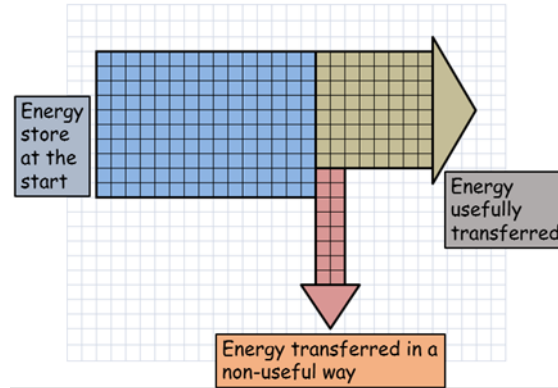


Year 7 Energy Knowledge Organiser

1. Energy Stores

Energy Store	Definition	Example
Kinetic	Energy of a moving object	A moving car.
Gravitational Potential	Energy stored by being above ground level	A diver standing on a diving board.
Chemical	Energy stored in the bonds between particles	A burger and fries.
Electrostatic	Energy stored in charged particles	A build up of static electricity.
Thermal	Energy stored in an object that is hot	A hot cup of coffee.
Elastic Potential	Energy stored in an object that is stretched or compressed.	A stretched bow string.
Magnetic	Energy stored in magnetic fields	A magnet
Nuclear	Energy stored in atoms	Nuclear power

Sankey Diagrams



2. Efficiency

$$\text{Efficiency (\%)} = \frac{\text{Useful energy output (J)}}{\text{total energy input (J)}} \times 100$$

3. Fossil fuels

Fuel	How its made
Coal	Dead trees and plants, over millions of years the pressure underground causes these to form coal.
Oil and Gas	When small sea animals die they become encased in sand, this all gets buried under the sea. Over millions of years the sand becomes rock and form crude oil and natural gas.

4. Energy Resources

Energy Resource	Renewable	Advantages	Disadvantages
Fossil Fuels	No	Low cost, easily transportable.	Produce large amounts of pollution.
Nuclear	No	Generates a lot of electricity.	Expensive. Produces dangerous by products.
Solar	Yes	No fuel costs or pollution.	Expensive to set up. Doesn't work at night.
Wave	Yes	No fuel costs. Reliable and easily accessible.	Can damage marine ecosystems.
Tidal	Yes	No fuel costs or pollution. Predictable.	Can damage marine ecosystems.
Wind	Yes	No fuel costs or pollution.	Not always reliable, noisy.
Geothermal	Yes	No fuel costs or pollution.	Very few areas where it is accessible.
Biomass	Yes	Low cost, readily available.	Large scale land use requiring irrigation.
Hydroelectric	Yes	No fuel costs, reliable and easily controlled.	Environmental impact during construction.