

What's Going On?

Checking In

Minds on

What Makes a Solid... Solid?

Action!

All About Matter

Consolidation

Classifying Matter Mini-Lab

Learning Goal - I will be able to identify the various states of matter, and changes between states.

Checking In

Science Safety Scattegories

Minds on

Terms

Matter
Mass
Volume

Melting
Evaporation
Condensation
Freezing
Sublimation
Deposition

Melting Point
Freezing Point
Boiling Point

Property
Pure Substance
Element
Compound
Mechanical Mixture
Suspension
Solution

Minds on

What Makes a Solid... Solid?

Distance between particles
in the object.

Action!

All About Matter

States of Matter

What are the states of matter?

Solid Liquid Gas (Plasma)

Action!

All About Matter

The Particle Theory of Matter

A way to describe the structure of matter and its behaviour.

Question

Is there a limit to how many times a piece of graphite from a pencil can be divided and still be graphite?

Yes

Action!

All About Matter

The Particle Theory of Matter

Question

Is there a limit to how many times a piece of graphite from a pencil can be divided and still be graphite?

Yes, there is a limit!

The smallest possible pieces are called **particles**.

Action!

All About Matter

The Particle Theory of Matter

1. All matter is composed of very tiny objects called particles.

- Too small to be seen, even with a powerful microscope!

Action!

All About Matter

The Particle Theory of Matter

2. All particles have spaces between them.

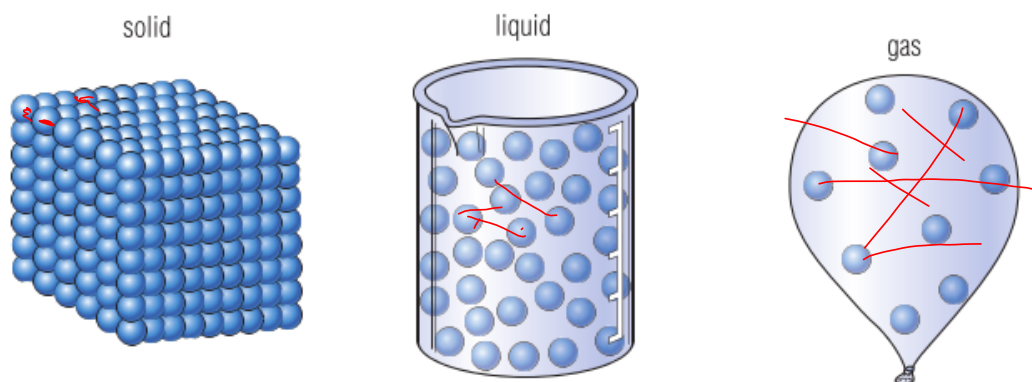
- These distances change for different *states* of matter.
- Spaces are greater between particles in a gas which are greater than particles in a liquid which are greater than particles in a solid.

Action!

All About Matter

The Particle Theory of Matter

2. All particles have spaces between them.



Action!

All About Matter

The Particle Theory of Matter

3. Particles in matter are always in motion!

- They may be imperceptibly vibrating back and forth, ~~as~~ in a solid, or moving rapidly in all directions, as in a gas. In a liquid, particles stay close together but can slide past one another.

Action!

All About Matter

The Particle Theory of Matter

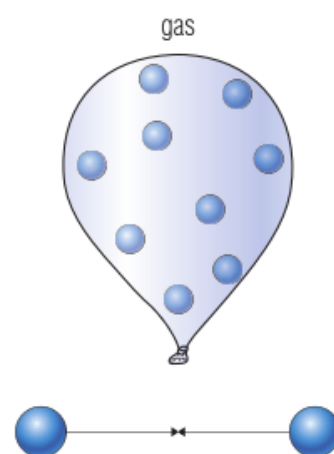
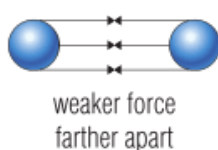
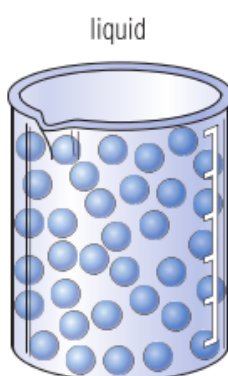
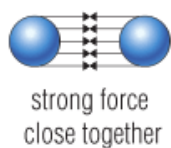
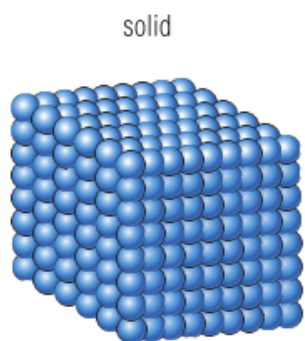
4. The particles in a substance attract each other.

- The amount of attraction is different for different substances.
- Iron particles strongly attract each other.
- Water particles do not strongly attract each other

Action!

All About Matter

The Particle Theory of Matter



Action!

All About Matter

The Particle Theory of Matter

For some substances, like water, the state it is in depends on temperature.

