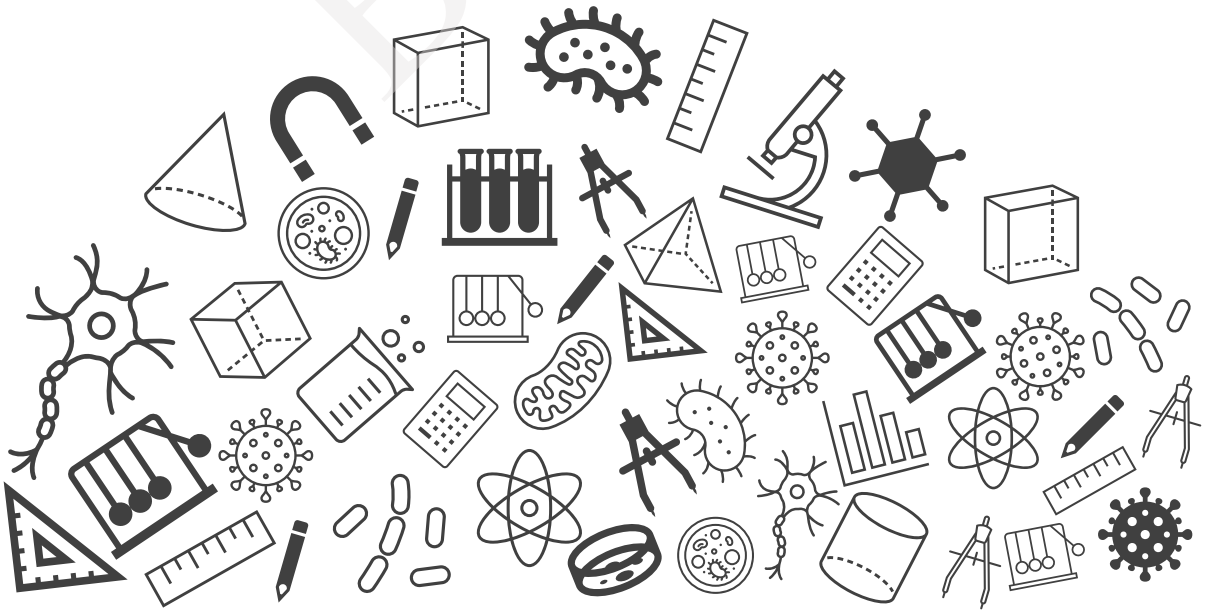
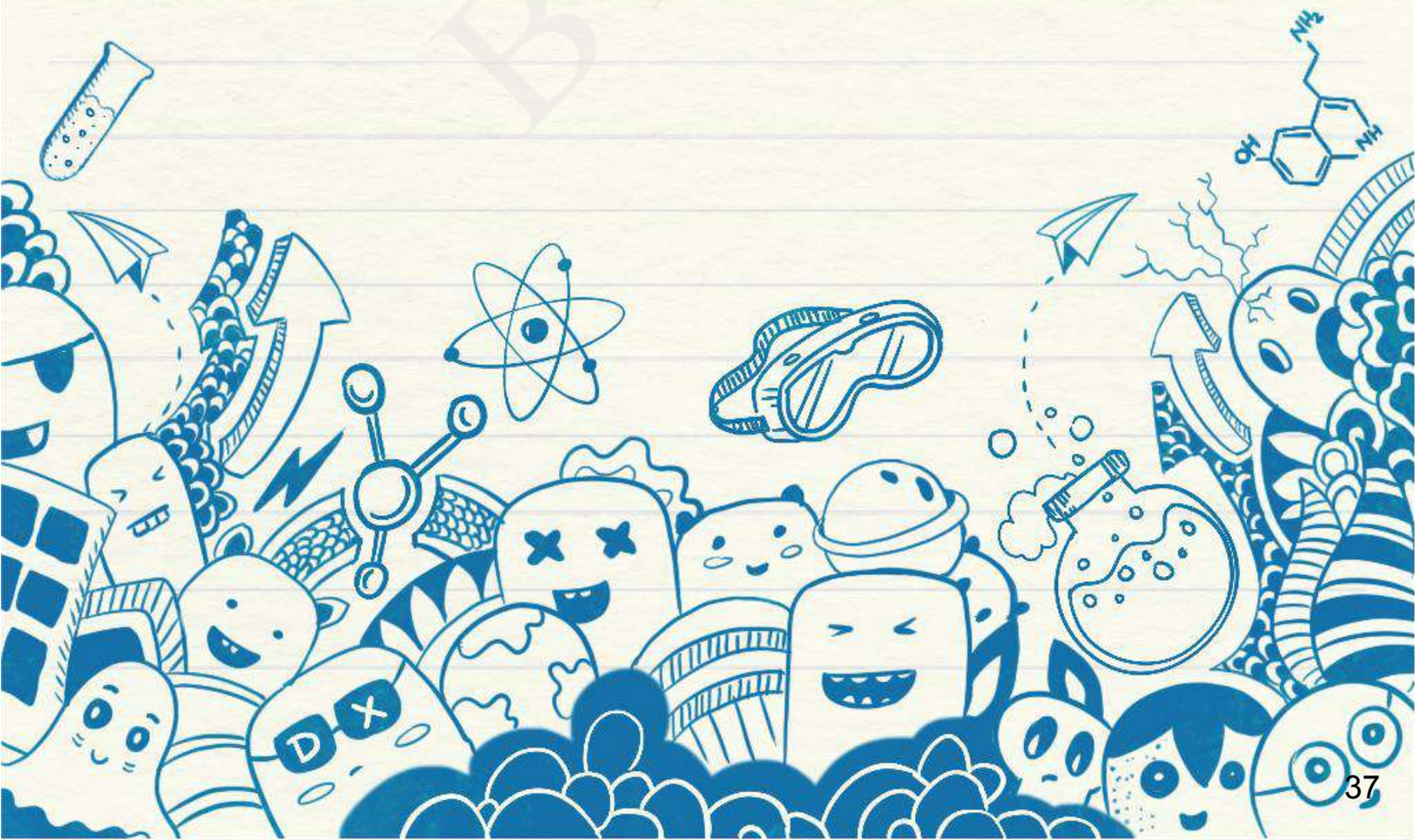
Grade 08
Chapter Notes



