Sources of Hydrocarbons

- The main source of hydrocarbons is _____ or _____
- Petroleum is formed from the remains of plants and animals that perished at the bottom of the ocean, millions of years ago.
- Petroleum is a mixture of simple or long-chain _____
- Petroleum cannot be used before processing. It needs to be refined into its constituents through a _____ process.
- The two stages of oil refining are _____ and _____

Do you know

- The van der Waals force between molecules gets stronger as the molecule size increases.
- The boiling point of hydrocarbons increases as the molecule size increases because more energy is needed to overcome the force.

_____ The fractions of hydrocarbons in petroleum are separated at different temperatures according to the size of the hydrocarbons.

_____ Long chain hydrocarbons are cracked into smaller molecules at a high temperature using a catalyst.

Fractional Distillation

Photograph 2.1 Petroleum fractional distillation process at an oil refinery

- During the fractional distillation process, petroleum is heated and streamed into a distillation tower as shown in Figure 2.2.
- The fractions in petroleum can be separated because each fraction of the hydrocarbons has its own boiling point.
- Hydrocarbons with a lower boiling point will vaporise first, and then _____ of the tower before condensing and separating.
- Hydrocarbons with a higher boiling point are collected at the _____ of the tower and will condense into liquid.
- There are two main uses of hydrocarbon compounds derived from fractional distillation:
  (a) _____
  (b) As _____ for the petrochemical industry.