Year 9 Geography Knowledge Organiser – Resources, Energy, Climate Change

1	Natural resource	Substances that are found in nature, which can be used by humans for our benefit, such as water, soil, coal, minerals, wood, animals
2	Raw materials	The basic materials or substances from which products can be made, such as wood can be transformed into furniture
3	Renewable resource	Resources that can be replaced over time and will not run out, such as water, wind, forests etc
4	Non-renewable resource	Substances which are limited so will run out one day or cannot be replaced during our lifetime, such as natural gas, coal, oil
5	Fossil fuels	A natural hydrocarbon fuel such as petroleum, coal or natural gas, which is formed by the fossilised (preserved) remains of ancient plants and animals that are deposited over millions of years
6	Atmosphere	The thin, fragile layer of gases surrounding the Earth
7	Biosphere	Living matter on Earth, including plant and animal life
8	Hydrosphere	The water on the surface of the Earth in oceans, rivers, lakes, rain and mist
9	Lithosphere	The Earth's crust, including landforms, rocks and soils
10	Hydroelectric power (HEP)	A form of energy that harnesses the power of water in motion, such as water flowing over a waterfall, to generate electricity

11	Geothermal power	A renewable energy source made from heat produced inside the earth. People use this for heating buildings and generating electricity.
12	Biomass	Where organic matter is burnt to produce heat and generate electricity. A form of renewable energy
13	Greenhouse gases	Gases in the atmosphere, such as carbon dioxide, methane, water vapour, and ozone
14	Sustainability	When materials and resources are used in a way that will balance the needs of the present without compromising the future
15	Industrial revolution	A period of time when people developed machines to carry out work, such as the UK during the late 1700-1800s
16	Crude oil	Naturally occurring and unrefined petroleum that can be refined into diesel, petrol, gasoline, kerosene and other petrochemicals
17	Climate change	A long-term change in the Earth's climate, especially a change due to an increase in the average atmospheric temperature
18	Greenhouse effect	Natural warming of the atmosphere as heat is given off from the Earth is absorbed by liquids and gases, such as carbon dioxide
19	Global warming	Where average world temperatures are increasing, due to the action of people
20	Globalisation	The increasing connections between places and people across the planet, established through trade, politics and cultural exchanges, and helped by technology and transport

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21	Nuclear power	Is generated by splitting atoms to release the energy held at the core, or nucleus, of those atoms. This process, nuclear fission, generates heat that is directed to a cooling agent—usually water. The resulting steam spins a turbine connected to a generator, producing electricity
22	Solar power	A type of energy created by using the sun
23	Wind power	Is created using a wind turbine, a device that channels the power of the wind to generate electricity.
24	Tidal energy	Is power produced by the surge of ocean waters during the rise and fall of tides. Tidal energy is a renewable source of energy
25	Uranium	A metallic substance found in the Earth's crust and used to create nuclear power
26	Energy consumption	The amount of energy or power used
27	Chlorofluorocarbons (CFCs)	A molecule that contains the elements carbon, chlorine, and fluorine. CFCs are everywhere, mostly in refrigerants and plastic products
28	Hydrofluorocarbons (HFCs)	Any of several organic compounds composed of hydrogen, fluorine, and carbon. Often found in refrigerators and air conditioning units
29	Milankovitch cycles	Changes in the Earth's orbit which include a tilt, wobble and stretch which have an effect on warming and cooling of the Earth
30	Sun spot activity	The sun releases additional energy from its surface which tie in with changes to the Earth's climate

31	Volcanic activity	During eruptions, volcanoes can release large amounts of gases and ash which can have an impact on the world's climate
32	Precipitation	Rain, snow, sleet or hail – any water vapour in the atmosphere which falls due to gravity
33	Drought	A period of drier-than-normal conditions that results in water-related problems
34	Anomalies	Something that does not follow the 'normal' pattern and is different
35	Overfishing	catching too many fish at once, so the breeding population becomes too depleted to recover
36	Ica age	A period in Earth's history when the ice on the polar caps significantly expands due to a lowering of the Earth's global temperatures
37	Meteorologist	Observers and researchers. They note the physical conditions of the atmosphere above them, and they study maps, satellite data, and radar information
38	Manufacturing	any industry that makes products from raw materials by the use of manual labour or machinery
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