



MS TECHNOLOGY CURRICULUM

**Middle Township Public Schools
216 S. Main Street
Cape May Court House, NJ 08210**

Born: August 2022

Introduction

This document serves to meet all requirements for curriculum as per the Middle Township Board of Education and the New Jersey Department of Education and will serve as a guide for lesson planning. New Jersey citizens are part of a dynamic, interconnected, and technologically driven global society centered on the creation and communication of knowledge and ideas across geographical, cultural, and linguistic borders. Students in today's schools need exposure to technology in order to be high functioning and contributing members, capable of effective communication and possessing advanced technological skills, in today's global society.

Course Descriptions

Middle Township Middle School's Technology Courses familiarize the students with the resources of technology, technology systems and the evolution of technology. Students will be taught the design process and use it to explore the concept of design. They will be introduced to common materials and processes as they challenge themselves to solve innovative problems.

To support the path towards postsecondary success, students require opportunities to understand and develop both career awareness and personal financial literacy. Personal Financial Literacy outlines the important fiscal knowledge, habits, and skills that must be mastered in order for students to make informed decisions about personal finance. Financial literacy is an integral component of a student's college and career readiness, enabling students to achieve fulfilling, financially secure and successful lives. In meeting these expectations, Middle Township students will acquire the necessary knowledge and skills to not only achieve personal success, but also find and maintain financial wellness.

Each grade level will receive approximately 35 days of technology instruction.

6th Grade Technology-Computer Cycle - Building on the skills learned in previous grades, students will be exposed to more advanced application software functions of spreadsheets, drawing, word processing, and presentation. An emphasis will be placed on integrating the use of computer applications. The projects in this class will reinforce the core applications taught in other academic disciplines such as math, science, or language arts. Projects will encourage students to seek out and use technology appropriately to investigate, solve problems, and communicate their findings effectively. A well-balanced approach to technology instruction develops a higher level of competency within students including critical thinking skills, integrity, ethical/moral accountability, and personal responsibility. Students will continue to become familiar with computer coding. In addition, financial literacy will be incorporated into the course.

7th Grade Technology-Multimedia Production - In this course, students will learn "how things work" by investigating how software and hardware function. This course is designed to go beyond basic computer application skills. Students will explore intermediate and advanced multimedia

topics, including, but not limited to, presentations, animation, movie making, digital image and sound editing, and 3D modeling. In addition, financial literacy will be incorporated into the course.

8th Grade Technology-Coding - In this course, students will explore a variety of software programming languages and coding concepts. The students will use coding to develop games, digital stories, and other interactive designs. Students will be introduced to coding apps, graphics, games, and websites and will design, test, and refine their creations. Digital literacy will also be reviewed with an emphasis on the recognition and prevention of cyberbullying. In addition, financial literacy will be incorporated into the course.

6th through 8th Grade Financial Literacy Integration - The economy affects every aspect of our lives—how we earn a living, how much we earn, the availability of goods and services, and our future security. It is our goal to help students develop the real-life skills they need to succeed: to be able to think and choose responsibly as consumers, savers, investors, citizens, members of the workforce, and to be effective participants in a global economy.

The Partnership for 21st Century Skills and National Council for Economic Education recommends that children be taught about the economy and money management throughout their school career beginning in kindergarten. Financial Literacy standards are interwoven into the 6th through 8th grade Technology courses to allow our students to explore the world of money management and learn how to make appropriate personal economic choices, understand the role of the economy in society, and use entrepreneurial skills to enhance workplace productivity and career options.

****Note:** These outlines will not be completed in any particular order. Rather, the topics will be covered through projects that integrate a variety of topics.**

6th Grade Course Outlines

- I. Computer Operations
 - A. Basic computer Operations
 - 1. Access, save to, and retrieve documents from servers and online drives
 - 2. Keep server and online drives organized
 - 3. Troubleshoot minor problems and issues with operation of computer
 - B. Master touch typing
 - 1. Master keyboarding techniques
 - 2. Key all letters (lower and upper case) and symbols using proper techniques
 - 3. Improve typing speed and accuracy

II.

