

OBJECTIVES:

At the end of the Chapter students will be

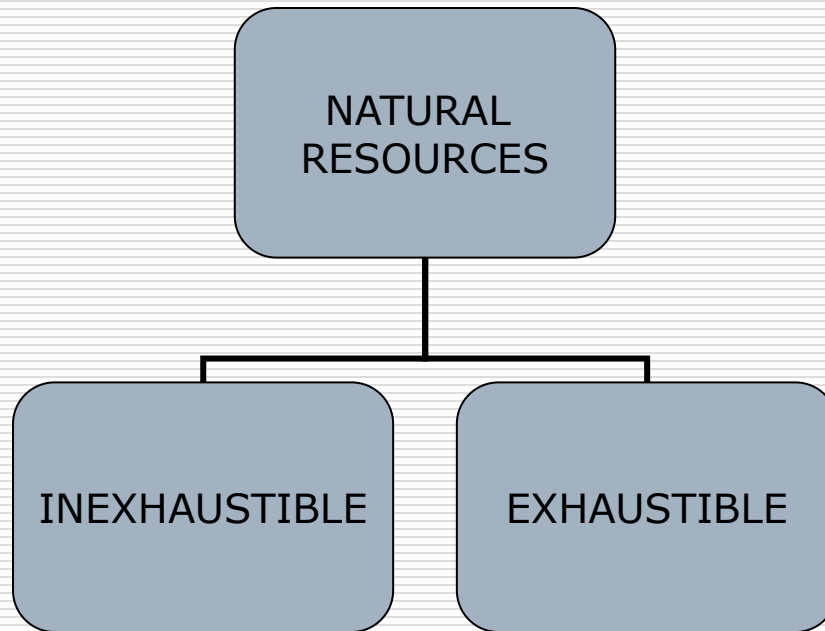
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- Develop awareness about the use of natural resources by man.
 - Differentiate between exhaustible and inexhaustible natural resources
 - Explain formation of coal and petroleum in nature
 - able to know and understand the terms like carbonization, fractions, destructive distillation
 - Understand the importance of conservation of Fossil Fuels
 - Explain about refining of petroleum
 - Know about constituents of petroleum oil and its uses.
 - Develop responsibilities towards the conservation of fossil fuels.
 - Develop awareness about the judicious use of limited sources of energy
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COAL and PETROLEUM



NATURAL RESOURCES

- Natural resources are of two types



Inexhaustible natural resources

- These resources are present in unlimited quantity in nature and are not likely to be exhausted by human activities.
- Ex.



Exhaustible natural resources

- Amount of these resource are limited and they can be exhausted by human activities.



COAL



- Coal is an exhaustible natural resource.
 - This is formed from the dead remains of the plants. so this is called as fossil fuel.
 - It is as hard as stone and black in colour.
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STORY OF COAL

- About 300 million years ago the earth had dense forests and low lying wet land areas .Due to natural processes like flooding ,these forests get buried under the soil. Under high pressure and temperature in the soil these dead plants slowly converted into coal.
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COAL



- Coal is processed in industry to get some useful products such as
 - Coke
 - Coaltar
 - Coal gas
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coke

- ❑ It is tough porous and black substance.
- ❑ It is almost pure form of carbon
- ❑ Coke is used in manufacture of steel and in the extraction of many metals.



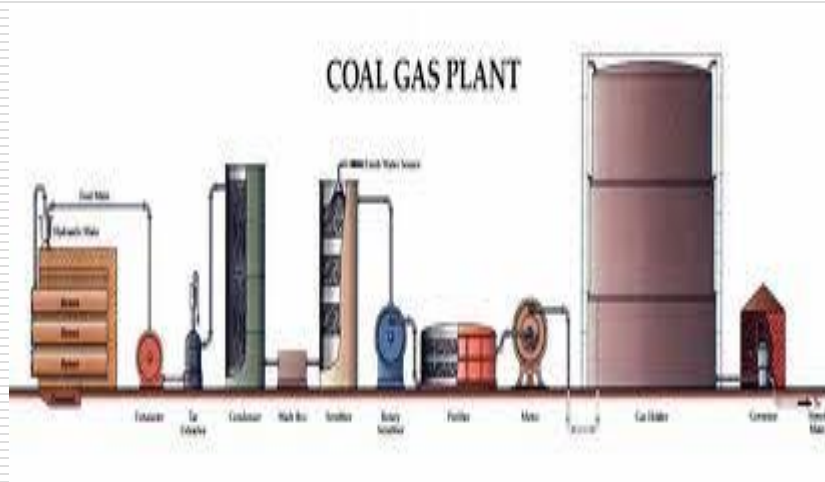
Coal tar

- ❑ It is black thick liquid with an unpleasant smell.
- ❑ It is used in manufacturing synthetic dyes, drugs , explosives, perfumes, plastics, photographic materials.



Coal gas

- ❑ Coal gas is obtained during the processing of coal to get coke.
- ❑ It is used as fuel in many industries.



PETROLEUM

- Petroleum was formed from organisms living in the sea .as these organisms died their bodies settled at the bottom of the sea and got covered with layers of sand and clay .over millions of years absence of air high temperature and high pressure transformed the dead organisms into petroleum.
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REFINING OF PETROLEUM

- ❑ petroleum is a dark oily liquid.
- ❑ It has unpleasant odour.
- ❑ It is a mixture of various constituents such as petrol, diesel, lubricating oil, paraffin wax etc.



REFINING OF PETROLEUM

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



Petroleum Refinery

REFINING OF PETROLEUM

- Petroleum products are usually grouped into three categories: light distillates (LPG, gasoline, naphtha), middle distillates (kerosene, diesel), heavy distillates and residuum (heavy fuel oil, lubricating oils, wax, asphalt). This classification is based on the way crude oil is distilled and separated into fractions
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Various constituents of Petroleum and their uses

Constituents of petroleum	uses
Petrol	Motor fuel, aviation fuel, solvent for dry cleaning
Diesel	Motor fuel
kerosene	Fuel for stoves, lamps ,and jet air ways.

various constituents of petroleum and their uses

Constituents of petroleum	uses
Lubricating oil	Lubrication
paraffin wax	Ointments, candles vaseline
Bitumen	paints ,road surfacing

Coal and petroleum resources are limited

- The known reserves of the coal and petroleum lasts only a few hundred years. More over burning of these fuels is a major cause of air pollution. It is therefore necessary that we use these fuels when there is absolute necessary.
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Coal and petroleum resources are limited

A faint outline map of India is visible in the background, centered behind the text. It shows the main landmass and the Lakshadweep islands in the southwest.

- In India PCRA (Petroleum conservation research association) advises people how to save petrol or diesel. Their tips are
- Drive at a constant speed
- Switch off the engine at traffic lights
- Ensure correct tyre pressure
- Ensure regular maintenance of the vehicle.

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- Switch off the engine at traffic lights



A high-angle, wide shot of a multi-lane road completely clogged with traffic. The vehicles are packed closely together, stretching far into the distance. The mix includes white and yellow taxis, large buses, private cars, and motorcycles. The scene is set on a clear day with trees lining the right side of the road.

Drive at a constant speed
Switch off the engine at traffic lights
Ensure correct tyre pressure
Ensure regular maintenance of the
vehicle

THANK YOU

