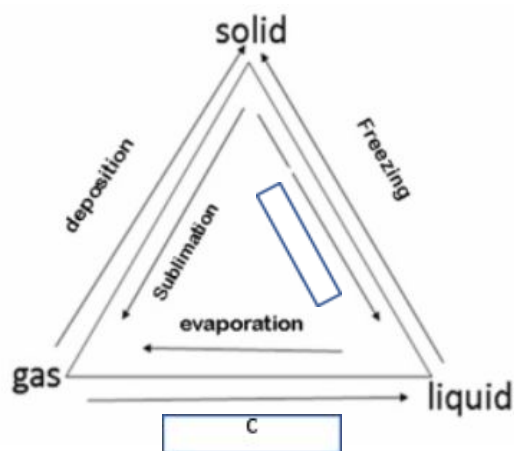
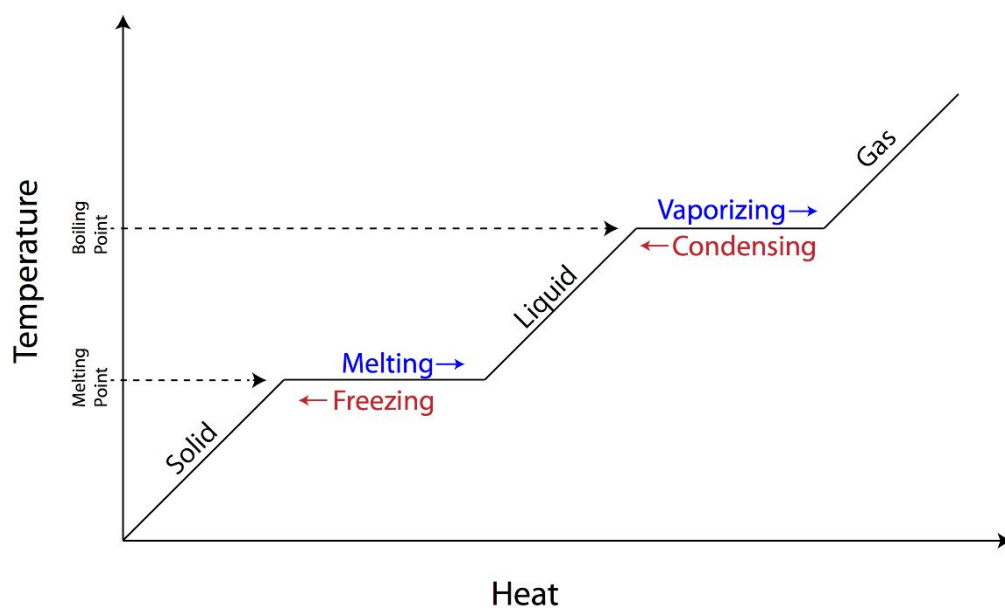


Energetics

1. Write in the change of state in the appropriate places on the diagram below.



2. Write the correct state in the spaces provided.



Energetics

3. Fill in the words in the spaces below to complete the definitions of the terms 'exothermic' and 'endothermic.'

Exothermic reaction: a reaction that _____ energy to the surroundings. This is mostly _____ energy, but light energy and _____ energy are also released.

Endothermic reaction: When energy is _____ from the surroundings, and the temperature of the surroundings _____.

4. Give two reasons why there may be an increase in temperature affects the rate of reaction.

The particles gain more energy

☐

It increases the concentration in particles

☐

The surface area is increased of the particles

☐

It makes the particles move faster

☐

5. During a chemical reaction, new substances are formed from old ones. Which of the following is **not always** true?

New substances can be changed back to the original ones

☐

The total mass of products equals the total mass of reactants

☐

There is often a colour change

☐

There is often a temperature change

☐

Energetics

6. When zinc carbonate reacts with dilute hydrochloric acid, what are the products?
7. Write the general equation for the reactions below:
- a) Metals and acids
 - b) Metal carbonates
 - c) Metals and oxygen
8. Draw a line from each reaction to either **endothermic** or **exothermic**.

Reaction

Respiration

Neutralisation

Photosynthesis

Thermal
decomposition

Endothermic

Exothermic

Energetics

9. Define the term conservation of energy.

10. How is energy transferred in a chemical reaction?

11. How do you know an exothermic reaction has taken place?

12. Not every collision in particles is a chemical reaction. Explain why.