Computer Applications

A. Word Processing

1. Review skills
 - i. Create bulleted and numbered lists
 - ii. Format text in multiple columns
 - iii. Create and format tables
 - iv. Format cell contents in a table
 - v. Edit table properties
 - vi. Custom formatting of documents
 - vii. Refine proofreading skills
 - viii. Paragraph and document formats
2. Intermediate/Advanced word processing skills
 - i. Create custom formatted documents (i.e. newsletters, brochures)
 - ii. Create hyperlinks in documents
 - iii. Work with multiple files
 - iv. Copy data between word processing documents
 - v. Embed spreadsheets and spreadsheet charts in documents

B. Drawing

1. Review skills
 - i. Arrange/Layer objects
 - ii. Use objects in documents
 - iii. Freehand tools
 - iv. Group objects
 - v. Duplicate objects
2. Intermediate/Advanced drawing skills
 - i. Create custom designed objects (i.e. logos, illustrations)
 - ii. Use drawing tools to enhance objects in other applications

- C. Spreadsheets
 - 1. Review skills
 - i. Enter, edit, format data
 - ii. Use sort to organize spreadsheet data
 - iii. Use intermediate formulas and functions to perform calculations
 - iv. Design graphs/charts from spreadsheet data
 - 2. Intermediate/Advanced spreadsheet skills
 - i. Copy data between spreadsheets
 - ii. Copy data between spreadsheets and word processing documents
 - iii. Copy spreadsheet chart into word processing files
- D. Presentation
 - 1. Review skills
 - i. Using themes and layouts
 - ii. Incorporate spreadsheet in presentation
 - iii. Add animations
 - iv. Create speaker notes
 - 2. Intermediate/Advanced presentation skills
 - i. Incorporate custom drawings in presentations
 - ii. Incorporate spreadsheet charts in presentations
 - iii. Use master slides
 - iv. Master presenting orally to group

III.

Digital Citizenship

- A. Internet Safety
 - 1. Reinforce importance of Internet safety and maintaining privacy online
 - 2. Apply online safety rules and guidelines
 - 3. Identify “digital footprint” and ways to monitor and maintain positive footprint
- B. Website Evaluation
 - 1. Evaluate websites for accuracy, authenticity, and bias
- C. Ethical use of technology
 - 1. Copyright, Fair Use, creative commons, online plagiarism

IV. Computer Science/Computer Programming

A. Computer Science

1. Identify ways computers are used that have an impact across the range of human activity and within different careers where they are used.
2. Review basics of how a computer works
3. Identify basics of how the Internet works

B. Computer Programming (Coding)

1. Write a computer program to perform a specific task
2. Debug a computer program to identify and solve errors
3. Use loops and conditionals in code
4. Write code in a variety of programming languages

V. Understanding Money

A. Responsible Money Choices

1. Introduce the concepts of financial responsibility
2. Practice strategies acquiring financial information

B. Income and Careers

1. Learn about how people acquire income and build careers
2. Learn about responsibility to pay taxes to the government

C. Making plans with Money

1. Examine strategies for managing money
2. Practice responsible purchasing decisions and giving to charity

D. Credit and Borrowing

1. Study the basics of credit and the obligation that comes with borrowing money
2. Examine the importance of borrowing money responsibly

E. Insurance and Safety

1. Examine the strategies for managing personal and household risks
2. Learn about the role of health insurance

F. Saving and Investing

1. Define the difference between saving and investing
2. Learning methods and strategies to save and invest

7th Grade Course Outline

- I. Hardware and Software basics
 - A. Input, output and storage devices
 - B. RAM and ROM
 - C. Operating system and applications
- II. Digital Image Editing
 - A. Import and use images from devices
 - B. Change image size and resolution
 - C. Crop images
 - D. Use painting tools
 - E. Convert images to various file formats
- III. Digital Sound Editing
 - A. Capture sounds from devices
 - B. Applying changes such as copying/pasting/mixing and effects
 - C. Digitally create and edit audio using various tools
- IV. Digital Video Editing
 - A. Create and edit movies and/or video files
 - B. Capture/import digital video
 - C. Export digital videos/movies
- V. Digital Animation
 - A. Manipulate text and images to create an animated product
 - B. Edit animated products
- VI. 3D Modeling
 - A. Understand how a 3D printer works
 - B. Design and create three dimensional models

