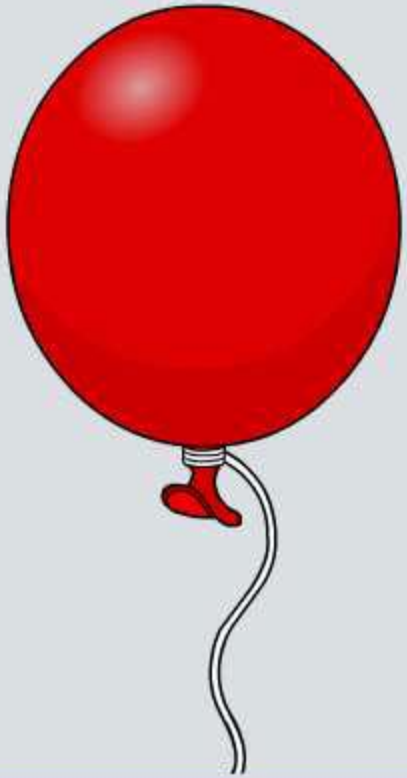
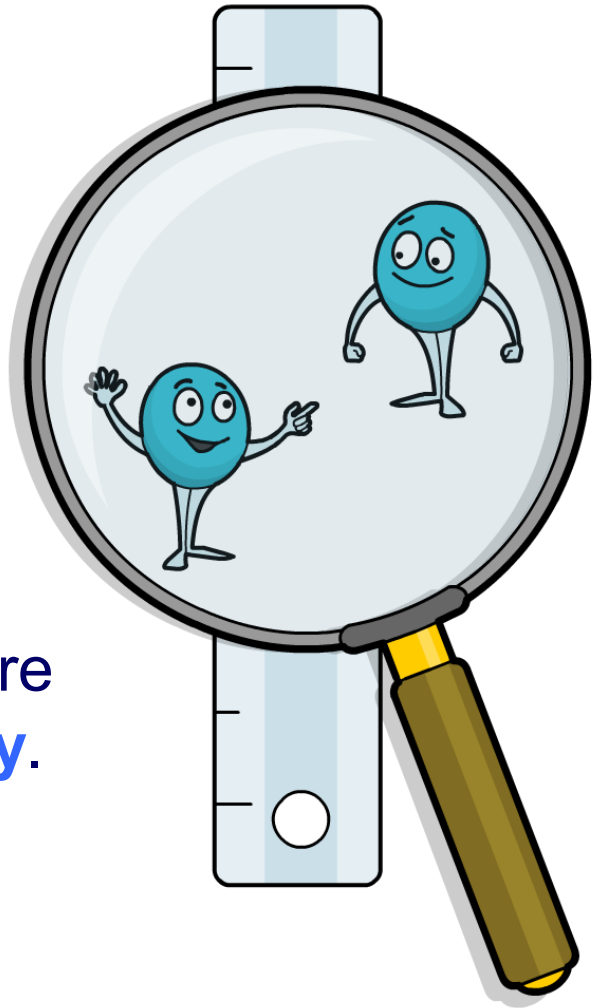
Particles in Action



Particles

The differences between solids, liquids and gases can be explained by looking at the **particles**.

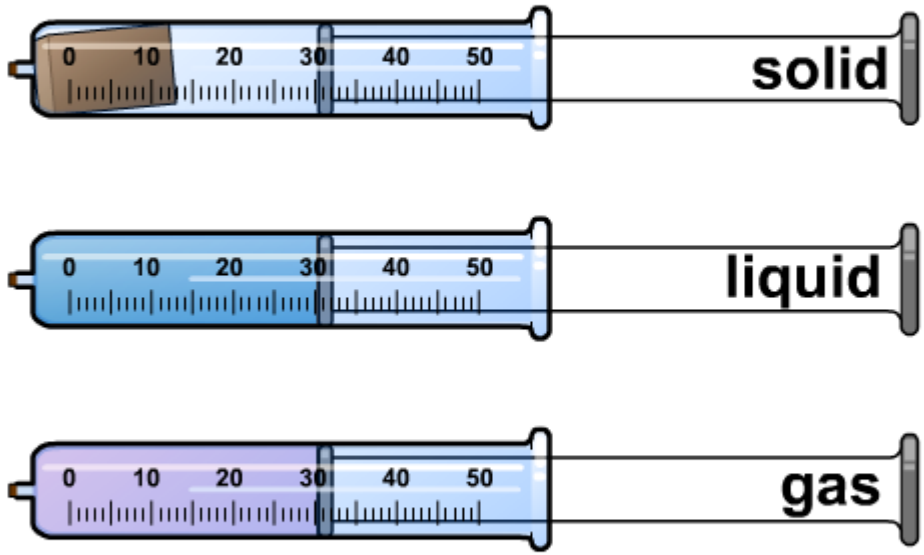
- All substances are made up of particles.
- The particles are attracted to each other. Some particles are attracted strongly to each other, and others weakly.
- The particles move around. They are described as having **kinetic energy**.
- The kinetic energy of the particles increases with temperature.



