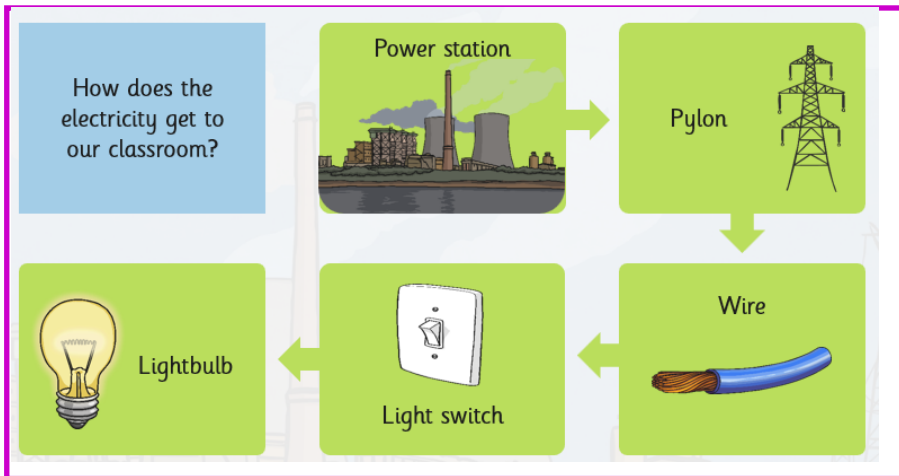




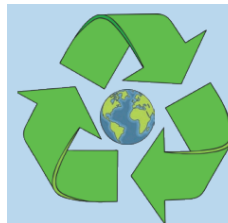
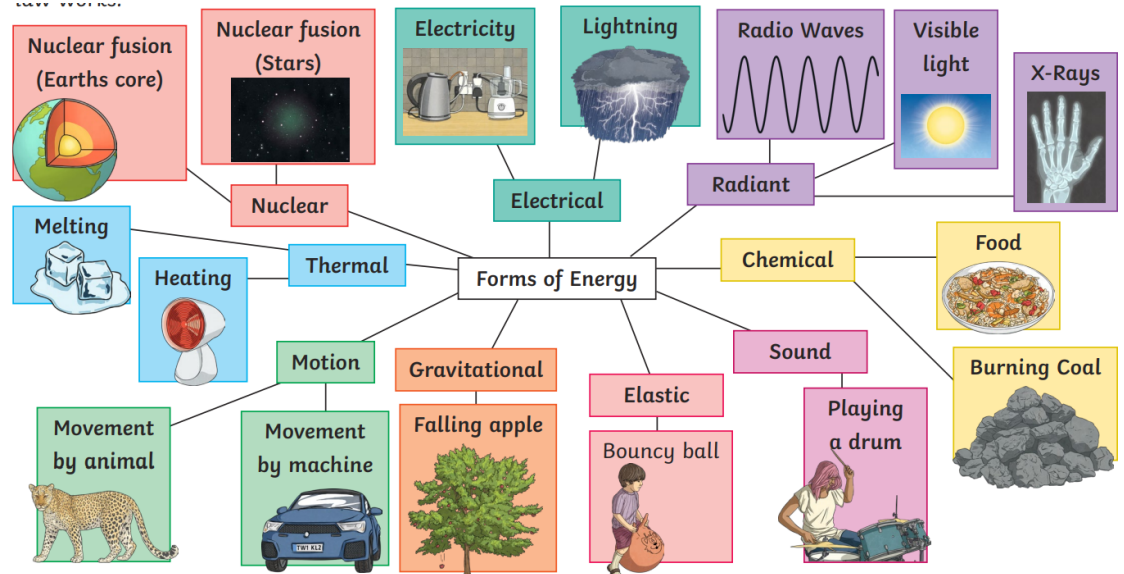
1. How does energy reach us?



2. Where are the power stations?



3. Forms of energy



What is renewable energy?

Renewable energy comes from natural resources that are naturally replenished, such as sunlight, wind and waves.