8th Grade Course Outline

- A. Code.org
 - 1. Algorithms
 - 2. Loops
 - 3. Conditionals
 - 4. Functions
- B. Bloxels
 - 1. Creative video game building
 - 2. Topics emphasized:
 - a. design logic
 - b. computer science
 - c. cross-curricular topics
- C. CS-First
 - 1. Introduction to computer science and the programming language of Scratch or similar program
 - 2. Exploration of career areas with engaging educational activities
- D. Code Combat
 - 1. Utilize formal syntax of coding with Python, JavaScript, or similar program in a realistic Environment
 - 2. Focus on debugging skills
- E. Code HS
 - 1. Introduce applicable computer science skills
 - 2. Develop problem solving and computational thinking skills
 - 3. Develop the conceptual understanding necessary to learn new programming languages
- F. Code Academy
 - 1. Independent exploration to a variety of programming languages including but not limited to:
 - a. Ruby
 - b. Alexa
 - c. JavaScript

- d. HTML
 - e. CSS
 - 2. Technical programming skills taught through interactive lessons including practice projects
- G. Lightbot/Blockly
 - 1. Lightbot – puzzle game based coding
 - a. Sequencing
 - b. Overloading
 - c. Procedures
 - d. Recursive loops
 - e. Conditionals
 - 2. Blockly – series of educational games that teach programming logic
 - a. Loops
 - b. Conditionals
 - c. Functions
- H. 3D Printing/TinkerCAD
 - 1. 3D design and printing skills
 - 2. Creative project design from paper to actual 3D object creation
- I. Self-Guided Independent Project
 - 1. Students will dig deeper into previous platform of their choice
 - 2. Develop a presentation outlining independent study project

6th through 8th Grades Financial Literacy Outline

6th Grade Financial Literacy -

- A. Money Management
 - 1. Setting financial goals
 - a. Personal savings plan (wants vs. needs)
 - b. Personal spending plan
 - c. Role of emotions and attitudes in money management and financial goals

2. Developing a personal budget
 - a. Budget for long-term, short-term, and charitable goals
 - b. Develop a system for keeping and tracking financial records
3. Understanding the legal rights and responsibilities of personal financial management
 - a. Examine ethical behaviors when making financial decisions
 - b. Relate the impact of business, government, and consumer fiscal responsibility to the economy and personal finance

7th Grade Financial Literacy-

B. Credit and Debt Management

1. Understanding Credit
 - a. Different types of credit (credit cards, installment loans, charge cards, mortgages)
 - b. Cost of borrowing money (simple interest, compound interest)
2. Creditworthiness
 - a. Potential consequences of credit
 - b. Purpose of credit scores and credit reports
 - c. Impact of personal bankruptcy

C. Saving and Investing

1. Understanding common types of saving vehicles
 - a. Checking accounts
 - b. Certificates of Deposit
 - c. Money market accounts
 - d. Saving accounts
 - e. Debit cards/ATM
2. “Pay yourself first” concept
3. Understanding common types of investment vehicles
 - a. Stocks
 - b. Bonds
 - c. Mutual Funds

8th Grade Financial Literacy-

D. Risk Management

1. Understand the impact of losses associated with different types of financial risk
2. Explain the importance of developing plans for protecting current and future assets against financial loss
3. Understand consumer protection resources, rights, and responsibilities

E. Career Exploration

1. Understand the payroll process and examine the purpose of the payroll deduction process and employee benefits
2. Identify common knowledge, skills, and abilities needed within the federal 16 career cluster Pathways
3. Evaluate personal abilities, interests, etc., and discuss how they might influence job and career selection
4. Relate how career choices, education choices, skills, entrepreneurship, and economic conditions affect income.
5. Determine how income affects spending decisions and lifestyles