What are the properties of solids, liquids and gases?

What can experiments involving compression, volume, diffusion and density tell you about the particles in solids, liquids and gases?

Click "**play**" to find out.



Properties of solids, liquids and gases

Do these statements relate to solids, liquids or gases?

solid	liquid	gas

flows to fill up space

solve

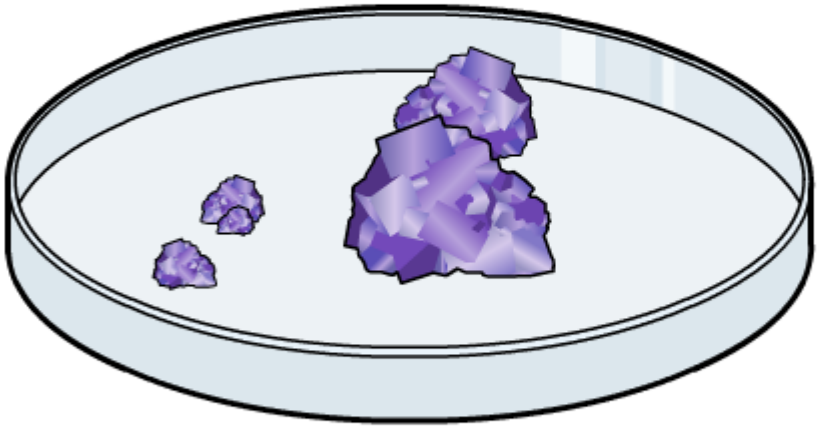
How do particles move?

How do the particles in solids, liquids and gases move?

How do the particles in different types of substance move?

Are some particles more strongly attracted to each other than others?

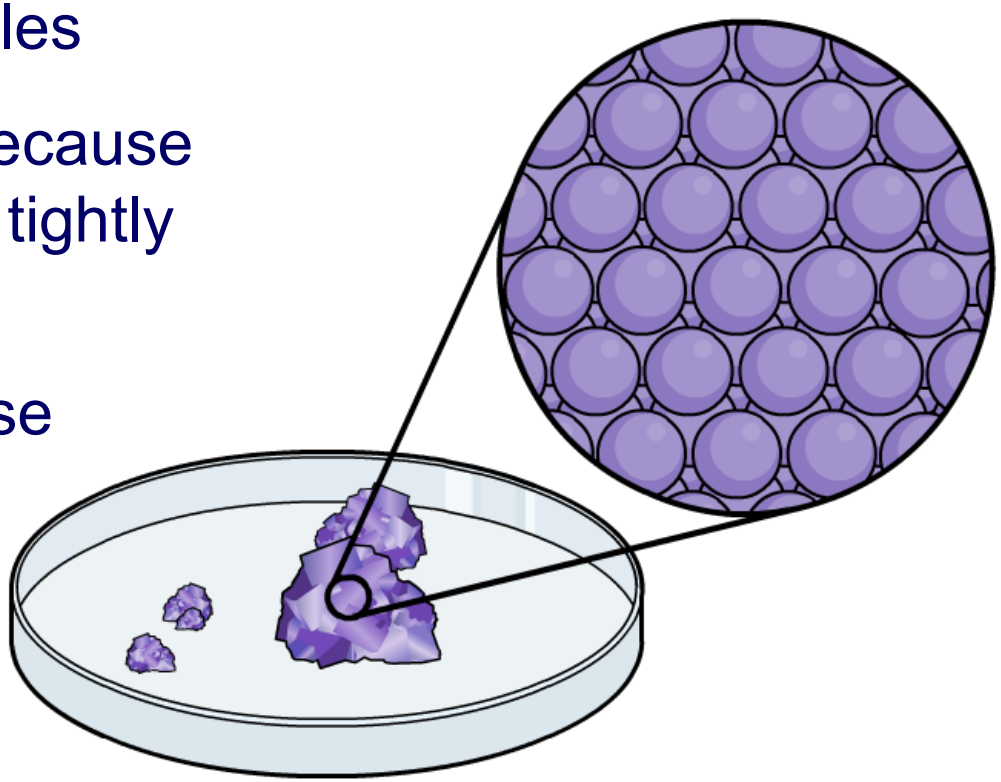
Click "**play**" to find out.



