

Nova's Guide to the States of Matter

Explore the building blocks of our world with Nova the Owl!

- Solids keep their own shape because their particles are held together in a fixed, regular pattern.
- Liquids take the shape of the container they are in, as the particles can slide past one another.
- Gases have no fixed shape or volume and will spread out to fill all the available space.
- Heating a solid can cause it to melt into a liquid, while cooling a liquid can cause it to freeze into a solid.
- Evaporation happens when a liquid turns into a gas, often when it is heated by the Sun.
- Condensation occurs when a gas cools down and turns back into liquid droplets, like steam forming on a cold window.

Did you know? Did you know? Everything you see around you—from the air you breathe to the desk you sit at—is made of tiny particles. These particles are always moving, even in solids! In a solid, they are packed tightly together and wiggle in place, while in a gas, they zoom around freely at high speeds.

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