6th Grade Expectations

After successfully completing this course, the student will:

- master touch typing techniques
- create word processing documents with tables, lists, and links
- create word processing documents with embedded spreadsheets
- enter and edit data in a spreadsheet
- create formulas or use calculation functions to do computations with the data in a spreadsheet
- use data to create appropriate charts
- create custom designed drawing objects
- use drawing objects in other applications
- create a presentation containing text, graphics, spreadsheets, spreadsheet charts
- integrate the use of multiple computer applications
- code and debug a computer program to complete a specific task

- apply cyber safety rules
- exhibit the ethical use of technology
- critically evaluate websites
- build critical-thinking and decision-making skills relating to computer usage
- understand critical financial concepts and skills
- develop, analyze and revise a budget.
- explain how income and expenses affect the budgeting process.

7th Grade Expectations

After successfully completing this course, the student will:

- Use a variety of devices to access, import, store and exchange files
- Design images and vector shapes
- Import, export, edit and convert a variety of file types
- Capture and edit digital audio and video clips
- Create original audio, video, animation and three dimensional products
- Understand the function of computer hardware and software
- Troubleshoot common hardware and software issues
- Define and provide examples of income, saving, taxes, gross income, and net income.
- Examine debt to determine if it is good or bad.
- Understand the concept of "pay yourself first."
- Distinguish between and list advantages and disadvantages of various bank-related savings vehicles.
- Make better decisions as spenders, savers, borrowers, and managers of money.

8th Grade Expectations

After successfully completing this course, the student will:

- Create interactive scenes with actors, scenes and sound demonstrating an understanding of events and interactions
- Design animations using loops
- Program motion along x- and y-axes
- Build algorithms using conditional logic
- Understand local and global variables, functions, and object cloning

- Understand scripts running in parallel
- Use advanced conditional logic with math and Boolean operators
- Create different scenarios and effects in games
- Troubleshoot and debug simple programs on a variety of platforms
- Publish projects
- Understand concepts related to credit using basic economic analysis and decision-making skills.
- Understand the role of emotions, attitudes, and behavior play in making financial decisions
- Identify personal likes and personality traits that will match various career choices
- Understand the connection among occupation, earning potential, spending, and budgeting

6th through 8th Grade Integrated Accommodations and Modifications

Differentiating Instruction for Students with Special Needs: Students with Disabilities, Students with 504 Plans, Students at Risk, English Language Learners, and Gifted & Talented Students

Differentiating in this course includes but is not limited to:

Differentiation for Support (ELL, Special Education, Students at Risk)

- Rephrase directions, questions, explanations
- One on one modeling and demonstration of techniques and skills
- Modify assignments as needed
- Preferential seating
- Assign a buddy as needed, same language or English speaking
- Allow errors in speaking and writing
- Accept participation at any level, even if very limited
- Allow spelling errors
- Provide hard copies of direction sheets and project rubrics
- Allow extended time to answer questions, complete assignments and projects
- Follow IEP accommodations/modifications
- Provide positive feedback and rewards as necessary
- Consult with academic teachers for behavior interventions
- Consult with guidance counselor and/or student assistance counselor for procedures and/or action plans

Differentiation for Enrichment

- Provide extension activities
- Allow students to act as peer “assisters” for their classmates
- Allow for student choice in project completion
- Build on students’ intrinsic interests and motivators
- Allow independent study
- Scale project objectives to more challenging outcomes

6th through 8th Grade Assessments

The teacher will provide a variety of assessments. Among them are:

- teacher-made quizzes
- teacher-made tests
- group projects
- simulations
- weekly projects
- computer projects
- homework
- oral presentations
- long-term projects
- class participation
- laboratory exercises.

