



Module 3 /3

Combustion & Flame

Class :VIII

Chapter No-6

Subject: Science

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Fuel Efficiency

Calorific value gives the measure of fuel efficiency.

Definition :The amount of heat energy produced on combustion of 1 kg of a fuel is called calorific value of that fuel.

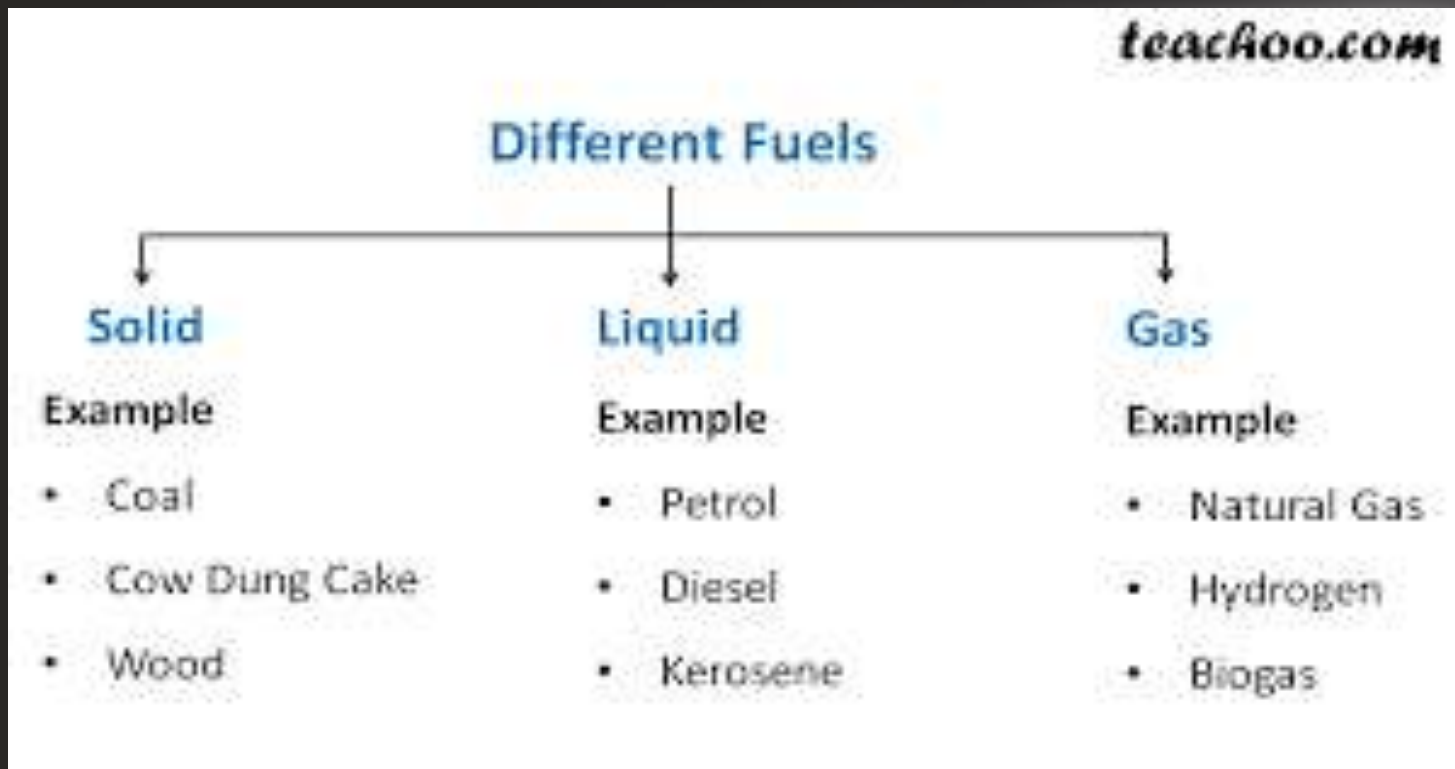
It is expressed as **kilo Joule per kg (kJ/kg)**

Characteristics of an Ideal Fuel:

- ✓ It is readily available.
- ✓ It is cheap.
- ✓ It burns easily in air.
- ✓ It burns at a moderate rate.
- ✓ It produces a large amount of heat.(high calorific value)
- ✓ It does not leave behind any undesirable substance.
- ✓ It has low ignition temperature
- ✓ It is easy to carry .



From the list of fuels below ,which of these can be ideal fuels ?Justify



Fossil Fuels

Fossil fuel is a fuel (such as coal, oil, or natural gas) formed in the earth from plant or animal remains.

