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| Kettering science Academy | **7I Energy** |

| 1. Energy from Food | |
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| **Energy** | Needed to live, helps us to grow and repair our bodies, move and keep warm. Food is a source of energy. |
| **Joule** | A unit for measuring energy. |
| **Diet** | The food that a person eats. |
| **Weight** | The amount of force with which gravity pulls things- measured in Newtons (N). |
| **Balanced Diet** | Eating a variety of foods to provide all the things that the body needs. |

| 2. Energy Stores and Transfers | |
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| **Forces** | A push, pull or twist and a type of energy transfer. |
| **Electricity** | A way of transferring energy through wires. |
| **Other Energy Transfers** | By heating, sound and light. |
| **Chemical Energy** | Energy stored in chemicals (such as food, fuel and batteries). |
| **Kinetic Energy** | Energy stored in moving things. |
| **Thermal Energy** | Energy stored in hot objects. |
| **Strain Energy** | Energy stored in stretched or squashed objects. Also called elastic potential energy. |
| **Gravitational Potential Energy** | Energy stored in objects in high places that can fall down. |
| **Nuclear Energy** | Energy stored inside materials (also called atomic energy). |
| **Law of Conservation of Energy** | The idea that energy can never be created or destroyed, only transferred from one store to another. |

| 3. Fuels | |
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| **Fuel** | A substance that contains a store of chemical or nuclear energy that can easily be transferred. |
| **Nuclear Fuels** | Used in nuclear power stations to generate electricity. |
| **Uranium** | A radioactive metal that can be used as a nuclear fuel. |
| **Fossil Fuels** | A fuel formed from the dead remains of organisms over millions of years. |
| **Oil** | A fossil fuel made from the remains of microscopic dead plants and animals that lived in the sea. |
| **Natural Gas** | A fossil fuel made from the remains of microscopic dead plants and animals that lived in the sea. |
| **Non-Renewable** | An energy resource that will run out because we cannot renew our supplies of it. |
| **Renewable** | An energy resource that will never run out (such as solar power) |

| 4. Other Energy Resources | |
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| **Solar Power** | Generating electricity using energy from the Sun. |
| **Solar Panel** | Flat plats that use energy from the Sun to heat water. |
| **Solar Power Station** | A large power station using the Sun to heat water to make steam which then generates electricity. |
| **Wind Turbine** | Generates electricity using energy transferred from the wind. |
| **Hydroelectric Power** | Electricity generated by moving water turning turbines and generators. |

| 5. Using Resources | |
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| **Fossil Fuel Advantages** | Cheap compared to the others and convenient to use in cars/vehicles. |
| **Fossil Fuel Disadvantages** | Non-renewable<br>Releases polluting gases when burnt. |
| **Nuclear Advantages** | No polluting gases generated. |
| **Nuclear Disadvantages** | Non-renewable<br>Very expensive<br>Dangerous waste materials |
| **Renewable Advantages** | No polluting gases<br>Renewable |
| **Renewable Disadvantages** | Most not available all the time and only available in specific locations. |