Instructional/Supplemental Materials

Grade 6:

Resources include but are not limited to:

- BrainPop at <http://www.brainpop.com/>
- *Retool Your School: The Educator's Essential Guide to Google's Free Power Apps* by James Lerman and Ronique Hicks by International Society for Technology in Education
- *The Google Infused Classroom* by Holly Clark and Tanya Arvith
- Common Sense Media: <https://www.commonsense.org/education/>
- Netsmartz Workshop: Tweens at <http://www.nsteens.org/>
- Coding <http://code.org/>
- Complete one Hour of Code lesson incorporating climate change topics <https://hourofcode.com/us/learn?grade=6-8&subject=science> (for example Plastic Pollution PSA, Tree Life Simulator)
- Scratch <https://scratch.mit.edu/>
- Scratch Educator Guide <https://scratch.mit.edu/educators>
- 15+ Ways to Teach Students Coding <http://www.edutopia.org/blog/15-ways-teaching-students-coding-vicki-davis>
- Introductory Computer Science Curriculum <http://bjc.berkeley.edu/>
- Programming Platform for Kids <http://snap.berkeley.edu/>
- Typing Club <https://www.typingclub.com/>
- Khan Academy <https://www.khanacademy.org/>
- EverFi Vault — *Understanding Money* <https://everfi.com/offerings/listing/vault-understanding-money/>
- Google Applied Digital Skills <https://applieddigitalskills.withgoogle.com/s/en/home>
- Teacher-created handouts for projects
- Money Math – http://www.treasurydirect.gov/indiv/tools/tools_moneymath.htm
- All in Business – <http://www.econedlink.org/lessons/index.php?lesson=EM376&page=teacher>

Grade 7

Resources include but are not limited to:

- **3D Modeling**
 - <https://www.tinkercad.com/>
 - <http://zspace.com/>
- **PhotoShop**
 - <http://lifehacker.com/5758404/learn-the-basics-of-photoshop-the-complete-guide>
 - <http://www.photoshop.com/learn>
 - <https://helpx.adobe.com/photoshop/tutorials.html>
- **Rich Kid Smart Kid** – <http://www.richkidsmartkid.com/index.html>

Grade 8

Resources include but are not limited to:

- **Khan Academy: Intro to JavaScript** <https://www.khanacademy.org/computing/computer-programming/programming>
- <https://code.org/> Accelerated Intro to CS Course including unplugged activities
- <https://www.codecademy.com/>
- <https://www.codeschool.com/>
- <http://www.inc.com/larry-kim/7-more-places-to-learn-to-code-for-free.html>
- <https://codecombat.com/>
- <https://codehs.com/>
- <http://lightbot.com/>
- <https://blockly-games.appspot.com/>
- <https://www.tinkercad.com/>
- <https://csfirst.withgoogle.com/en/home>

6th Grade Curriculum Map/Pacing Guide

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students with 504 Plans, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|---|----------------|---|---|---|
| Computer Operations/Touch Typing <ul style="list-style-type: none"> Access, save to, and retrieve documents from servers and online drives Organize server and online drives Troubleshoot minor problems with computer Improve typing speed and accuracy Financial Literacy <ul style="list-style-type: none"> Responsible Money Choices <p><i>Touch typing technique and speed/accuracy is reviewed/emphasized throughout the course.</i></p> | 5 days | <p><i>For Support:</i></p> <ul style="list-style-type: none"> Rephrase directions, questions, explanations One on one modeling and demonstration of techniques and skills Modify assignments as needed <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> Provide extension activities Allow students to act as peer “assisters” for their classmates | <p><i>Standards:</i></p> <p>CRLLKSP 2 CRLLKSP 8 8.1.8.CS.1 8.1.8.CS.4 9.1.8.FP.1 9.1.8.FP.2 9.1.8.FP.3 9.1.8.FP.5</p> | <p><i>Formative Assessment:</i></p> <p>Observation of proper procedures. Demonstration to peers. Online typing practice activities.</p> <p><i>Summative Assessment:</i></p> <p>Proper use of saving/submitting final products demonstrated through each unit project. Demonstration of troubleshooting problems. Typing tests for speed and accuracy. Completion of EverFi Lesson 1</p> |