What are the properties of solids?

Solids:

- have a high density because the particles are packed very closely together
- cannot be compressed because there is very little empty space between particles
- have a fixed shape because the particles are held tightly together
- cannot diffuse because the particles are not able to move.

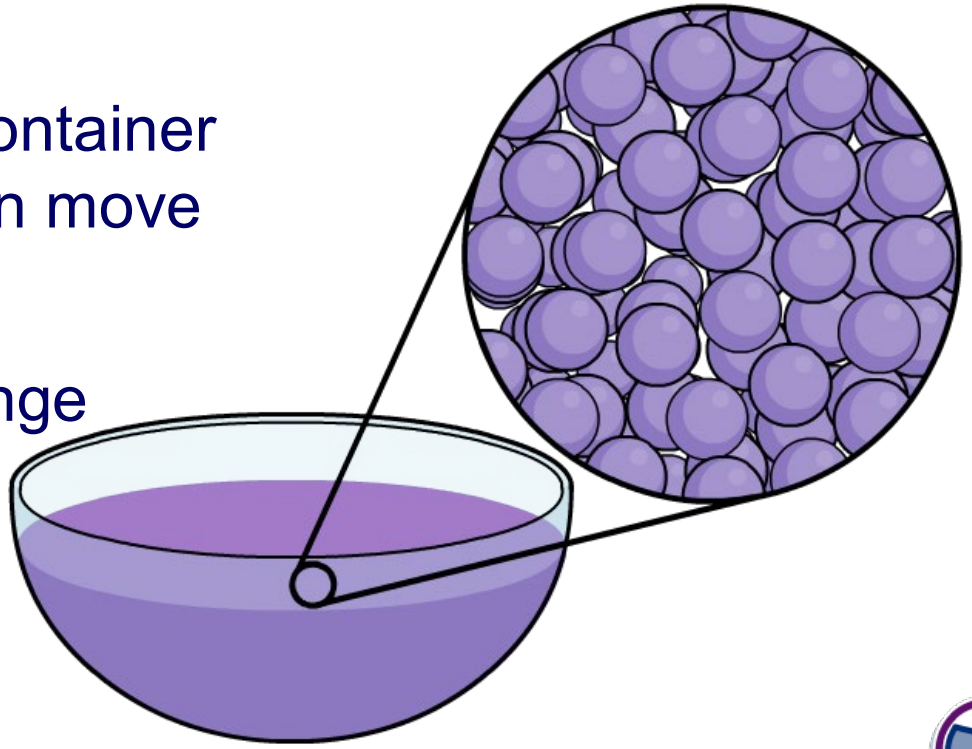


Cornflour paste: solid or liquid?

What are the properties of liquids?

