

How Do Particles Explain What We See?

Think about ice melting into water. It is the same stuff. But it acts completely different.

Imagine you are shrinking down to the size of a particle. What would you see and feel inside a solid, a liquid, and a gas? Use the particle model to explain why each state feels and acts the way it does ([Knowledge](#), [Understanding](#)).

Where to start

- In a solid, are the particles packed tightly together or spread far apart? How does that affect whether you can squeeze it?
- In a liquid, can particles slide past each other? What does that let the liquid do?
- In a gas, why do particles move in all directions instead of staying in one spot?
- If particles are always moving, what is the difference between a vibrating particle in ice and a zooming particle in steam?

Stretch

If you heated a block of ice until it became water and then steam, explain how the particles' movement and spacing changed at each step. Also explain why attractive forces between particles got weaker.