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|---|--------|---|---|--|
| Computer Applications - Word Processing <ul style="list-style-type: none"> Review skills <ul style="list-style-type: none"> Bulleted / numbered lists Format text in columns Create and format tables Paragraph & document formats Intermediate / Advanced Skills <ul style="list-style-type: none"> Create custom formatted documents Work with multiple files Embed spreadsheets and spreadsheet charts | 7 days | <p><i>For Support:</i></p> <ul style="list-style-type: none"> Rephrase directions, questions, explanations Provide hard copies of direction sheets and project rubrics Allow extended time to complete project <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> Build on students' intrinsic interests and motivators Scale project objectives to more challenging outcomes | CRLLKSP 4 CRLLKSP 8 9.4.8.IML.3 9.4.8.IML.12 9.4.8.TL.3 9.4.8.TL.6 | <p><i>Formative Assessment:</i></p> <p>Observation and questioning. Quick formatting practices. Teach a friend. Exit tickets.</p> <p><i>Summative Assessment:</i></p> <p>Final unit project: Foreign Country Travel Project- Design and create document (travel brochure, social media page, etc..) to advertise travel to a country in a specific part of the world. Assessed using rubric.</p> |
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|---|--------|--|--|--|
| Computer Applications – Drawing <ul style="list-style-type: none"> Review of basics <ul style="list-style-type: none"> Arrange & layer objects Use freehand tools Group & duplicate objects Create custom designed objects Use drawing tools in other applications Financial Literacy <ul style="list-style-type: none"> Income and Careers | 3 days | <i>For Support:</i> <ul style="list-style-type: none"> Modeling and demonstration of techniques one-on-one Allow participation at any level Provide positive feedback of creativity <i>For Enhancement:</i> <ul style="list-style-type: none"> Allow for student choice Scale project to more challenging outcome | CRLLKSP 1 CRLLKSP 2 CRLLKSP 4 CRLLKSP 7 CRLLKSP 8 9.1.8.FP.1 9.1.8.PB.1 9.1.8.PB.2 9.4.8.IML.3 9.4.8.IML.12 9.4.8.TL.2 9.4.8.TL.3 9.4.8.TL.4 | <i>Formative Assessment:</i> Observation and questioning. Quick draw. Small group demonstrations. <i>Summative Assessment:</i> Final unit project: Technology Topic Poster- Design and create a poster to display in school for other students to give information about an important technology topic (cyberbullying, Internet safety, Chromebook care, etc..) Assessed using rubric. Completion of EverFi Lesson 2 |
|---|--------|--|--|--|

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|---|--------|---|--|--|
| Computer Applications – Spreadsheets <ul style="list-style-type: none"> Review of basics <ul style="list-style-type: none"> Enter, edit, format data Use sort to organize data Use formulas & functions Design graphs & charts Copy data between spreadsheets Copy data between spreadsheets and word processor Copy spreadsheet charts into other applications Financial Literacy <ul style="list-style-type: none"> Making Plans with Money Credit and Borrowing | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> Modify assignments to simplify difficult tasks and terminology Assign a buddy to provide support and assistance Accept participation at limited levels <i>For Enhancement:</i> <ul style="list-style-type: none"> Provide extension activities Allow student to act as peer assistors Scale project to more challenging outcomes | CRLKSP 1 CRLKSP 2 CRLKSP 4 CRLKSP 8 8.1.8.DA.1 8.1.8.DA.4 9.1.8.CDM.1 9.1.8.CDM.2 9.1.8.CP.1 9.1.8.CP.2 9.1.8.CP.3 9.1.8.CR.1 9.1.8.CR.2 9.1.8.FI.2 9.1.8.PB.1 9.1.8.PB.2 9.1.8.PB.3 9.1.8.PB.4 9.1.8.PB.6 9.4.8.IML.12 9.4.8.TL.1 9.4.8.TL.2 9.4.8.TL.3 | <i>Formative Assessment:</i> Observation and questioning. Exit tickets. Google Forms survey. Think-Pair-Share. <i>Summative Assessment:</i> Final Unit Project: Internet Shopping Spree- Design spreadsheet including formulas and graphs/charts to record and analyze data of items found on the Internet according to specific criteria. Assessed using rubric. Completion of EverFi Lessons 3 and 4 |
|---|--------|---|--|--|

