solid (ice cubes) is heated, the particles start to vibrate more and more. This causes the neat arrangement of particles to break up and results in the melting of the solid to form a liquid.

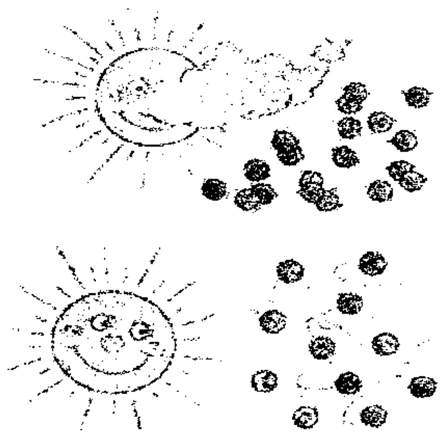
When you heat a liquid (water), the particles get even more energy and move around even more.

If the particles are heated enough, the energy of the particles becomes so great that they change into a gas (vapour).

If you cool a liquid or a gas, the opposite happens. The particles slow down and get closer together.

KNOW THE FACTS ✓

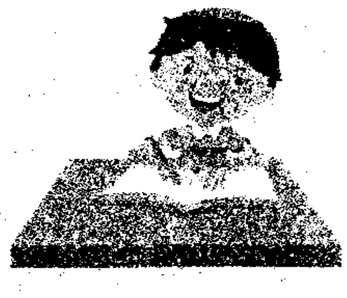
Cold molecules stay close together



Heat makes particles speedup and move away from each other, losing their pull on one another.

Use the link below to access a summary of what you have learned and an example of the activity.

https://www.youtube.com/watch?v=3Qv_Xqo_IeY&feature=youtu.be (2min)



Writing activity 1- Arrangement of particles

Represent the particles inside each of the following state of matter:

You can draw or paste seeds, cereal, corn seeds etc. and write how particles are arranged in each stage.

To paste you will need to have your glue, and cereal or corn seeds ready to do this activity. The drawings and pasting must show the same number of particles in the solid, the liquid and the gas. The particles must all be the same size.

Solid	liquid	gas
Particles arrangement :	Particles arrangement :	Particles arrangement :

Writing Activity 2: The three states of matter in everyday life.

Instructions

The table below contains a list of containers

1. Say what material is usually kept in each container. Write your answers in the middle column
2. Say whether the material is a solid or a gas. Write your answers in the column on the right.

Container	What material is inside	Is this a solid, liquid or gas