

Knowledge: Energy	
1	Energy is needed to make things happen
2	It is measured in joules or kilojoules
3	Energy cannot be created or destroyed, only transferred (law of conservation of energy)
4	The total energy before a change is always equal to the total energy after a change.

Knowledge: Non-renewable energy	
1	Cannot be replaced within your lifetime
2	Includes coal, oil, natural gas and nuclear resources
3	Coal, Oil and Natural gas are also known as fossil fuels, they release carbon dioxide when burned which contributes to global warming

Knowledge: Renewable energy	
1	Can be replaced within your lifetime
2	Includes wind, tidal, wave, biomass, solar, hydroelectric & geothermal
3	Do not produce much carbon dioxide, meaning that they have a smaller effect on global warming

Knowledge: Energy stores		
Energy can be in different stores, including		
1	Chemical	To do with food, fuels and batteries
2	Thermal	To do with hot objects
3	Kinetic	To do with moving objects
4	Gravitational potential	To do with the position in a gravitational field
5	Elastic potential	To do with changing shape, squashing and stretching

Knowledge: Food & energy		
1	Food has energy in a chemical energy store	
2	Different foods contain different amounts of energy	
3	Different activities require different amounts of energy	
4	Different people need different amounts of energy depending on what they do each day	

Knowledge: Dissipation of energy	
1	Energy is dissipated when it is transferred to a non-useful store, it cannot be used for what it was intended for
2	Energy can be wasted through friction, heating up components or heating surroundings
3	Efficiency is a measure of how much of the energy has been used in a useful way, we can calculate this with the equation: Efficiency (%) = $\frac{\text{Useful energy output}}{\text{energy input}} \times 100$

Knowledge: Power and energy	
1	Power is a measure of how much energy is transferred per second
2	Power is measured in watts (W)
3	Each appliance has it's own power rating to tell us how quickly it uses energy
4	We can calculate power with the equation: Power (W) = $\frac{\text{energy (J)}}{\text{time (s)}}$

Additional Information: Using non-renewable energy resources in power stations and the steps involved.