

Nova's Guide to the States of Matter

Join Nova the Owl on an amazing mission to discover the secret life of particles!

- Solids have a fixed shape and volume because their particles are packed tightly together in a neat, orderly pattern.
- Liquids can flow and change shape to fit the container they are in, yet they still keep a fixed volume.
- Gases expand to fill all the available space in a container because their particles have lots of energy and move freely.
- Heating a substance can cause it to change state, such as ice (a solid) turning into water (a liquid) when it melts.
- Cooling a substance removes energy, which can turn a gas back into a liquid through a process called condensation.

Did you know? Did you know? Even though they look still, the particles inside everything are always moving! In a solid, they wiggle in place; in a liquid, they slide past each other; and in a gas, they zoom around like bees in a busy hive!

Key vocabulary: Solid · Liquid · Gas · Particle · Melting · Freezing · Evaporation · Condensation