March grade 2

Content Area: **Technology**
Course(s):
Time Period: **March**
Length: **4-5 Weeks**
Status: **Published**

Unit Overview

Student continue to develop coding and debugging skills to write programs.

Enduring Understandings

We can create programming by using coding.

Essential Questions

How do we create programming using coding?

Instructional Strategies & Learning Activities

Objective: Intro to Coding - ONLINE activites code.org (Course C)
The student will be able to begin to learn and understand basic concepts about coding creating code in a "blockly" language which writes Javascript 'under the hood'.

Differentiation:
Self-paced

Assessment:
Teacher dashboard reports

Objective: Leprechaun Piggy Banks (Irish Music and Dance too!)
Students will use "Magic" coins on top of the pot of gold to add the correct amount of money into each of the 6 leprechaun's piggy banks.
Assist as needed, print.

Differentiation:
Students may choose to add additional St. Patrick's Day stickers to project.

Assessment:
Correct amounts on printed project.

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Procedures:
1. Intro Lesson: Define "Program" as coding in simplest form > "List of instructions to complete a task"
2. Continue: Students progress at own rate
3. NOTE: Recent re-teach/demo activities: Show students how "Collect" block functions - In addition to "moving" and "turning" direction, characters need to sometimes "collect" objects as shown on the project canvas.
4. Show students how to replay help videos (as needed).
5. Remind: Debugging Activities - The "gray blocks" are made of "concrete" and cannot be deleted. Fix the code while using these gray blocks. Discuss how IT professionals must be detail-oriented to troubleshoot and resolve problems quickly and independently (21st century skill).

Differentiation:
Self-paced

Assessment:
Teacher dashboard reports

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Integration of Career Readiness, Life Literacies and Key Skills

Students will learn about careers in coding.

9.1.2.CAP	Career Awareness and Planning
	Different types of jobs require different knowledge and skills.
9.4.2.CI.1	Demonstrate openness to new ideas and perspectives (e.g., 1.1.2.CR1a, 2.1.2.EH.1, 6.1.2.CivicsCM.2).
9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.
9.4.2.CI.2	Demonstrate originality and inventiveness in work (e.g., 1.3A.2CR1a).
	Critical thinkers must first identify a problem then develop a plan to address it to effectively solve the problem.
9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
	Individuals should practice safe behaviors when using the Internet.
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).

Technology and Design Integration

See activities and standards below.

CS	Computing Systems
	Individuals use computing devices to perform a variety of tasks accurately and quickly. Computing devices interpret and follow the instructions they are given literally.
8.1.2.CS.1	Select and operate computing devices that perform a variety of tasks accurately and quickly based on user needs and preferences.
	A computing system is composed of software and hardware.
8.1.2.CS.2	Explain the functions of common software and hardware components of computing systems.
	Describing a problem is the first step toward finding a solution when computing systems do not work as expected.
8.1.2.CS.3	Describe basic hardware and software problems using accurate terminology.
AP	Algorithms & Programming
	Individuals develop and follow directions as part of daily life. A sequence of steps can be expressed as an algorithm that a computer can process.
8.1.2.AP.1	Model daily processes by creating and following algorithms to complete tasks.
	Real world information can be stored and manipulated in programs as data (e.g., numbers, words, colors, images).
8.1.2.AP.2	Model the way programs store and manipulate data by using numbers or other symbols to represent information.
	Computers follow precise sequences of steps that automate tasks.
8.1.2.AP.3	Create programs with sequences and simple loops to accomplish tasks.
	Complex tasks can be broken down into simpler instructions, some of which can be broken down even further.
8.1.2.AP.5	Describe a program's sequence of events, goals, and expected outcomes.
8.1.2.AP.6	Debug errors in an algorithm or program that includes sequences and simple loops.

Interdisciplinary Connections

LA.RI.2.1	Ask and answer such questions as who, what, where, when, why, and how to demonstrate understanding of key details in a text.
LA.RI.2.2	Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs within the text.
LA.RI.2.4	Determine the meaning of words and phrases in a text relevant to a grade 2 topic or subject area.
LA.RI.2.5	Know and use various text features (e.g., captions, bold print, subheadings, glossaries, indexes, electronic menus, icons) to locate key facts or information in a text efficiently.
LA.RF.2.3	Know and apply grade-level phonics and word analysis skills in decoding words.
LA.W.2.6	With guidance and support from adults, use a variety of digital tools to produce and

	publish writing, including in collaboration with peers.
LA.SL.2.1	Participate in collaborative conversations with diverse partners about grade 2 topics and texts with peers and adults in small and larger groups.
LA.L.2.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

Differentiation

- Understand that gifted students, just like all students, come to school to learn and be challenged.
- Pre-assess your students. Find out their areas of strength as well as those areas you may need to address before students move on.
- Consider grouping gifted students together for at least part of the school day.
- Plan for differentiation. Consider pre-assessments, extension activities, and compacting the curriculum.
- Use phrases like "You've shown you don't need more practice" or "You need more practice" instead of words like "qualify" or "eligible" when referring to extension work.
- Encourage high-ability students to take on challenges. Because they're often used to getting good grades, gifted students may be risk averse.

- **Definitions of Differentiation Components**:

    - Content – the specific information that is to be taught in the lesson/unit/course of instruction.
    - Process – how the student will acquire the content information.
    - Product – how the student will demonstrate understanding of the content.
    - Learning Environment – the environment where learning is taking place including physical location and/or student grouping

Differentiation occurring in this unit:

When differeniation applies, it is listed in the sections above.

Modifications & Accommodations

Refer to QSAC EXCEL SMALL SPED ACCOMMOCATIONS spreadsheet in this discipline.

Modifications and Accommodations used in this unit:

IEP and 504 accommodations will be utilized.

Benchmark Assessments

Benchmark Assessments are given periodically (e.g., at the end of every quarter or as frequently as once per

month) throughout a school year to establish baseline achievement data and measure progress toward a standard or set of academic standards and goals.

Schoolwide Benchmark assessments:

Aimsweb benchmarks 3X a year

Linkit Benchmarks 3X a year

DRA

Additional Benchmarks used in this unit:

Teacher made assessments to measure growth.

Formative Assessments

Assessment allows both instructor and student to monitor progress towards achieving learning objectives, and can be approached in a variety of ways. **Formative assessment** refers to tools that identify misconceptions, struggles, and learning gaps along the way and assess how to close those gaps. It includes effective tools for helping to shape learning, and can even bolster students' abilities to take ownership of their learning when they understand that the goal is to improve learning, not apply final marks (Trumbull and Lash, 2013). It can include students assessing themselves, peers, or even the instructor, through writing, quizzes, conversation, and more. In short, formative assessment occurs throughout a class or course, and seeks to improve student achievement of learning objectives through approaches that can support specific student needs (Theal and Franklin, 2010, p. 151).

Formative Assessments used in this unit:

Discussion

Teacher observation

projects

Summative Assessments

summative assessments evaluate student learning, knowledge, proficiency, or success at the conclusion of an instructional period, like a unit, course, or program. Summative assessments are almost always formally graded and often heavily weighted (though they do not need to be). Summative assessment can be used to great effect in conjunction and alignment with formative assessment, and instructors can consider a variety of ways to combine these approaches.

Summative assessments for this unit:

Final projects

See assessment listed above.

Instructional Materials

Materials as need for projects.

Standards

See Technology Standards listed above.