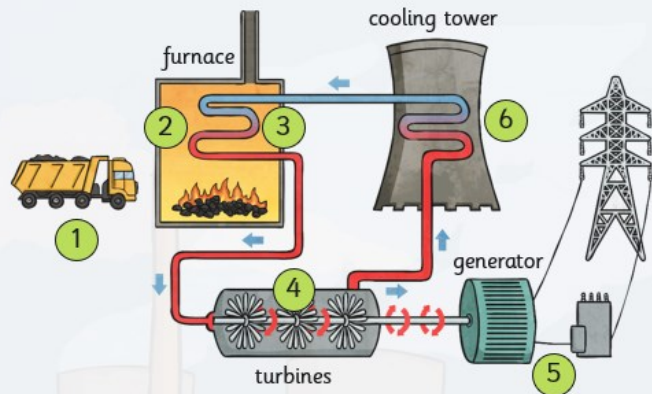
What is non-renewable energy?

Non-renewable energy comes from natural resources that are not naturally replenished, such as oil and coal.

5. Other Vocabulary:

Electricity, supply, generation, power, Combined cycle gas turbine (CCGT) Gigawatt (GW), coal, nuclear,

Coal Fired Power Stations

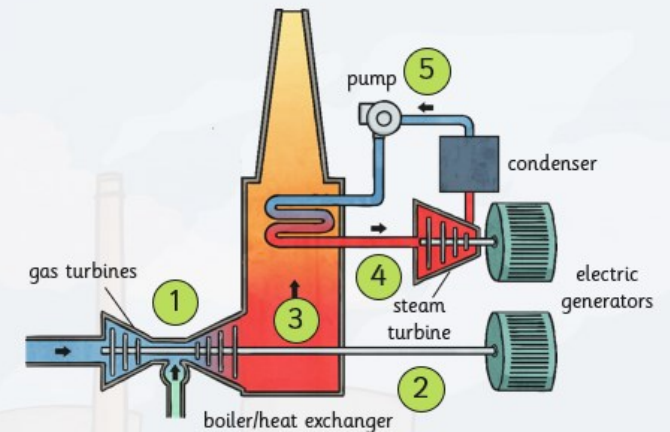


1. Coal is brought to the power station and crushed into a powder.
2. The coal is burned in a furnace.
3. The heat is used to heat water to create steam.
4. The steam turns the blades of the turbines.
5. The turbines connect to a generator which creates electricity.
6. The steam is cooled into water in cooling towers.



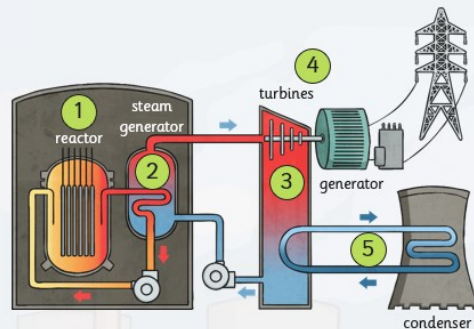
Types of power stations

CCGT Power Stations



1. Gas is burned in a turbine to heat the air supply. The force of the expanding air pushes the turbine blades around.
2. The turbines connect to a generator which creates electricity.
3. The hot gases are used to heat water to create steam.
4. The steam turns the blades of a steam turbine connected to another generator.
5. The steam is cooled back into water in a condenser and used again.

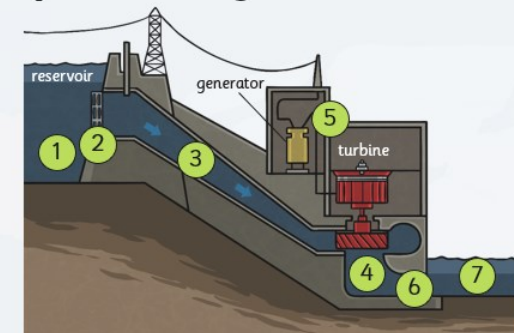
Nuclear Power Stations



1. Uranium atoms are split into lighter elements in the reactor. This is called nuclear fission. Nuclear fission produces lots of heat energy.
2. The heat is used to heat water to create steam.
3. The steam turns the blades of the turbines.
4. The turbines connect to a generator which creates electricity.
5. The steam is cooled into water by a condenser and used again.



Pumped Storage Power Stations



1. Water is stored in a reservoir behind a dam.
2. When the electricity is needed, a pipe called a penstock is opened.
3. Water flows under great pressure down to a turbine.
4. The water turns the blades of the turbine.
5. The turbine connects to a generator which creates electricity.
6. The water is returned to the river.
7. The water is stored in a lower reservoir. It is pumped back up to the top reservoir at times of low electrical demand (for example, overnight).