Carlstadt-East Rutherford Regional School District
CTE Department
Webpage Design I Curriculum

Course Description
Webpage Design I is a half year course that meets on a rotating basis for three (3) 55-minute blocks and one (1) 40-minute block for every five (5) day cycle.
Webpage Design I is designed to expose students to the growing field of computer programming while cultivating creativity, communication, problem solving, and logic. Students will create and run programs using basic coding concepts and create interactive games and stories. Students will be equipped with coding fundamentals to undertake additional programming courses.

Course Overview and Pacing Guide

Unit	Topic	Time Frame
1	Sequencing	2 weeks
2	Loops	2 weeks
3	Conditionals	5 weeks
4	Functions	3 weeks
5	Variables	3 weeks
6	For Loops	2 weeks
7	Sprites & Events	2 weeks

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Computer Science and Design Thinking (Standard 8)	
Core Idea	Performance Expectation
The design and use of computing technologies and artifacts can positively or negatively affect equitable access to information and opportunities.	8.1.12.IC.1: Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices. 8.1.12.IC.3: Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.	8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
Individuals evaluate and select algorithms based on performance, reusability, and ease of implementation.	8.1.12.AP.1: Design algorithms to solve computational problems using a combination of original and existing algorithms.
Complex programs are developed, tested, and analyzed by teams drawing on the members' diverse strengths using a variety of resources, libraries, and tools.	8.1.12.AP.7: Collaboratively design and develop programs and artifacts for broad audiences by incorporating feedback from users. 8.1.12.AP.8: Evaluate and refine computational artifacts to make them more usable and accessible.
Decisions to develop new technology are driven by societal and cultural opinions and demands that differ from culture to culture.	8.2.12.ITH.1: Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
Changes caused by the introduction and use of a new technology can range from gradual to rapid and from subtle to obvious, and can change over time. These changes may vary from society to society as a result of differences in a society's economy, politics, and culture.	8.2.12.ITH.3: Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society's economy, politics, and culture.
The ability to ethically integrate new technologies requires deciding whether to introduce a technology, taking into consideration local resources and the role of culture in acceptance. Consequences of technological use may be different for different groups of people and may change over time. Since technological decisions can have ethical implications, it is essential that individuals analyze issues by gathering evidence from	8.2.12.EC.3: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.

multiple perspectives and conceiving of alternative possibilities before proposing solutions.	
Career Readiness, Life Literacies, and Key Skills (Standard 9)	
Core Idea	Performance Expectation
There are strategies to improve one's professional value and marketability.	9.2.12.CAP.3: Investigate how continuing education contributes to one's career and personal growth.
With a growth mindset, failure is an important part of success.	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
Innovative ideas or innovation can lead to career opportunities.	9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities. 9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition.
Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
Laws govern the use of intellectual property and there are legal consequences to utilizing or sharing another's original works without permission or appropriate credit.	9.4.12.DC.1: Explain the beneficial and harmful effects that intellectual property laws can have on the creation and sharing of content.
Collaborative digital tools can be used to access, record and share different viewpoints and to collect and tabulate the views of groups of people.	9.4.12.TL.3: Analyze the effectiveness of the process and quality of collaborative environments. 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.
Interdisciplinary Connections	
CCSS.ELA-LITERACY.RST.11-12.3 Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text. CCSS.ELA-LITERACY.RST.11-12.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics. CCSS.ELA-LITERACY.RST.11-12.7 Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a question or solve a problem. CCSS.MATH.CONTENT.HSN.Q.A.1 Reason quantitatively and use units to understand problems and persevere in solving them.	

