Computer Science Fundamentals
3rd grade

Programming Language:
Scratch

Software used in Course:
Scratch
Google Chrome
Safari

Supported Devices
Mac
Windows
Chromebook
iPad (no audio)

Instructional Models:
Direct Instruction
Instructional Scaffolding
Use of Learning Objectives
Relevant Vocabulary
Bloom's Taxonomy or Questions
Inquiry-Based Instruction
Project-Based Instruction
Cooperative Learning
Independent Study

Supported Learning Models:
Classroom
Blended
Hybrid
Synchronous
Asynchronous

Standards Aligned:
National and State Computer
Science Standards

Reinforces:
Math
ELA
Social-Emotional Learning

Course Description

In this course, students review internet safety practices and develop their computational thinking skills while using Scratch, a block coding language. During Unplugged and Coding lessons, students broaden their understanding of variables, loops, and conditionals through coding and debugging exercises. Students discuss digital etiquette, attribution, and a wide range of career paths in STEM Career and Digital Citizenship lessons. By the end of this course, students will have an understanding of real-world applications of technology and fundamental programming concepts.

Learning Objectives

Each lesson plan is designed to enable students to achieve specific learning outcomes related to course aligned computer science competencies. For example, at the end of this course students will be able to:

- Identify variables, conditionals, and loops in code and predict the output of functions.
- Create a program with an intended purpose by utilizing Scratch blocks.
- Describe the purpose and benefits of online communities.
- Summarize how students can use a critical lens to judge the trustworthiness of digital media.