SCIENCE NORTH SCIENCE NORD
SUDBURY, ONTARIO, CANADA

Climate Change Terminology	Grade 10 Science – Earth and Space Science

Lesson Plan

Cross Curricular	Computational Thinking
Safety Notes	N/A

Big Ideas

- Investigate appropriate terminology related to climate change.

Learning Goals

- Students will learn appropriate terminology related to climate change, including albedo, anthropogenic, atmosphere, cycles, hydrosphere and heat sinks.
- Students will learn about computational thinking.
- Students will create digital cue cards with computational thinking and coding.

Specific Expectations

- Use appropriate terminology related to climate change, including, but not limited to: albedo, anthropogenic, atmosphere, cycles, heat sinks, and hydrosphere.

Description

Students will learn appropriate terminology related to climate change, including, but not limited to: albedo, anthropogenic, atmosphere, cycles, heat sinks, and hydrosphere by coding digital cue cards.

Materials

- *Climate Change Terminology with Coding Teacher Copy* handout
- *Climate Change Terminology with Coding* handout
- *Climate Change Terminology with Coding Scratch Brainstorming* PowerPoint.
- *Concept Map Example* PowerPoint
- Internet
- Internet Accessible Devices such as Chromebooks, Computers, or Ipads

Accommodations/Modifications

Students have the opportunity to type, verbally record with speech-to-text software, and draw their answers.

Introduction

- Introduction: View refresher video for Computation Thinking: https://www.youtube.com/watch?v=mUXo-S7gzds
- After viewing the video, the educator will direct students, in pairs, to create a concept-map reviewing the concept of computational thinking on the *Climate Change Terminology with Coding* handout.
- Educators can show the *Concept Map Example* PowerPoint on the project.

Action

- Educators will direct students to use a variety of sources, such as textbooks and the internet, to research and define the following terms, and relate the terms to climate change in the **Climate Change Terminology** section of the *Climate Change Terminology with Coding* handout.
- Once a student completes the **Climate Change Terminology** section of the *Climate Change Terminology with Coding* handout, they will find a partner that is also finished to review each of the terms and how they relate to climate change.
- Educators will review the **Climate Change Terminology** with the *Climate Change Terminology with Coding Teacher Copy* handout, asking students to volunteer their results and ideas.
- Students will view and engage with Scratch program, *Climate Change Carbon Cycle Terminology Example,* https://scratch.mit.edu/projects/279144113/
- Educators will direct students to brainstorm Scratch coding methods in the **Scratch Brainstorming** section of the *Climate Change Terminology with Coding* handout to solve the pattern that will efficiently include the remaining terminology as digital cue cards: Albedo, Anthropogenic, Atmosphere, Heat Sinks, Hydrosphere.
- Students will use computational thinking skills to remix the *Climate Change Carbon Cycle Terminology Example,* https://scratch.mit.edu/projects/279144113/ , with the purpose of coding the remaining terminology into the program efficiently as digital cue cards.
- Educators may provide students with ideas from the *Climate Change Terminology with Coding Scratch Brainstorming* PowerPoint.

Consolidation/Extension

- Educators will share the *Climate Change Terminology* Scratch program, https://scratch.mit.edu/projects/278531442/, with the students to provide an example on how to efficiently code all of the required climate change terminology into the Scratch program.
- Students will compare and contrast their remixed code and the *Climate Change Terminology* Scratch program, https://scratch.mit.edu/projects/278531442/.