Modifications, Accommodations, and Differentiation			
English Language Learners	**IEP / 504**	**At Risk Students**	**Gifted and Talented**
Peer tutoring Scaffolding Word walls Think alouds Read alouds Cognates Sentence/paragraph frames Annotation guides Graphic organizers Highlighted vocabulary Word banks Visual prompts/aides Modeling of techniques Modified assignments Bilingual dictionaries/translation Extended time	Teacher tutoring Peer tutoring Study guides Notes/summaries Graphic organizers Highlighted vocabulary Visual prompts/aides Multimedia Assistive technology Modeling of techniques Modified assignments Timelines Extended time Parent communication	Teacher tutoring Peer tutoring Study guides Notes/summaries Graphic organizers Highlighted vocabulary Visual prompts/aides Modeling of techniques Modified assignments Timelines Extended time Parent communication	Challenging assignments Enrichment activities Tiered activities Independent projects Collaborative teamwork Advanced discussion techniques Critical/Analytical thinking tasks Self-directed activities

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Unit Name	**Sequencing**	2 weeks
Instructional Materials and Resources	www.code.org, Chromebooks, Video Tutorials/Demonstrations, Classwork Exercises, Software Applications, Internet Research and Activities	

Disciplinary Concept: Sequencing	
This unit introduces block-based programming to help students learn about sequence and concepts and develop programming skills on a computer platform without having to worry about perfecting syntax.	
Core Idea	**Performance Expectation (Standard)**
Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.	8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
Individuals evaluate and select algorithms based on performance, reusability, and ease of implementation.	8.1.12.AP.1: Design algorithms to solve computational problems using a combination of original and existing algorithms.
Complex programs are developed, tested, and analyzed by teams drawing on the members' diverse strengths using a variety of resources, libraries, and tools.	8.1.12.AP.7: Collaboratively design and develop programs and artifacts for broad audiences by incorporating feedback from users. 8.1.12.AP.8: Evaluate and refine computational artifacts to make them more usable and accessible.
With a growth mindset, failure is an important part of success.	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.

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Student Learning Objectives (Knowledge and Skills)	Suggested Tasks/Activities	Evidence of Learning (Assessments)
Identify and locate bugs in a program. Translate movements into a series of commands.	Lesson: Programming with Angry Birds	Classroom Assignments and Activities, Programming Labs,Quiz
Modify an existing program to solve errors. Predict where a program will fail. Reflect on the debugging process.	Lesson: Debugging in Maze	Classroom Assignments and Activities, Programming Labs,Quiz
Develop problem solving and critical thinking skills by reviewing debugging practices. Order movement commands as sequential steps in a program. Represent an algorithm as a computer program.	Lesson: Collecting Treasure with Laurel	Classroom Assignments and Activities, Programming Labs,Quiz
Break complex shapes into simple parts. Create a program to complete an image using sequential steps.	Lesson: Creating Art with Code	Classroom Assignments and Activities, Programming Labs,Quiz

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Unit Name	**Loops**	2 weeks
Instructional Materials and Resources	www.code.org, Chromebooks, Video Tutorials/Demonstrations, Classwork Exercises, Software Applications, Internet Research and Activities	

Disciplinary Concept: Loops	
This unit introduces loops and how to implement them. Students will learn to add instructions to existing loops, gather repeated code into loops, recognize patterns that need to be looped, and solve problems with various approaches.	
Core Idea	**Performance Expectation (Standard)**
Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.	8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
Individuals evaluate and select algorithms based on performance, reusability, and ease of implementation.	8.1.12.AP.1: Design algorithms to solve computational problems using a combination of original and existing algorithms.
Complex programs are developed, tested, and analyzed by teams drawing on the members' diverse strengths using a variety of resources, libraries, and tools.	8.1.12.AP.7: Collaboratively design and develop programs and artifacts for broad audiences by incorporating feedback from users. 8.1.12.AP.8: Evaluate and refine computational artifacts to make them more usable and accessible.
With a growth mindset, failure is an important part of success.	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.

