**Year 6**: Autumn - Improving the Environment

| | | Required prior knowledge | Knowledge to be explicitly taught | How knowledge will be built upon |
|---|---|---|---|---|
| Substantive | Conceptual | • Overfishing is damaging biodiversity in oceans. Sustainable management of fishing is needed to protect species (Y2 Sum)<br>• Trees in tropical rainforests (like all plants) **absorb carbon dioxide** from the atmosphere, which keeps our planet cool (Y4 Spr)<br>• Chopping down trees is called **deforestation** (Y4 Spr)<br>• At a global level, some countries at COP26 promised to end deforestation by 2030. At a local level, there are things we can do to reduce deforestation (Y4 Spr)<br>• **Science:** Fossil fuels, batteries and the Sun are all examples of chemical energy stores (Y5 Aut)<br>• **Global warming** relates to an increase in Earth's temperature only; it causes **climate change** which relates to a broader set of changes Global warming (and resulting climate change) is being accelerated by too many greenhouse gases, like carbon dioxide, in the atmosphere from **burning fossil fuels**, **agriculture**, **deforestation** (Y5 Sum)<br>• Effects of climate change in the UK and globally (Y5 Sum)<br>• **Science:** Power stations can use both renewable and non-renewable sources of energy (Y6 Aut1)<br>• **Science:** A non-renewable energy source is one where we have a fixed amount of the source, and where it would take too long for more to be formed. Burning fossil fuels to transfer electrical energy is an example of a non-renewable energy source (Y6 Aut1)<br>• **Science:** Renewable energy sources quickly refill replenish themselves, meaning that we can use them again and again. Wind, solar, geothermal and hydrological power are all examples of renewable energy sources (Y6 Aut1) | • **Adaptation** includes responses that would help us to survive in a **changing climate.**<br>• Examples of **adaptation** methods in the UK include the **Thames barrier** and increased use of air conditioning.<br>• Global examples of **adaptation** methods include building houses on stilts and dams.<br>• **Mitigation** includes actions that help to prevent - or mitigate - the impacts of climate change.<br>• Examples of mitigation include wind power and using other sources of renewable energy (to reduce greenhouse gas emissions) and reforestation (to increase absorption of greenhouse gases).<br>• Wind power is renewable and does not emit **carbon dioxide;** however it does create visual and noise **pollution**.<br>• Plastic waste is created across the world, and often ends up in oceans. This can come from household or industrial waste, as well as fishing nets from fishing industry.<br>• **Plastics** take hundreds of years to break down. They threaten biodiversity and can kill **organisms** directly or indirectly by destroying **habitats**.<br>• Creating plastics requires fossil fuels and releases greenhouses gases into the atmosphere.<br>• Customers have power at the local scale to influence industry at the national and global scales.<br>• Human's actions to reduce climate change have relative impacts. Some actions are therefore having a bigger impact than others. | • The Earth's changing climate from the Ice Age to now (KS3) |
| | Procedural | **Map skills:**<br>• Simple (Google maps) map; satellite image (Google Earth); junior atlas; globe; photographs of places in plan and oblique view; OS maps; thematic maps (Y1-5) | | |
| Disciplinary | | • **Forming judgements:** Express opinions about environmental issues with reasons (Y5). | •**Interconnections & change:** Both human and physical processes can affect the climate creating changes which need to be sustainably managed.<br>•**Forming judgements:** Evaluate responses to environmental issues (UK government's response to plastic waste).<br>•**Forming judgements:** Explain how actions can reduce the impacts of climate change. | • **Forming judgements:** Evaluate responses to environmental issues (KS3) |
| VCs | | • **Space & place:** Locating climate zones and biomes.(Y5)<br>• **Human processes:** Human use of fossil fuels and other resources (renewable and non-renewable).(Y5)<br>• **Physical processes:** The **natural greenhouse effect**, the **enhanced greenhouse effect**, **global warming** and resulting **climate change (Y5).** | • **Space & place: Case study**: Shetland<br>• **Physical processes:** Use of fossil fuels to create plastics, and the effects this can have on the Earth.<br>• **Physical processes:** Mitigation and **adaptation** are ways that humans can reduce and live with the effects of climate change.<br>• **Human processes:** Adaptation to and mitigation against climate change.<br>• **Human processes:** Economic aspects of climate change mitigation and adaptations. | • **Human processes:** Humans affect and are influenced by climate change (KS3) |

