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| ***Can you…?*** | ☺ | 😐 | ☹ |
| **Energy 3: Energy resources.** | | | |
| Describe how most energy demands are met today. |  |  |  |
| Name the energy resources that are used. |  |  |  |
| Describe how nuclear fuels are used in power stations. |  |  |  |
| Name the other fuels that are used in power stations. |  |  |  |
| Name the other fuels that are used to generate electricity. |  |  |  |
| Describe what a wind turbine is made up of. |  |  |  |
| Describe how waves can be used to generate electricity. |  |  |  |
| Name the type of power station that uses water running downhill to generate electricity. |  |  |  |
| Describe how the tides can be used to generate electricity. |  |  |  |
| Describe what solar cells are and how they are used. |  |  |  |
| Describe the difference between a panel of solar cells and a solar heating panel. |  |  |  |
| Describe what geothermal energy is. |  |  |  |
| Describe how geothermal energy can be used to generate electricity. |  |  |  |
| Describe what fossil fuels do to the environment. |  |  |  |
| Explain why people are concerned about nuclear power. |  |  |  |
| Describe the advantages and disadvantages of renewable energy resources. |  |  |  |
| Evaluate the use of different energy resources. |  |  |  |
| Describe how best to use electricity supplies to meet variations in demand. |  |  |  |
| Compare the economic costs of different energy resources. |  |  |  |
| Name energy resources that need to be developed to meet people’s energy needs in the future. |  |  |  |

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| **Energy 3: Equations I need to know.** | | | |
| **None!** |  |  |  |
| **Energy 3: Equations I am given and need to use.** | | | |
| **None!** |  |  |  |

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| **Energy 3: Key words I need to know** | | | |
| **Biofuel:** *any fuel taken from living or recently living materials, such as animal waste.* |  |  |  |
| **Carbon-neutral:** *a biofuel from a living organism that takes in as much carbon dioxide from the atmosphere as is released when the fuel is burned.* |  |  |  |
| **Climate change:** |  |  |  |
| **Fossil fuels:** *a fuel formed from the dead remains of organisms over millions of years (e.g. coal, oil, or natural gas).* |  |  |  |
| **Geothermal energy:** *energy that comes from energy released by radioactive substances deep within the Earth.* |  |  |  |
| **Hydroelectricity:** *electricity generated by moving water, usually falling from a reservoir, to turn turbines and generators.* |  |  |  |
| **Non-renewable:** *any energy resource that will run out because it cannot be renewed, e.g. oil.* |  |  |  |
| **Nuclear fuel:** *substance used in nuclear reactors that releases energy due to nuclear fission.* |  |  |  |
| **Nucleus:** *tiny positively charged object composed of protons and neutrons at the centre of every atom.* |  |  |  |
| **Reactor core:** *the thick steel vessel used to contain fuel rods, control rods and the moderator in a nuclear fission reactor.* |  |  |  |
| **Renewable energy:** *energy from natural sources that is always being replenished so it never runs out.* |  |  |  |
| **Solar cell:** *a flat plate that uses energy transferred by the light to produce electricity.* |  |  |  |
| **Solar energy:** *energy from the Sun.* |  |  |  |
| **Tidal power:** *generating electricity using the movement of tides.* |  |  |  |
| **Uranium:** a radioactive metal that can be used as a nuclear fuel. |  |  |  |
| **Wind turbine:** *a kind of windmill that generates electricity using energy transferred by the wind.* |  |  |  |

**Homework and Independent Study**

HW: Assessed exam-style question sheets.

Revision: For topic test on Energy 2 and 3 ( ~40 mins).

IS: Use of online resources including BBC Bitesize, physicandmathstutor.com, Seneca Learning and Kerboodle textbooks (KS3 and 4). Especially check the “Appendices” of the KS4 books for useful Maths and How Science Works sections.

YouTube channels – Free Science Lessons, Primrose Kitten.