Dec. Gr. 5 Technology

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

Unit Overview

Students will continue to learn coding through Code.org and complete the Species on the Edge project.

Enduring Understandings

Coding is the language computers use to create programming.

Essential Questions

How do we write code?

Instructional Strategies & Learning Activities

Objective: Hour of Code: code.org (Students Choose from Activities available this week)
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'.***Sequence, Condition, Loop***

SEQUENCE, LOOPS, CONDITIONS

Differentiation:
Self-paced

Assessment:
Teacher dashboard reports

Objective: **Species on the Edge Art & Essay Contest (DAY 3)**
The student will be able to write the Essay for the Species on the Edge contest during Technology class while creating the Art (drawing) in their Art class.

Differentiation:
Students can create essay using Word or Google Doc - template created in class can be applied to either application.

Assessment:

Rubric

Integration of Career Readiness, Life Literacies and Key Skills

9.2.5.CAP	Career Awareness and Planning
9.4.8.CI	Creativity and Innovation
	An individual's passions, aptitude and skills can affect his/her employment and earning potential.
9.2.5.CAP.1	Evaluate personal likes and dislikes and identify careers that might be suited to personal likes.
9.2.5.CAP.2	Identify how you might like to earn an income.
9.2.5.CAP.3	Identify qualifications needed to pursue traditional and non-traditional careers and occupations.
9.4.8.CI.4	Explore the role of creativity and innovation in career pathways and industries.
9.2.5.CAP.4	Explain the reasons why some jobs and careers require specific training, skills, and certification (e.g., life guards, child care, medicine, education) and examples of these requirements.
9.4.8.CT	Critical Thinking and Problem-solving
9.4.8.CT.2	Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1).
9.4.8.CT.3	Compare past problem-solving solutions to local, national, or global issues and analyze the factors that led to a positive or negative outcome.
9.4.8.DC.5	Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure.
9.4.8.IML.7	Use information from a variety of sources, contexts, disciplines, and cultures for a specific purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a, 6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).
9.4.8.IML.8	Apply deliberate and thoughtful search strategies to access high-quality information on climate change (e.g., 1.1.8.C1b).
9.4.8.IML.9	Distinguish between ethical and unethical uses of information and media (e.g., 1.5.8.CR3b, 8.2.8.EC.2).

Technology and Design Integration

See activities above and standards below.

8.1.5.CS.2	Model how computer software and hardware work together as a system to accomplish tasks.
8.1.5.CS.3	Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.
AP	Algorithms & Programming
8.1.5.AP.1	Compare and refine multiple algorithms for the same task and determine which is the most appropriate.

8.1.5.AP.2	Create programs that use clearly named variables to store and modify data.
8.1.5.AP.3	Create programs that include sequences, events, loops, and conditionals.
8.1.5.AP.4	Break down problems into smaller, manageable sub-problems to facilitate program development.
8.1.5.AP.5	Modify, remix, or incorporate pieces of existing programs into one's own work to add additional features or create a new program.
8.1.5.AP.6	Develop programs using an iterative process, implement the program design, and test the program to ensure it works as intended.

Interdisciplinary Connections

LA.RI.5.4	Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.
LA.W.5.2.D	Use precise language and domain-specific vocabulary to inform about or explain the topic.
LA.W.5.6	With some guidance and support from adults and peers, use technology, including the Internet, to produce and publish writing as well as to interact and collaborate with others; demonstrate sufficient command of keyboarding skills to type a minimum of two pages in a single sitting.
LA.W.5.7	Conduct short research projects that use several sources to build knowledge through investigation of different perspectives of a topic.
LA.SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly.
LA.SL.5.5	Include multimedia components (e.g., graphics, sound) and visual displays in presentations when appropriate to enhance the development of main ideas or themes.
LA.L.5.1	Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.
LA.L.5.2	Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.
LA.L.5.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
LA.L.5.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 5 reading and content, choosing flexibly from a range of strategies.

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:

Differentiation will be offered as listed in the above activities.

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:

Projects

Assessments listed above

Instructional Materials

Materials as needed for projects

Standards

See Tech and Life Literacies above.

MA.4.MD.C.5b	An angle that turns through □ one-degree angles is said to have an angle measure of □ degrees.
MA.4.G.A.1	Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Identify these in two-dimensional figures.
MA.4.G.A.2	Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
MA.4.G.A.3	Recognize a line of symmetry for a two-dimensional figure as a line across the figure such that the figure can be folded along the line into matching parts. Identify line-symmetric figures and draw lines of symmetry.