Year 6: Spring - On the Move

| | | Required prior knowledge | Knowledge to be explicitly taught | How knowledge will be built upon |
|---|---|---|---|---|
| Substantive | Conceptual | • There are poorer and wealthier areas in every county and city (Y1 Sum)<br>• **Science**: Animals, including humans, need oxygen, food, water and the right temperature to survive (Y2 Aut2)<br>• Europe is made up of 50 countries (Y3 Sum)<br>• We can categorise effects into social, economic and environmental (Y3 Sum)<br>• Countries in the world can be classified as low-, middle- or high-income countries. HICs, MICs and LICs appear in all continents (Y4 Sum)<br>• North America is made up of 23 countries, across Northern America, Central America and the Caribbean (Y5 Spr) | • **Maslow's hierarchy of needs** show what humans need to survive and thrive<br>• **Migration** is the process of moving from one place to another. It does not have to be between countries, but where it is it is called **immigration** (in) or **emigration** (out)<br>• People migrate because of **push** and **pull factors**<br>• Voluntary migration usually happens because of economic or social factors.<br>• Expectations of migration are not always met in reality.<br>• **European** case study: Poland to UK 2004-today<br>• **North American** case study: Mexico to USA<br>• **Forced migration** happens as a result of life-threatening events, such as conflict or physical disasters<br>• **Asylum seekers** are people who are forced to leave their country. They apply for asylum and, if it is accepted, they are granted refugee status<br>• **Refugees** are given international protections and support in settling in a different country<br>• **Asian/European** case study: Syria to countries in Europe<br>• Many people migrate to and from our local area, which impacts our community. | • Further case studies of migration, exploring push and pull factors in more depth (KS3)<br>• **History**: Vikings were migrants who moved because of push and pull factors (Y6 Spr)<br>• **History**: The Windrush generation are people who arrived from Commonwealth countries 1948-71. Many were victims of racial discrimination |
| | Procedural | **Map skills:**<br>• Simple (Google maps) map; satellite image (Google Earth); junior atlas; globe; photographs of places in plan and oblique view; thematic maps( Y1-5) | | |
| Disciplinary | | • **Comparisons:** Identify similarities and differences between two non-local places (Sahara Desert and Antarctic Desert<br>• **Forming judgements:** Express opinions about environmental issues with reasons (Y5) | • **Interconnections & change:** Migration is usually the result of a related set of push and pull factors these can be both physical and human factors. | |
| VCs | | • **Space & place:** There are similarities and differences between different places, even if they have similar physical and/or human features (Y3)<br>• **Human processes:** Countries in the world can be classified as low-, medium-, or high-income countries (LIC, MIC, HICs). They appear in all continents.(Y4) | • **Space & place: Case study**: Poland to UK 2004-today<br>• **Space & place: Case study**: Mexico to USA<br>• **Space & place: Case study**: Syria to countries in Europe<br>• **Human processes:** Maslow's hierarchy of needs show what humans need to survive and thrive<br>• **Human processes:** Migration is the process of moving from one place to another. It does not have to be between countries, but where it is it is called immigration (in) or emigration (out).<br>• **Human processes:** People migrate because of push and pull factors.<br>• **Human processes:** Voluntary migration usually happens because of economic or social factors.<br>• **Human processes:** Forced migration happens as a result of life-threatening events, such as conflict or physical disasters.<br>• **Human processes:** Asylum seekers are people who are forced to leave their country. They apply for asylum and, if it is accepted, they are granted refugee status. Refugees are given international protections and support in settling in a different country.<br>• **Human processes:** Human settlements change or develop based on external factors (both human and physical | • **Space & place:** Pupils build locational and place knowledge in KS3 by revisiting Europe, North America and South America, and expanding this to Asia and Africa (KS3) |

Year 6: Summer - I am a Geographer

| | Required prior knowledge | Knowledge to be explicitly taught | How knowledge will be built upon |
|---|---|---|---|
| Procedural | • Recognise simple hazards and plan steps we can take to reduce them (Y1 Aut)<br>• Draw a basic fieldsketch of what can be seen (Y1 Aut)<br>• Draw an object to scale (Y4 Sum)<br>• Use and interpret 8 compass points (Y3 Aut)<br>• Locate places and features using 4-figure grid references (Y4 Sum)<br>• Give and interpret standard OS symbols (Y2 Aut)<br>**Science**:<br>• **A&P:** There are four main stages of enquiry: Planning; Measuring & Observing; Recording & Presenting; Analysing & Evaluating (Y2 Spr)<br>• **A&P:** Scientists look for patterns in data to try to identify correlations (Y5 Spr)<br>• **A&P:** Set a hypothesis to test (Y2 Aut)<br>• **A&P:** Select most appropriate equipment to measure (the variables) that will give you the best chance of an accurate result (Y3 Spr)<br>• **A&P:** A dependent variable is what you measure; an independent variable is what you change; controlled variables are things that stay the same (Y3 Aut)<br>• **A&P:** Scientists must work out if the factor is the cause of the outcome in a correlation (Y5 Sum)<br>• **A&P:** Write an appropriate method (Y3 Aut)<br>• **A&P:** Draw diagram of the investigation (Y4 Sum)<br>• **M&O:** Anomalous results should be discarded and rerecorded (Y3 Sum)<br>• **M&O:** Data is repeatable if the same person repeats the investigation and gets the same results; data is reproducible if the investigation is repeated by a different person and the results are the same (Y3 Sum)<br>• **M&O:** Taking multiple readings allows you to see if your data is repeatable, helps identify outliers and allows a mean to be calculated (Y6 Sum)<br>• **R&P:** Design a table to collect data with the appropriate number of rows and columns and correct headings (Y3 Spr)<br>• **R&P:** Record numerical or descriptive observations in a table (Y1 Aut)<br>• **R&P:** Decide which graph is most appropriate for the enquiry (Y6 Aut)<br>• **A&E:** Draw conclusions (e.g. 'the greater the… , the greater the…') (Y3 Sum)<br>• **A&E:** Suggest ways to improve practical procedures to obtain more accurate measurements **(Y3 Sum)**<br>• **A&E:** Ask further questions that could be explored to extend findings (Y2 Spr)<br>**Using maps:**<br>• Simple (Google maps) map; satellite image (Google Earth); junior atlas; globe; photographs of places in plan and oblique view; OS maps; thematic maps | • Draw a basic map to scale (1 unit : 1, 2, 4, 5 or 10 units)<br>• Create questionnaires and surveys<br>• Locate places and features using 6-figure grid references<br>• Produce a detailed risk assessment | **KS3:**<br>• Plan and undertake complete investigations undertaken in contrasting locations<br>• Carry out fieldwork independently from the teacher<br>• Calculate distances on a map using a range of scales<br>• Recognise and select the most appropriate projection<br>• Draw accurate maps using a range of scales<br>• Use Geographical Information Systems (GIS) to view, analyse and interpret places and data<br>• Interpret contours as a representation of height |