Student Learning Objectives (Knowledge and Skills)	Suggested Tasks/Activities	Evidence of Learning (Assessments)
Break down a long sequence of instructions into the largest repeatable sequence. Employ a combination of sequential and looped commands to reach the end of a maze. Identify the benefits of using a loop structure instead of manual repetition.	Lesson: Loops	Classroom Assignments and Activities, Programming Labs,Quiz
Break complex tasks into smaller repeatable sections. Identify the benefits of using a loop structure instead of manual repetition. Recognize large repeated patterns as made from smaller repeated patterns.	Lesson: Nested Loops in Maze	Classroom Assignments and Activities, Programming Labs,Quiz
Break apart code into the largest repeatable sequences using both loops and nested loops. Describe when a loop, nested loop, or no loop is needed. Recognize the difference between using a loop and a nested loop.	Lesson: Snowflakes	Classroom Assignments and Activities, Programming Labs,Quiz
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.	Lesson: For Loops with Bee	Classroom Assignments and Activities, Programming Labs,Quiz
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.	Lesson: For Loops with Artist	Classroom Assignments and Activities, Programming Labs,Quiz

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Unit Name	**Conditionals**	5 weeks
Instructional Materials and Resources	www.code.org, Chromebooks, Video Tutorials/Demonstrations, Classwork Exercises, Software Applications, Internet Research and Activities	

Disciplinary Concept: Conditionals	
This unit introduces conditionals, building on knowledge of loops, and paring the two concepts together.	
Core Idea	**Performance Expectation (Standard)**
Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.	8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
Individuals evaluate and select algorithms based on performance, reusability, and ease of implementation.	8.1.12.AP.1: Design algorithms to solve computational problems using a combination of original and existing algorithms.
Complex programs are developed, tested, and analyzed by teams drawing on the members' diverse strengths using a variety of resources, libraries, and tools.	8.1.12.AP.7: Collaboratively design and develop programs and artifacts for broad audiences by incorporating feedback from users. 8.1.12.AP.8: Evaluate and refine computational artifacts to make them more usable and accessible.
With a growth mindset, failure is an important part of success.	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.

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Student Learning Objectives (Knowledge and Skills)	Suggested Tasks/Activities	Evidence of Learning (Assessments)
Define circumstances when certain parts of a program should run and when they shouldn't. Determine whether a conditional is met based on criteria.	Lesson: Looking Ahead with Minecraft	Classroom Assignments and Activities, Programming Labs,Quiz
Solve puzzles using a combination of looped sequences and conditionals. Translate spoken language conditional statements into a program.	Lesson: If/Else	Classroom Assignments and Activities, Programming Labs,Quiz
Distinguish between loops that repeat a fixed number of times and loops that repeat as long as a condition is true. Use a while loop to create programs that can solve problems with unknown values.	Lesson: While Loops	Classroom Assignments and Activities, Programming Labs,Quiz
Define circumstances when certain parts of a program should run and when they shouldn't. Determine whether a conditional is met based on criteria.	Lesson: Conditionals in Minecraft	Classroom Assignments and Activities, Programming Labs,Quiz
Build programs with the understanding of multiple strategies to implement conditionals. Translate spoken language conditional statements and loops into a program.	Lesson: Until Loops	Classroom Assignments and Activities, Programming Labs,Quiz
Nest conditionals to analyze multiple value conditions using if, else if, else logic. Pair a loop and conditional statement together.	Lesson: Harvesting with Conditionals	Classroom Assignments and Activities, Programming Labs,Quiz

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Unit Name	**Functions**	3 weeks
Instructional Materials and Resources	www.code.org, Chromebooks, Video Tutorials/Demonstrations, Classwork Exercises, Software Applications, Internet Research and Activities	

Disciplinary Concept: Functions	
This unit introduces functions in different environments to help students discover the versatility of programming by recognizing reusable patterns and incorporating named blocks to call pre-defined functions.	
Core Idea	**Performance Expectation (Standard)**
Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.	8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
Individuals evaluate and select algorithms based on performance, reusability, and ease of implementation.	8.1.12.AP.1: Design algorithms to solve computational problems using a combination of original and existing algorithms.
Complex programs are developed, tested, and analyzed by teams drawing on the members' diverse strengths using a variety of resources, libraries, and tools.	8.1.12.AP.7: Collaboratively design and develop programs and artifacts for broad audiences by incorporating feedback from users. 8.1.12.AP.8: Evaluate and refine computational artifacts to make them more usable and accessible.
With a growth mindset, failure is an important part of success.	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.

