**Topic Overview: Climate and Earth Resources**

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|  | Ref | Outcome | Achieved | ☺ |
| Emerging | E9ScCl1.1 | Know that carbon is used for variety of things on earth |  |  |
| E9ScCl1.2 | Know what pollution is and some of causes |  |  |
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| E9ScCl2.1 | Use a diagram to show how carbon is recycled in the environment and through living things. |  |  |
| E9ScCl2.2 | Know that methane and carbon dioxide are greenhouse gases. |  |  |
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| Developing | D9ScCl3.1 | Explain how recycling reduces the need to extract resources. |  |  |
| D9ScCl3.2 | Explain the effect global warming can have on the ice caps |  |  |
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| D9ScCl4.1 | Know that the Earth's atmosphere contains around 78% nitrogen, 21% oxygen, <1% carbon dioxide, plus small amounts of other gases. |  |  |
| D9ScCl4.2 | Know the overall effects of global warming |  |  |
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| Securing | S9ScCl5.1 | Describe how Most metals are found combined with other elements, as a compound, in ores. |  |  |
| S9ScCl5.2 | Describe how Scientists have evidence that global warming caused by human activity is causing changes in climate. |  |  |
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| S9ScCl6.1 | Explain why recycling of some materials is particularly important. |  |  |
| S9ScCl6.2 | Describe how global warming can impact on climate and local weather patterns. |  |  |
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| Mastering | M9ScCl7.1 | Describe how human activities affect the carbon cycle. |  |  |
| M9ScCl7.2 | Describe how Earth's resources are turned into useful materials or recycled. |  |  |
| M9ScCl8.1 | Justify the choice of extraction method for a metal, given data about reactivity. |  |  |
| M9ScCl8.2 | Suggest factors to take into account when deciding whether extraction of a metal is practical. |  |  |
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| M9ScCl9.1 | Evaluate the implications of a proposal to reduce carbon emissions |  |  |
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| M9ScCl9.2 | Evaluate claims that human activity is causing global warming or climate change. |  |  |

**Keywords**

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| **Global warming:** The gradual increase in surface temperature of the Earth. |
| **Fossil fuels:** Remains of dead organisms that are burned as fuels, releasing carbon dioxide. |
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| **Carbon sink:** Areas of vegetation, the ocean or the soil, which absorb and store carbon. |
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| **Greenhouse effect:** When energy from the sun is transferred to the thermal energy store of gases in Earth's atmosphere. |

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| **Natural resources:** Materials from the Earth which act as raw materials for making a variety of products. |
| **Mineral:** Naturally occurring metal or metal compound. |
| **Ore:** Naturally occurring rock containing sufficient minerals for extraction. |
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| **Extraction:** Separation of a metal from a metal compound. |
| **Recycling:** Processing a material so that it can be used again. |
| **Electrolysis:** Using electricity to split up a compound into its elements. |