



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

Explore fundamental computer science skills. Build projects and solve debugging challenges using Scratch, a block coding language. Develop computational thinking and analytical skills by identifying variables, loops, and conditionals. Unplugged and Digital Citizenship lessons discuss Internet safety, real-world technology issues, and a variety of STEM careers. At the end of this course, students will have gained the skills to independently code projects and expand upon their understanding of block coding.

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 and loops in code and predict the output of functions.
- Demonstrate knowledge of how conditionals function by developing and identifying examples.
- Apply knowledge of familiar Scratch blocks to create a program that serves an intended purpose.
- Summarize how variables work in code.
- Describe the purpose and benefits of online communities.
- Summarize how they can use a critical lens to judge the trustworthiness of digital media.