Liquids:

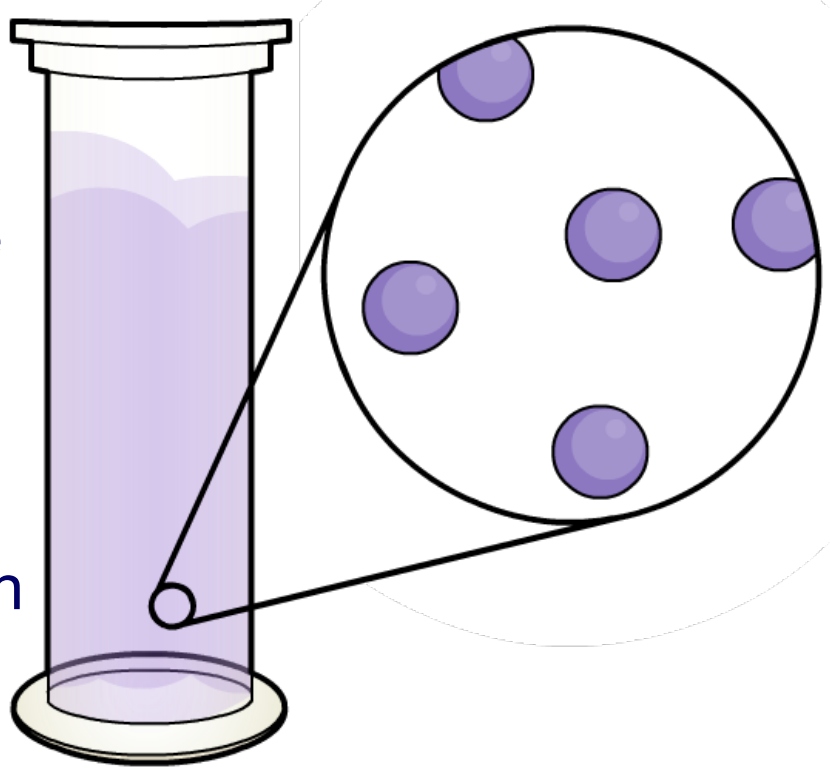
- have a fairly high density because the particles are close together
- cannot be compressed because there is very little empty space between particles
- take the shape of their container because the particles can move
- can diffuse because the particles are able to change places.



What are the properties of gases?

Gases:

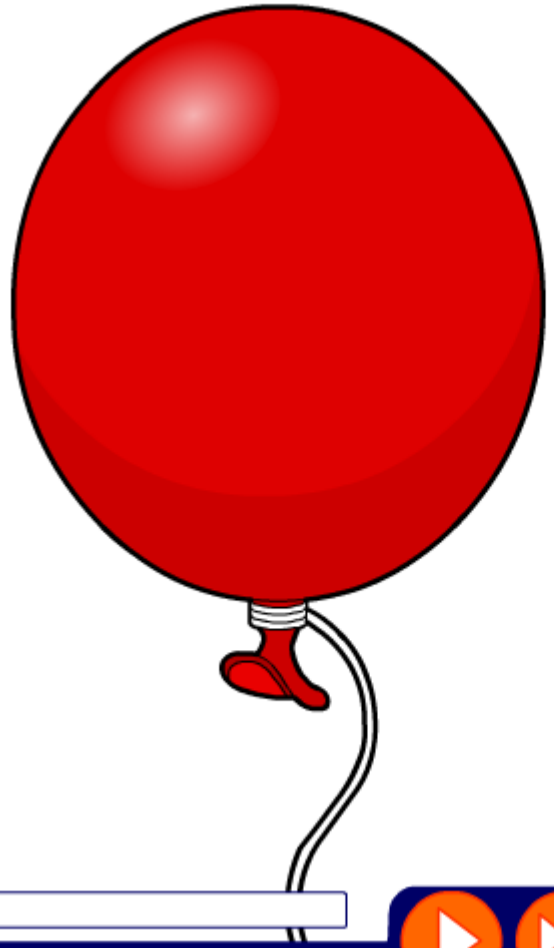
- have a low density because the particles are spaced far apart
- can be compressed because there is space between particles
- have no fixed shape because the particles move around rapidly in all directions
- can diffuse because the particles are able to move in all directions.



What is gas pressure?

How do objects that are filled with gas maintain their shape and pressure?

Click "**play**" to find out.



Solids, liquids and gases: which one?

Do these statements refer to solids, liquids or gases?

1.	They can be compressed.	
2.	They take up the shape of their container and cause some pressure.	
3.	They have no fixed volume.	
4.	They have a fixed shape.	
5.	They cannot diffuse.	
6.	They have a low density.	

solids liquids gases

?

solve