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Title: "Carbon Dynamics: Nurturing Environmental Awareness"

Objective: The primary goal of this curriculum is to introduce grade 7 students to the basic concept of carbon and foster a profound appreciation for the environment. Through scientific exploration, critical thinking activities, and hands-on projects, students will gain a comprehensive understanding of carbon's role in ecosystems, climate, and human activities, fostering a sense of responsibility and environmental stewardship.

Module 1: The Carbon Universe

- **Lesson 1: Carbon Unveiled**

- Exploration of the atomic structure and properties of carbon.
- Critical thinking discussion on the significance of carbon in the natural world and human applications.

- **Lesson 2: The Carbon Story**

- Historical perspectives on humanity's evolving understanding of carbon.
- Group research project: Presentations on key milestones in carbon science.

Module 2: Carbon Cycles and Ecosystem Dynamics

- **Lesson 3: Carbon in Ecosystems**

- In-depth examination of carbon cycles within ecosystems.
- Scientific investigations: Analysing local ecosystems and their carbon dynamics.

- **Lesson 4: Human Impact on Ecosystem Carbon**

- Case studies: Investigating the effects of human activities on ecosystem carbon cycles.
- Group debates on potential solutions to mitigate human impact.

Module 3: Climate, Carbon, and Global Impact

- **Lesson 5: Carbon's Climate Connection**

- Understanding the role of carbon in the Earth's climate system.
- Climate modelling simulation: Predicting future climate scenarios based on varying carbon levels.

- **Lesson 6: Global Initiatives for Carbon Mitigation**

- Exploring international efforts to address carbon emissions and climate change.
- Collaborative research project: Analysing global initiatives and proposing innovative solutions.

Module 4: Sustainable Living and Environmental Advocacy

- **Lesson 7: Personal Carbon Footprint Analysis**

- In-depth examination of individual and collective carbon footprints.
- Personal reflection and goal-setting for sustainable living.

- **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 7 students should possess a thorough 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, preparing them to actively contribute to a more sustainable future.