BYJU'S

CHAPTER NOTES

Coal and Petroleum



Topics to be Covered

1. Natural Resources
   - 1.1 Exhaustible Natural Resources
   - 1.2 Inexhaustible Natural Resources
   - 1.3 Fossil Fuels
2. Coal
   - 2.1 Carbonisation
   - 2.2 Uses of coal
   - 2.3 Derivatives of coal
3. Petroleum
   - 3.1 Formation of petroleum
   - 3.2 Extraction of petroleum
   - 3.3 Refining of petroleum
4. Natural gas
   - 4.1 Forms of natural gas
   - 4.2 Uses of natural gas
5. Conservation of Fossil Fuels

1. Natural Resources

Materials obtained from nature that are required for our basic needs are known as natural resources.

Sun

Forest

Fuel

Types of Natural Resources

1.1 Exhaustible Natural Resources

- Natural resources that are likely to be exhausted by human activities are called exhaustible natural resources.
- Examples: Fossil fuels, forests, minerals, etc.

1.2 Inexhaustible Natural Resources

- Natural resources that are not likely to be exhausted by human activities are known as inexhaustible natural resources.
- Examples: Sunlight, air, etc.

1.3: Fossil fuels: Exhaustible Natural Resources

- These are fuels that are found in Earth"s crust and are formed from the dead remains of the living organisms.
- These fuels are used as a source of energy.

Examples of fossil fuels

Coal

Petroleum

Natural Gas

2. Coal

- Coal is a hard black solid fossil fuel found on the Earth.

2.1 Carbonisation

- Over millions of years, natural processes led to burying of vegetation under the soil.

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- The dead vegetation got compressed as more soil was deposited over it.

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- Under high pressure and temperature and over a long period of time, these dead remains converted to coal.

