Energy Stores & pathways		
1	energy	the capacity to do work
2	system	an object or a group of objects
3	energy Pathway	process by which energy is transferred
4	gravitational potential energy (GPE)	energy stored in an object raised in height
5	elastic potential energy (EPE)	energy stored in an object which has been stretched or compressed
6	kinetic energy (KE)	energy stored in an object which is in motion
7	thermal energy	energy stored which raises the temperature
8	chemical energy	transferred during chemical reactions eg fuels, foods, or in batteries
9	conservation of energy	energy cannot be created or destroyed, only transferred usefully, stored or dissipated
10	dissipated energy	energy lost to the environment or wasted
11	energy Efficiency	the proportion of the total energy supplied to a device that is transferred usefully
12	power	the rate at which energy is transferred or the rate at which work is done
13	work done	transfer of energy from one store to another

Specific heat capacity		
14	Specific Heat Capacity	the energy required to increase the temperature of 1kg of a substance by 1^{o}C
15	**Required Practical: specific heat capacity**	
A	Independent Variable:	type of metal/substance
B	Dependent Variable:	specific heat capacity
C	Control Variables:	same heater, mass of metal
D	Method: Specific heat capacity - I. Insert heater and thermometer into 1kg block of metal II. record temperature every minute for 10 minutes III. Calculate energy transferred = power x time IV. SHC = energy transferred/mass x change in temperature	

Equations to memorize		
16	gravitational potential energy = mass x gravity x height	$GPE = m\ g\ h$
17	elastic potential energy = 0.5 x spring constant x (extension)^2	$EPE = ½\ k\ e^2$
18	kinetic energy = 0.5 x mass x (velocity)^2	$KE = ½\ m\ v^2$
19	energy = mass x specific heat capacity x temperature change	$E = m\ x\ c\ x\ \Delta\vartheta$
20	work done = force x distance	$W = f\ x\ d$
21	power = work done/time **OR** Power = energy transferred/ time	$P = E/t$ $OR\ P = Wd/t$
22	efficiency = useful output energy transfer / Total input energy transfer	

Units				
23	energy	E	Joules	J
24	mass	m	kilograms	kg
25	gravitational field strength	g	Newtons/kilogram	N/kg
26	height	h	metres	m
27	spring constant	k	Newtons/metre	N/m
28	extension	e	metres	m
29	velocity	v	metres per second	ms^{-1}
30	specific heat capacity	c	Joules/kilogram degree	J/kg^{o}C
31	change in temperature	$\Delta\vartheta$	degrees Celsius	^{o}C
32	work done	Wd	Joules	J
33	force	*f*	Newton	N
34	distance	d	metres	M
35	power	P	watts	W
36	time	t	seconds	s

Energy resources		
37	renewable energy	energy resource that will not run out
38	renewable resources	solar, wind, tidal, geothermal, hydroelectric, biofuel
39	non-renewable energy	energy from a finite resource
40	fossil Fuel	non-renewable energy resources made from the fossilised remains of animals and plants.