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Student Learning Objectives (Knowledge and Skills)	Suggested Tasks/Activities	Evidence of Learning (Assessments)
Use functions to simplify complex programs. Use pre-determined functions to complete commonly repeated tasks.	Lesson: Functions in Minecraft	Classroom Assignments and Activities, Programming Labs,Quiz
Recognize when a function could help to simplify a program. Use pre-determined functions to complete commonly repeated tasks.	Lesson: Functions with Harvester	Classroom Assignments and Activities, Programming Labs,Quiz
Categorize and generalize code into useful functions. Recognize when a function could help to simplify a program.	Lesson: Functions with Artist	Classroom Assignments and Activities, Programming Labs,Quiz

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Unit Name	**Variables**	3 weeks
Instructional Materials and Resources	www.code.org, Chromebooks, Video Tutorials/Demonstrations, Classwork Exercises, Software Applications, Internet Research and Activities	

Disciplinary Concept: Variables	
This unit introduces variables to store and modify data.	
Core Idea	**Performance Expectation (Standard)**
Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.	8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
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Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.

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Student Learning Objectives (Knowledge and Skills)	Suggested Tasks/Activities	Evidence of Learning (Assessments)
Actions Use variables to hold words and phrases. Use variables in conjunction with prompts.	Lesson: Texts and Prompts	Classroom Assignments and Activities, Programming Labs,Quiz
Create a clicker game in Sprite Lab where sprites can be removed to score points Create a variable that stores information and changes over time.	Lesson: Counting with Variables	Classroom Assignments and Activities, Programming Labs,Quiz
Assign values to existing variables. Use variables to change values inside of a loop. Utilize variables in place of repetitive values inside of a program.	Lesson: Using Variables with Artist	Classroom Assignments and Activities, Programming Labs,Quiz
Examine code to find places where variables can be substituted for specific values. Identify areas where they can use variables to modify quantities during runtime.	Lesson: Variables with Bee	Classroom Assignments and Activities, Programming Labs,Quiz

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Unit Name	**For Loops**	2 weeks
Instructional Materials and Resources	www.code.org, Chromebooks, Video Tutorials/Demonstrations, Classwork Exercises, Software Applications, Internet Research and Activities	

Disciplinary Concept: For Loops	
This unit introduces the widely-used for loops to enhance the learning of other important concepts such as variables and parameters.	
Core Idea	**Performance Expectation (Standard)**
Individuals select digital tools and design automated processes to collect, transform, generalize, simplify, and present large data sets in different ways to influence how other people interpret and understand the underlying information.	8.1.12.DA.1: Create interactive data visualizations using software tools to help others better understand real world phenomena, including climate change.
Individuals evaluate and select algorithms based on performance, reusability, and ease of implementation.	8.1.12.AP.1: Design algorithms to solve computational problems using a combination of original and existing algorithms.
Complex programs are developed, tested, and analyzed by teams drawing on the members' diverse strengths using a variety of resources, libraries, and tools.	8.1.12.AP.7: Collaboratively design and develop programs and artifacts for broad audiences by incorporating feedback from users. 8.1.12.AP.8: Evaluate and refine computational artifacts to make them more usable and accessible.
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Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.

Student Learning Objectives (Knowledge and Skills)	Suggested Tasks/Activities	Evidence of Learning (Assessments)
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.	Lesson: For Loops with Bee	Classroom Assignments and Activities, Programming Labs,Quiz
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.	Lesson: For Loops with Artist	Classroom Assignments and Activities, Programming Labs,Quiz

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Unit Name	**Sprites and Events**	2 weeks
Instructional Materials and Resources	www.code.org, Chromebooks, Video Tutorials/Demonstrations, Classwork Exercises, Software Applications, Internet Research and Activities	