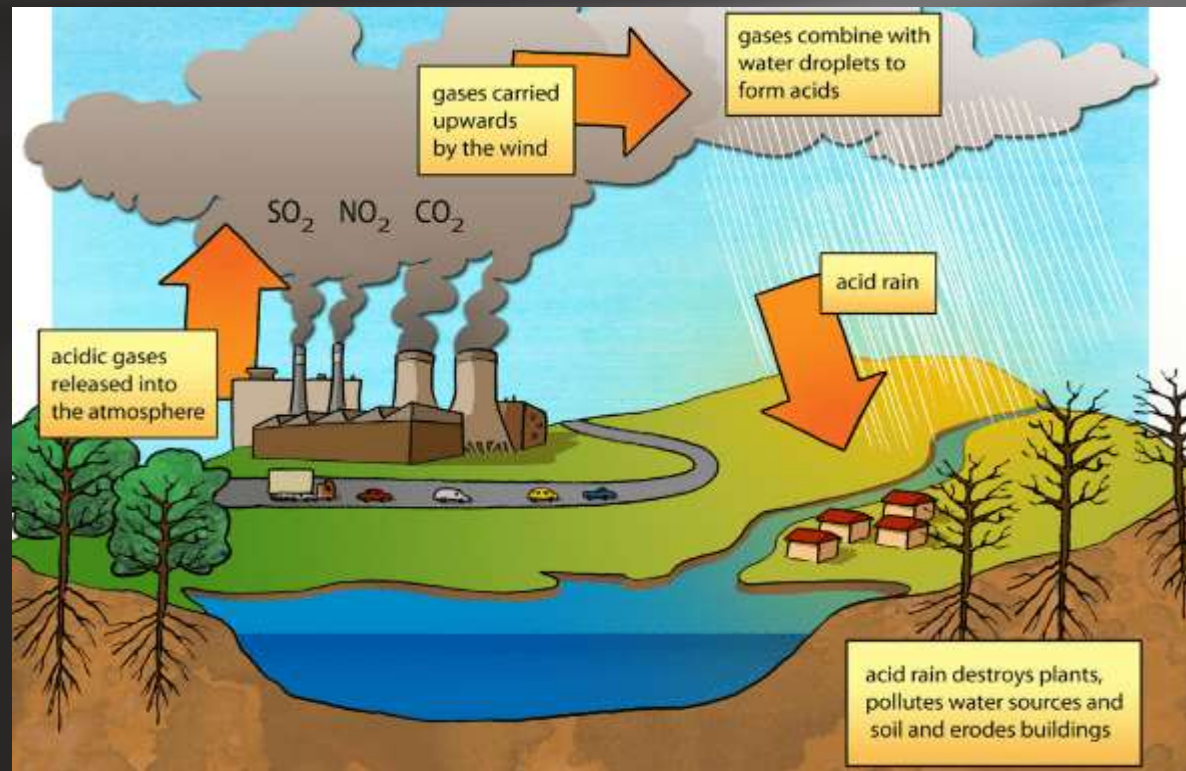


Effects of burning fossil fuels

- ✓ Various air pollutants like **unburnt carbon particles** released due to partial burning of carbon fuels causes many respiratory diseases.
- ✓ The partial burning of some fuels releases **carbon monoxide**, which is a poisonous gas. And this gas can kill a person if left in a room filled with this gas.
- ✓ **Global Warming**: Combustion of most fuels the increase the amount of carbon dioxide in the atmosphere that has lead to increase in the average temperature on the earth.This leads to melting of ice from snow clad mountains and thereby rises sea level.

Acid Rain due to burning fossil fuels

Due to burning of coal and diesel, Chemicals like sulphur dioxide and nitrogen dioxide are released into the air. The pollutants react with the water vapour present in the air and form sulphuric and nitric acid. When it rains, these acids are also present. Such kind of rain is called Acid Rain. It is very harmful for crops, buildings and soil.





Before lockdown due to
COVID in Delhi



During lockdown due to
COVID in Delhi



In the above images showing India Gate , what conclusions can you draw?



In the above image what is the specialty of the bus? Should we prefer such buses ,if yes why ?



TAJ MAHAL

BEFORE



AFTER






In the above, the spectacular beauty of this monument is deteriorating day by day ,explore the reasons.



Effect on animals.

- Mostly aquatic life suffers due to acid rain.



The two images above show the effects of acid rain on plants and animals. What causes acid rain? how can we reduce it?

Prevention from Acid rain:

The use of diesel and petrol as fuels in automobiles is being replaced by CNG (Compressed Natural Gas), because CNG produces the harmful products in very small amounts. CNG is a cleaner fuel.





What does the above image warn us ?



The above image shows effects of inhaling carbon monoxide.
When is carbon monoxide produced?

Thank
you