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|---|--------|--|--|---|
| Computer Applications – Presentations <ul style="list-style-type: none"> Review of basics <ul style="list-style-type: none"> Incorporate spreadsheet in presentation Use animations Create speaker notes Incorporate custom drawings and spreadsheet charts in presentations Use master slides Present to group Financial Literacy <ul style="list-style-type: none"> Insurance and Safety | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> Allow errors in writing and speaking Assign buddy and supportive group Allow participation at any level <i>For Enhancement:</i> <ul style="list-style-type: none"> Build on students’ intrinsic interests Allow independent study if requested Provide opportunities for extension of project | CRLLKSP 2 CRLLKSP 4 CRLLKSP 6 CRLLKSP 8 CRLLKSP 9 9.1.8.FP.5 9.1.8.PB.1 9.1.8.PB.2 9.1.8.RM.2 9.4.8.IML.3 9.4.8.TL.2 9.4.8.TL.3 9.4.8.TL.4 SL.6.4. SL.6.5. | <i>Formative Assessment:</i> Observation and questioning. Students demonstrate, “One thing I discovered today.” Small group practice presentations. <i>Summative Assessment:</i> Final Unit Project: Digital Literacy- Choose a topic (Internet safety, online plagiarism, digital footprint, etc..) and create a public service message for students through the use of a presentation. Assessed using rubric. Completion of EverFi Lesson 5 |
|---|--------|--|--|---|

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|--|--------|---|--|---|
| Digital Citizenship <ul style="list-style-type: none"> Understand importance of Internet safety and maintaining privacy online. Identify “digital footprint” Evaluate websites for accuracy, authenticity, bias. Use technology ethically <ul style="list-style-type: none"> Copyright, Fair Use, creative commons, online plagiarism Understand the components of network security and various types of cyberattacks Financial Literacy <ul style="list-style-type: none"> Saving and Investing | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> Rephrase explanations Preferential seating Allow extended time Provide peer assistor <i>For Enhancement:</i> <ul style="list-style-type: none"> Allow independent study Provide extension activities Allow students to act as peer assistors | CRLKSP 1 CRLKSP 2 CRLKSP 4 CRLKSP 5 CRLKSP 6 CRLKSP 7 CRLKSP 8 8.1.8.NI.3 8.1.8.NI.4 9.1.8.CP.2 9.1.8.CR.1 9.1.8.CR.2 9.1.8.FP.5 9.1.8.PB.4 9.4.8.DC.1 9.4.8.DC.2 9.4.8.DC.3 9.4.8.DC.4 9.4.8.DC.5 9.4.8.DC.6 9.4.8.IML.1 9.4.8.IML.9 9.4.8.IML.10 9.4.8.IML.11 | <i>Formative Assessment:</i> Observation and questioning. Surveys. Small group discussions. Exit tickets. <i>Summative Assessment:</i> Final Unit Project: Common Sense Media - Digital Compass. Successful completion of online lessons and activities. Completion of EverFi Lesson 6 |
|--|--------|---|--|---|