Disciplinary Concept: Sprites and Events	
This unit introduces students to Sprite Lab and allows them to apply concepts they learned in other environments to this tool. Students will learn about sprites, behaviors, and events and finish with an open-ended “free play” task where they can build and create whatever they like.	
Core Idea	**Performance Expectation (Standard)**
The design and use of computing technologies and artifacts can positively or negatively affect equitable access to information and opportunities.	8.1.12.IC.1: Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices. 8.1.12.IC.3: Predict the potential impacts and implications of emerging technologies on larger social, economic, and political structures, using evidence from credible sources.
Decisions to develop new technology are driven by societal and cultural opinions and demands that differ from culture to culture.	8.2.12.ITH.1: Analyze a product to determine the impact that economic, political, social, and/or cultural factors have had on its design, including its design constraints.
Changes caused by the introduction and use of a new technology can range from gradual to rapid and from subtle to obvious, and can change over time. These changes may vary from society to society as a result of differences in a society’s economy, politics, and culture.	8.2.12.ITH.3: Analyze the impact that globalization, social media, and access to open source technologies has had on innovation and on a society’s economy, politics, and culture.
The ability to ethically integrate new technologies requires deciding whether to introduce a technology, taking into consideration local resources and the role of culture in acceptance. Consequences of technological use may be different for different groups of people and may change over time. Since technological decisions can have ethical implications, it is essential that individuals analyze issues by gathering evidence from multiple perspectives and conceiving of alternative possibilities before proposing solutions.	8.2.12.EC.3: Synthesize data, analyze trends, and draw conclusions regarding the effect of a technology on the individual, culture, society, and environment and share this information with the appropriate audience.
There are strategies to improve one’s professional value and marketability.	9.2.12.CAP.3: Investigate how continuing education contributes to one's career and personal growth.

With a growth mindset, failure is an important part of success.	9.4.12.CI.1: Demonstrate the ability to reflect, analyze, and use creative skills and ideas.
Innovative ideas or innovation can lead to career opportunities.	9.4.12.CI.2: Identify career pathways that highlight personal talents, skills, and abilities. 9.4.12.CI.3: Investigate new challenges and opportunities for personal growth, advancement, and transition.
Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.	9.4.12.CT.1: Identify problem-solving strategies used in the development of an innovative product or practice. 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving. 9.4.12.CT.3: Enlist input from a variety of stakeholders (e.g., community members, experts in the field) to design a service learning activity that addresses a local or global issue (e.g., environmental justice). 9.4.12.CT.4: Participate in online strategy and planning sessions for course-based, school-based, or other project and determine the strategies that contribute to effective outcomes.
Laws govern the use of intellectual property and there are legal consequences to utilizing or sharing another's original works without permission or appropriate credit.	9.4.12.DC.1: Explain the beneficial and harmful effects that intellectual property laws can have on the creation and sharing of content.
Collaborative digital tools can be used to access, record and share different viewpoints and to collect and tabulate the views of groups of people.	9.4.12.TL.3: Analyze the effectiveness of the process and quality of collaborative environments. 9.4.12.TL.4: Collaborate in online learning communities or social networks or virtual worlds to analyze and propose a resolution to a real-world problem.

Student Learning Objectives (Knowledge and Skills)	Suggested Tasks/Activities	Evidence of Learning (Assessments)
Create new sprites, assign costumes and behaviors. Define "sprite" as a character or object on the screen that can be moved and changed.	Lesson: Swimming Fish	Classroom Assignments and Activities, Programming Labs,Quiz
Create an animation using sprites, and behaviors. Create new sprites and assign them costumes and behaviors.	Lesson: Making Sprites	Classroom Assignments and Activities, Programming Labs,Quiz
Create an interactive animation using events. Develop programs that respond to timed events. Develop programs that respond to user input.	Lesson: Sprites In Action	Classroom Assignments and Activities, Programming Labs,Quiz
Create an interactive virtual pet using events, behaviors, variables, and custom art. Program solutions to problems that arise.	Lesson: Virtual Pet	Classroom Assignments and Activities, Programming Labs,Quiz
Create dance animations with code. Develop programs that respond to timed events. Develop programs that respond to user input.	Lesson: Dance Party	Classroom Assignments and Activities, Programming Labs,Quiz