

## O Level Physics Tutorial 7: Kinetic Particle Model of Matter

Syllabus :

(a) compare the physical properties of solids, liquids and gases

1. State the main differences in the physical properties of solids, liquids and gases – in terms of shape and volume.

(b) use the kinetic particle model to describe the different states of matter (solids, liquids and gases), relating their physical properties to the arrangement and motion of the particles (e.g. molecules, atoms) and the forces and distances between particles

2. Explain the different physical properties in question 1 using the kinetic particle model.

(c) infer from a Brownian motion experiment the evidence for the random movement of molecules in a liquid or gas

3. Describe the Brownian motion experiment using pollen in air. Explain what we can infer about the air from the observation.

(d) relate the rise in temperature of a body to the increase in average kinetic energy of all the particles in the body

4. What happens to the particles in a body when temperature is goes up? What happens to their kinetic energies?

(e) explain the pressure of a gas in terms of the motion of its particles.

5. In terms of the motion of its particles, explain why a gas exerts pressure.