**Science Relocation Pack**

**Year 7 – Energy**

**Spring 2**

**The Knowledge - Instructions**

Use LCWC to embed the knowledge into your long-term memory. You can do this in your relocation booklet.

|  |  |  |
| --- | --- | --- |
|  | **Topic:** | **Energy (P.7)** |
| 1 | Name seven energy stores | Thermal (internal), chemical, kinetic, gravitational potential, elastic potential, electrostatic potential, magnetic |
| 2 | Define "conservation of energy" | Energy cannot be created or destroyed; it can only be transferred, stored or dissipated |
| 3 | Define "dissipated" | Spread out wastefully |
| 4 | State the equation for efficiency | Efficiency= useful energy output/total energy input |
| 5 | Define "energy transfer" | Energy being converted from one energy store to another |
| 6 | Define "kinetic energy store" | The energy of a moving object |
| 7 | Define "internal (thermal) energy store" | Total kinetic and potential energy of the particles in an object |
| 8 | Define "gravitational potential energy store" | The energy of an object at height |
| 9 | Define "elastic potential energy store" | The energy stored when an object is stretched or squashed |
| 10 | Name the diagram used to represent energy transfer (Ext) | Sankey diagram |
|  |  |  |
|  | **Topic:** | **Heating and cooling (P.8)** |
| 1 | Define "conduction" | Transfer of thermal energy by the vibration of particles |
| 2 | Define "convection" | Transfer of thermal energy when particles in a heated fluid (liquid or gas) rise |
| 3 | Define "radiation" | Transfer of thermal energy as a wave |
| 4 | Define "thermal conductor" | Material that allows heat to move quickly through it |
| 5 | Define "thermal insulator" | Material that allows heat to travel slowly though it |
| 6 | In which states can convection occur? | Liquids and gases (fluids) |
| 7 | Define "temperature" | A measure of the motion and energy of the particles |
| 8 | State the standard unit of temperature | Degrees Celsius (oC) |
| 9 | Define "thermal (internal) energy" | Quantity of energy stored in a substance due to the vibration of its particles |
| 10 | State the standard unit of thermal (internal) energy | Joules |
|  |  |  |
|  | **Topic:** | **Energy Sources (P.9)** |
| 1 | Define "renewable energy resource" | An energy resource that can be replaced and will not run out. |
| 2 | Define " Non renewable energy resource" | An energy resource that cannot be replaced and will be used up |
| 3 | State four examples of non-renewable energy resources | Coal, oil, natural gas, nuclear power |
| 4 | State six examples of renewable energy resources | Solar, wind, waves, hydroelectric, geothermal, biomass |
| 5 | State the three fossil fuels | Coal, oil, natural gas |
| 6 | State two disadvantages of using fossil fuels to generate electricity | Releases greenhouse gases, non-renewable |
| 7 | Define "power" | How quickly energy is transferred by a device |
| 8 | State the standard unit of power | Watt |
| 9 | State the equation to calculate the cost of energy at home | Cost=power(kw) x time(hours) x price(per kWh) |
| 10 | How do you convert watts into kilowatts? | Divide by 1000 |

**Learning Ladder - Instructions**

These are all the things that you need to able to do securely to make excellent progress in science. You should read through each statement in the first column and prove that you can do it by completing the task in the second column.