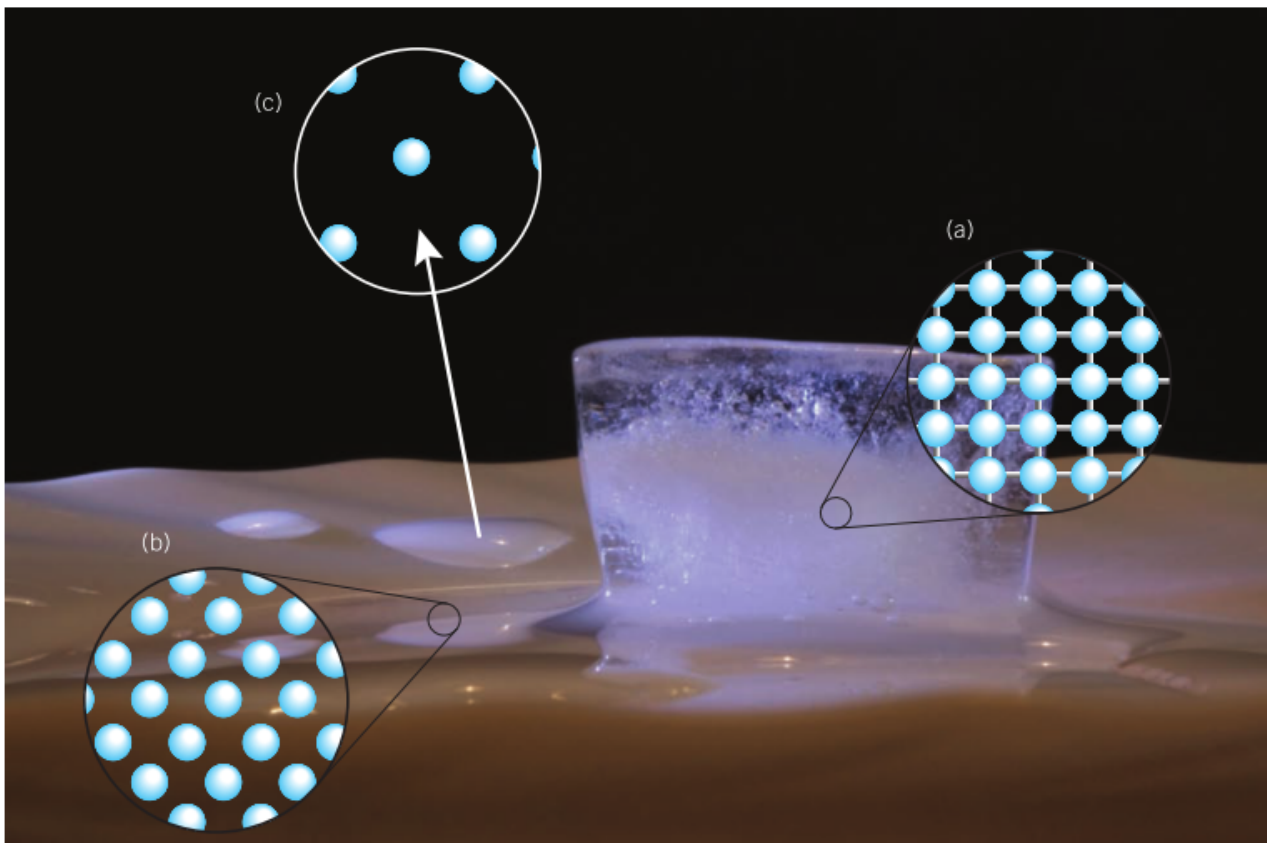
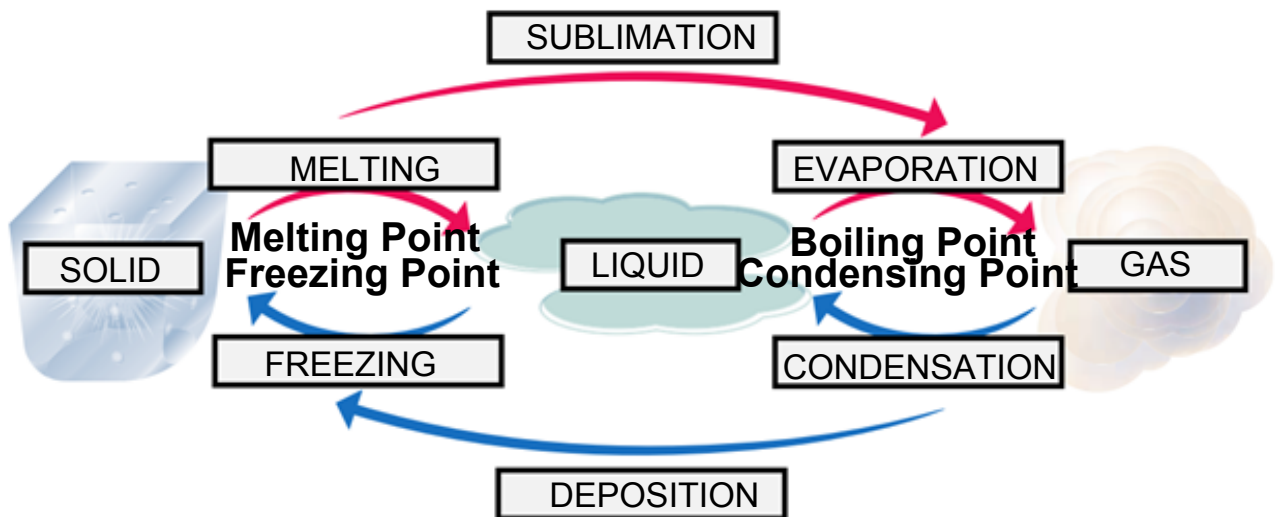


Figure 4.6 (a) When enough heat is added to ice, (b) the particles of water begin to slide past each other. (c) Eventually, the particles spread apart, forming a gas.

Action!

All About Matter

Changes of State



Consolidation

Homework

Define Terms

Pg. 147

1 - 3, 5 - 7, 10

Attachments



1D CHEM - A1 (Investigating Matter) - States of Matter.mp4



1D CHEM - A1 (Investigating Matter) - Particle Theory.mp4



1D CHEM - A1 (Investigating Matter) - Particle Theory 1.mp4



1D CHEM - A1 (Investigating Matter) - Particle Theory 2.mp4



1D CHEM - A1 (Investigating Matter) - Classifying Matter.mp4