2.2 Uses of Coal

Power plants

Steam engines

Industries

Cooking

2.3 Derivatives of Coal

Coke

- Tough, porous and black substance
- Purest form of carbon
- Uses:

Steel production

Metal industry

Coal Gas

- Obtained during processing of coal
- Uses:

Fuel in industries

Coal Tar

- Thick black liquid with an unpleasant smell
- Mixture of carbonaceous substances
- Uses:

Paints

Explosives

Roads

3. Petroleum
(petra-rock; oleum-oil)

- It is a dark oily liquid with an unpleasant odour

3.1 Formation of Petroleum

- Formed from the remains of organisms that got buried under seabed millions of years ago

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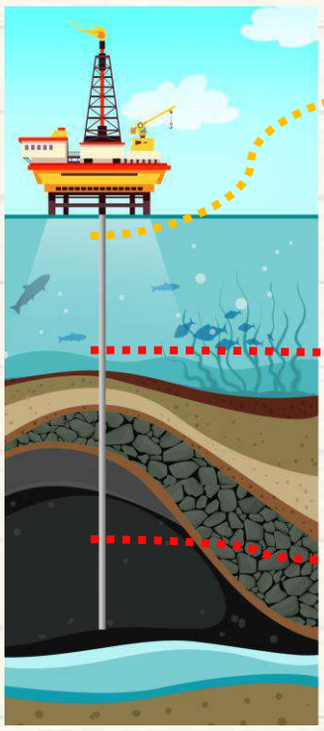
- Formed due to the enormous pressure and temperature in the absence of oxygen

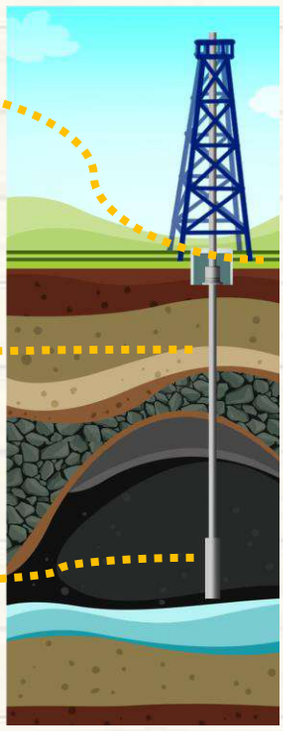
3.2 Extraction of Petroleum



Driller and pipeline lowered into the Earth

Drilling pipe is lowered it drills in further

Drilling pipe reaches the deposit and pumps out the oil



- Petroleum wells can be found on both land and seas/oceans

3.3 Refining of petroleum

- The process of separating the various constituents of petroleum is called refining.

Constituents of petroleum	Uses
Petrol	Motor fuel, aviation fuel
Kerosene	Fuel for stoves, lamps, jets
Diesel	Fuel for heavy motor vehicles
Lubricating oil	Lubrication
Paraffin wax	Ointments, candles, vaseline
Bitumen	Paints, road surfacing
Petroleum Gas in Liquid form (LPG)	Fuel for home and industry

Petrochemicals:
These are the chemicals obtained during refining of petroleum.

4. Natural gas

- It is formed from the remains of organisms that got buried under seabed millions of years ago.
- Generally found trapped between impervious rocks along with petroleum.

4.1 Forms of natural gas

- Natural gas is converted in two forms for usage.

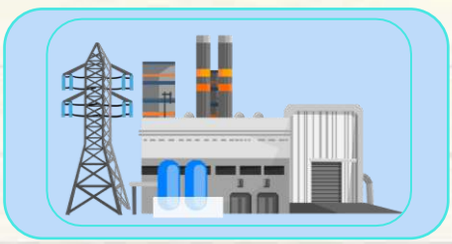
Compressed natural gas (CNG)

- It has low cost of production.
- It can be transported through pipelines, trucks, and ships.
- It is used as fuel in light vehicles.

Liquefied natural gas (LNG)

- It has more cost of production.
- It can be transported through trucks and ships.
- It is used as fuel in heavy vehicles.

4.2 Other uses of natural gas



Electricity generation

Cooking fuel

5. Conservation of fossil fuels

Switching off engines at traffic signals

Regular maintenance of vehicles

Using alternative energy sources

Use of public transport

Mind Map