Unit 2 Technology-Computer Science

Content Area: **Technology**
Course(s): **Technology 2**
Time Period: **Marking Period 2**
Length: **December/January**
Status: **Published**

Essential Questions

How can we code our robot to navigate a maze?

Big Ideas

Students will define an algorithm as a sequence of defined steps or instructions to be followed and identify how algorithms relate to computer programming and allow for automation.

Enduring Understandings

8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.

8.1.2.AP.2: Model the way programs store and manipulate data by using numbers or other symbols to represent information.

8.1.2.AP.6: Debug errors in an algorithm or program that includes sequences and simple loops.

8.2.2.ED.2: Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.

8.2.2.ED.4: Identify constraints and their role in the engineering design process.

8.2.2.ITH.5: Design a solution to a problem affecting the community in a collaborative team and explain the intended impact of the solution.

8.2.2.ETW.1: Classify products as resulting from nature or produced as a result of technology. • 8.2.2.ETW.2: Identify the natural resources needed to create a product.

Activities and Assessments

- Computational thinking: Algorithms and Directions

- Computations thinking: Loops and Conditionals
- It's Natural project

Resources:

Learning.com

Google Slides

Code Monkey

Climate Change

8.2.2.ED.4: Identify constraints and their role in the engineering design process.

- Activity: In this lesson, students will complete and utilize computational thinking as they complete activities on learning.com with Algorithms and Directions

Career Readiness

9.4.2.TL.1: Identify the basic features of a digital tool and explain the purpose of the tool (e.g., 8.2.2.ED.1).
9.4.2.TL.2: Create a document using a word processing application.
9.4.2.TL.3: Enter information into a spreadsheet and sort the information.
9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content.
9.4.2.TL.5: Describe the difference between real and virtual experiences.
9.4.2.TL.6: Illustrate and communicate ideas and stories using multiple digital tools (e.g., SL.2.5.).

- Activity: Graphing weather
  The students must observe the weather for a few consecutive days, create a tally chart, graph, and answer questions about their data.