**Year 9 SCIENCE: EARTH and SPACE**

**Student term Planner**

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| **Year Level:** | | | 9 | | Student checklist: 🗹 when you know… | |
| **Subject:** | | | Science | | Assessment due dates  The learning goals and success criteria for this term  Changes to routines e.g. excursions  When assessment practice lessons will occur (exemplars)  When revision lessons will occur | |
| **Term/Year:** | | | 3 / 2024 | |
| **Unit Title:** | | | Carbon Cycle | |
| **Assessment:** | | | Research Investigation | |
| **Key Resource:** | | | Stile | |
| **WK** | **Wk. Beg** | **Holidays or variations this week** | **Lesson 1** | **Lesson 2** | | **Lesson 3** |
| 1 | 8 Jul. 24 |  | **Earth’s Spheres**   * What are the Earth’s four spheres? * What are the key features of the lithosphere, hydrosphere, atmosphere and biosphere? * How do humans interact with each of the four spheres?   SC 1, 3, 5 | **Earth as a Closed System**   * Explore Earth as a closed system with limited resources. * Create a Terrarium   SC 2, 4 | | **Carbon Cycle**   * What is carbon and where is it found? * What is the carbon cycle? * How does the carbon cycle interact with each of the four spheres? * Why is the carbon cycle important?   SC 6, 7, 8, 9 |
| 2 | 15 Jul. 24 |  | **Photosynthesis**   * What is photosynthesis? * How does photosynthesis interact with the carbon cycle?   SC 10 | **Photosynthesis Investigation**   * Investigating the carbon produced during photosynthesis. * Stile: 3.3 Investigation: Photosynthesis   SC 10 | | **Respiration**   * What is respiration? * How does respiration interact with the carbon cycle? * Lime water pH demonstration   SC 11 |
| 3 | 22 Jul. 24 |  | **Greenhouse Effect**   * What is the natural greenhouse effect? * What causes the natural greenhouse effect?   SC 12, 13 | **Enhanced Greenhouse Effect**   * What is the enhanced greenhouse effect? * What is the difference between the natural and enhanced greenhouse effect?   SC 14, 15 | | **My Carbon Footprint**   * What is my carbon footprint? * How can I reduce my carbon footprint? * My carbon footprint VR- <https://www.youtube.com/watch?v=aCu9rZvXRLg>   SC 16 |
| 4 | 29 Jul. 24 |  | **Human Impact on the Carbon Cycle**   * How has the burning of carbon-based fossil fuels led to the enhanced greenhouse effect? * What are climate tipping points? * Is it too late to reverse human effects on the carbon cycle?   SC18 | **Biodiversity Loss**   * What is biodiversity and why is this important? * How is increased carbon in the atmosphere resulting in a loss of biodiversity? * What can we do to reduce this loss of biodiversity?   SC 17, 20 | | **Melting Ice**   * How is increased carbon in the atmosphere leading to an increase in the melting of ice caps? * What are the effects of melting ice and permafrost? * Is melting ice on land or in the sea worse for rising sea levels? * Stile: 2.4 Modelling Sea level rise   SC21 |
| 5 | 5 Aug. 24 | JET Planning Wed 7/8 | **Rising Sea Levels**   * How is increased carbon in the atmosphere leading to rising sea levels? * Will your house still be here in 100 years? * What can we do to counteract the effects of rising sea levels?   SC21 | **Ocean Acidification**   * How is increase carbon in the atmosphere causing ocean acidification? * What are the impacts of ocean acidification? * Dissolving shells prac   SC 17, 22 | | **Catch Up + Review**   * How does First Nations fire management practices lead to a reduction in the amount of fossil fuels burnt?   SC 19 |
| 6 | 12 Aug. 24 |  | **Renewable Energy**   * What renewable energy options are available to reduce the amount of carbon being released? * How do other countries utilise wind and solar energy?   SC 23 | **Renewable Energy**   * What renewable energy options are available to reduce the amount of carbon being released? * How do other countries utilise hydro and geothermal energy?   SC 24 | | **Carbon Storage**   * How is carbon naturally captured and stored? * What are current and future technologies that allow the capture and storage of carbon?   SC 24 |
| 7 | 19 Aug. 24 |  | **Assignment**   * Deconstructing assessment task | **Assignment**   * Predict what renewable energy source would best suit Australia’s climate/properties. | | **Assignment**   * Identify a country to use as a case study. |
| 8 | 26 Aug. 24 | Pupil Free Day Fri 30/9 | **Assignment**   * Conduct research. | **Assignment**   * Conduct research. | | **Assignment**   * Relate this country’s design to Australia. |
| 9 | 2 Sep. 24 |  | **Assignment**   * Create a pictorial diagram of your renewable energy idea. | **Assignment**   * Present this information in a suitable format. | | **Assignment**   * Present this information in a suitable format. |
| 10 | 9 Sep. 24 |  | **ASSESSMENT TASK DUE** | **End of Term Activities** | | **End of Term Activities** |