

Wilson Area School District Planned Course Guide

Title of planned course: Technology

Grade Level: 5

Course Description: Students will learn computational thinking, problem solving, programming concepts, and digital citizenship through coding.

***Please note:** Click on the **blue links** throughout the document to access the suggested templates and links.

Curriculum Scope & Sequence

Title of planned course: Technology

Grade Level: 5

Unit: Basic Coding

Time Frame: 8-12 lessons

Essential content/objectives: At end of the unit, students will be able to:

- Gain understanding of the need for precision in coding.
- Learn how to recognize a bug and how to debug the malfunctioning code.
- Order movement commands as sequential steps in a program.
- Modify an existing program to solve errors.
- Break down a long sequence of instructions into the largest repeatable sequence.
- Predict where a program will fail.
- Reflect on the debugging process in an age-appropriate way.
- Create a program to complete an image using sequential steps.
- Break complex shapes into simple parts.
- Identify the benefits of using a loop structure instead of manual repetition.
- Differentiate between commands that need to be repeated in loops and commands that should be used on their own.
- Break complex tasks into smaller repeatable sections.
- Recognize large repeated patterns as made from smaller repeated patterns.
- Describe when a loop, nested loop, or no loop is needed.
- Recognize the difference between using a loop and a nested loop.
- Break apart code into the largest repeatable sequences using both loops and nested loops.
- Define circumstances when certain parts of a program should run and when they shouldn't.
- Determine whether a conditional is met based on criteria.
- Traverse a program and predict the outcome, given a set of input.
- Use functions to simplify complex programs.
- Use pre-determined functions to complete commonly repeated tasks.

Core Activities: Students will complete/participate in the following:

- [Code.org: Ramp up to Course F](#)

Instructional Methods:

- Code.org activities

Assessments:

- Code.org activities
- Teacher observation

Curriculum Scope & Sequence

Title of planned course: Technology

Grade Level: 5

Unit: Advanced Coding

Time Frame: 13-16 lessons

Essential content/objectives: At end of the unit, students will be able to:

- Identify variables and determine their values.
- Define and call variables in the context of real-life activities.
- Create situations which require the use of variables.
- Assign values to existing variables.
- Utilize variables in place of repetitive values inside of a program.
- Identify areas where they can use variables to modify quantities during runtime.
- Examine code to find places where variables can be substituted for specific values.
- Use variables to change values inside of a loop.
- Determine starting value, stopping value, and stepping value for a `for` loop.
- Recognize when to use a `for` loop and when to use other loops such as `repeat` and `while` loops.
- Use `for` loops to change loop several times with different values.
- Define “sprite” as a character or object on the screen that can be moved and changed.
- Create a new sprite and choose its appearance.
- Identify actions that correlate to input events.
- Create an animated, interactive game using sequence and events.
- Learn to plan in advance for an ongoing assignment.
- Be able to explain how system limitations can affect project design.
- Describe how compromise can help keep a project on track and inspire creativity.
- Shape ideas into reasonable goals and plans.
- Recognize any potential obstacles such as time constraints or bugs.
- Use the planned design as a blueprint for creation.
- Overcome obstacles such as time constraints or bugs.
- Clearly indicate where each criteria point from the rubric is satisfied in the code for the finished culminating project.
- Articulate the design process and how it helped shape the finished culminating project.

Core Activities: Students will complete/participate in the following:

- [Code.org: Course F](#)

Instructional Methods:

- Code.org activities

Assessments:

- Code.org activities
- Teacher observation

Curriculum Scope & Sequence

Title of planned course: Technology

Grade Level: 5

Unit: Internet Applications and Safety

Time Frame: 2 lessons

Essential content/objectives: At end of the unit, students will be able to:

- Empathize with those who have received mean and hurtful messages.
- Judge what it means to cross the line from harmless to harmful communication online.
- Generate solutions for dealing with cyberbullying.
- Understand the Acceptable Use Policy

Core Activities: Students will complete/participate in the following:

- Read and discuss the Acceptable Use Policy
- [Code.org: Level F Lesson 13 \(cyberbullying\)](#)

Instructional Methods:

- Code.org activities

Assessments:

- Code.org activities
- Teacher observation