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Title: "Carbon Odyssey: Navigating Environmental Dynamics"

Objective: The primary goal of this curriculum is to introduce grade 6 students to the basic concept of carbon and foster a deep appreciation for the environment. Through scientific inquiry, critical thinking, and interactive projects, students will gain a nuanced understanding of carbon's role in ecosystems, climate, and sustainable living, fostering a sense of responsibility and environmental stewardship.

Module 1: Carbon Unleashed

• Lesson 1: Carbon Marvels

- Exploration of the diverse forms and properties of carbon.
- Critical thinking discussion on the significance of carbon in various fields such as chemistry, biology, and technology.

• Lesson 2: The Carbon Code

- Analysing the molecular structure of carbon compounds.
- Group activity: Building molecular models to understand the versatility of carbon.

Module 2: Carbon Cycles and Ecosystem Dynamics

• Lesson 3: Carbon in Ecosystems

- In-depth exploration of carbon cycles in terrestrial and aquatic ecosystems.
- Simulation activity: Modelling carbon flow through different trophic levels. (relating to feeding and nutrition)

• Lesson 4: Human Impact on Ecosystem Carbon

- Case studies: Investigating real-world scenarios of human impact on ecosystem carbon dynamics.

- Group discussions and presentations on sustainable practices.

Module 3: Climate, Carbon, and Global Impact

• Lesson 5: Carbon's Role in Climate

- Understanding the greenhouse effect and carbon's contribution to climate change.
- Interactive climate modelling: Simulating the impact of changing carbon levels on global temperatures.

• Lesson 6: Climate Mitigation Strategies

- Exploring global efforts to mitigate climate change.
- Research and presentation activity: Investigating innovative solutions for reducing carbon emissions.

Module 4: Sustainable Living and Environmental Citizenship

• Lesson 7: Personal Carbon Footprint Analysis

- In-depth exploration of individual and collective carbon footprints.
- Personal reflection and goal-setting for reducing carbon footprints.

• Lesson 8: Environmental Advocacy Project

- Group project: Designing and implementing an advocacy initiative promoting sustainable living practices.
- Presentation and reflection on the impact of the advocacy project.

Assessment:

- Continuous assessment through class discussions and participation.
- Critical thinking exercises and reflection journals.
- Evaluation of group projects and presentations.

By the end of this curriculum, grade 6 students should possess a comprehensive understanding of carbon's significance in ecosystems, climate, and human activities. The curriculum aims to instil a sense of responsibility and empower students to be

advocates for sustainable living and environmental stewardship in their communities and beyond.

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