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|--|--------|---|---|--|
| Computer Science / Computer Programming (Coding) <ul style="list-style-type: none"> Identify ways computers are used that have an impact on society and careers Identify basics of how the Internet works Write computer program to perform a specific task Debug a computer program and resolve errors Use loops and conditionals in code Write basic code in a variety of languages Complete an Hour of Code lesson incorporating climate change information | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> One-on-one modeling and demonstration Preferential seating Allow participation at any level Provide peer assistor <i>For Enhancement:</i> <ul style="list-style-type: none"> Allow students to act as peer assistors Provide extension activities Allow independent study to expand on topic | CRLLKSP 4 CRLLKSP 5 CRLLKSP 8 8.1.8.NI.1 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.IC.1 8.1.8.IC.2 | <i>Formative Assessment:</i> Observation and questioning. Think-Pair-Share. Brainstorming solutions. Demonstration to classmates. <i>Summative Assessment:</i> Final Unit Project: Code.org Express Course. Successful completion of assigned levels and lessons including at least one lesson incorporation climate change topics |
|--|--------|---|---|--|

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| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students with a 504 Plan, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|---|----------------|--|---|--|
| Hardware and Software Basics <ul style="list-style-type: none"> Input, output and storage devices RAM and ROM Operating system and applications | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> Pre-selected sources Re-teaching and review <i>For Enhancement:</i> <ul style="list-style-type: none"> Student mentoring Provide student with exemplars of innovation and highly conceptual works that involve greater risk-taking and complexity in their creation | Standards: CRLKSP 8 | <i>Formative Assessment:</i> Questioning, exit tickets <i>Summative Assessment:</i> Quiz at the conclusion of units in GCFLearnFree.org |
| Presentations <ul style="list-style-type: none"> Worst Presentation Ever Interview of a Lifetime | 5days | <i>For Support:</i> <ul style="list-style-type: none"> Model skills/techniques to be mastered Peer mentoring Partnering Teacher modeling <i>For Enhancement:</i> <ul style="list-style-type: none"> Encourage self-implementation of presented topics Encourage student to revise and improve assignments | Standards: CRLKSP 4 CRLKSP 5 CRLKSP 8 8.1.8.DA.3 9.4.8.C.I.4 9.4.8.IML.3 9.4.8.IML.9 9.4.8.IML.12 9.4.8.TL.3 9.4.8.TL.5 | <i>Formative Assessment:</i> 3-2-1 Questioning <i>Summative Assessment:</i> Hyperdoc questions Presentation with rubric |
| Photoshop <ul style="list-style-type: none"> What is Photoshop? Getting to know the Photoshop interface | 10 days | <i>For Support:</i> <ul style="list-style-type: none"> Peer mentoring Teacher modeling | Standards: CRLKSP 1 CRLKSP 4 CRLKSP 5 | <i>Formative Assessment:</i> Turn and talk to review new skills or to seek support |

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| <ul style="list-style-type: none"> • Basic tasks in Photoshop • Saving images • Understanding layers • Levels, curves, and color • Sharpening and noise reduction • Working with brushes and text <p>**Pixlr e may be used when switching between in-person and remote learning. Same skills will be learned and applied.</p> | | <ul style="list-style-type: none"> • Use the design process to self-evaluate <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> • Individual conferring and guiding toward more complex topics • Student mentoring | CRLKSP 8 8.1.8.DA.3 9.4.8.C.I.4 9.4.8.IML.3 9.4.8.IML.9 9.4.8.IML.12 9.4.8.TL.3 9.4.8.TL.5 | <p><i>Summative Assessment:</i> Quiz provided through GCFLearnFree.org</p> |
| <p>Digital Sound Editing</p> <ul style="list-style-type: none"> • Capture sounds from devices • Applying changes such as copying/pasting/mixing and effects • Digitally create and edit audio using various tools | 10 days | <p><i>For Support:</i></p> <ul style="list-style-type: none"> • Multimedia approach to accommodating various learning styles • Scaffolding of materials and assignments <p><i>For Enhancement:</i></p> <ul style="list-style-type: none"> • Scale project objectives to more challenging outcomes • Individual conferring and guiding toward more complex texts and topics | <p><i>Standards:</i> CRLKSP 1 CRLKSP 4 CRLKSP 5 CRLKSP 8 8.1.8.DA.3 9.4.8.C.I.4 9.4.8.IML.3 9.4.8.IML.9 9.4.8.IML.12 9.4.8.TL.3 9.4.8.TL.5</p> | <p><i>Formative Assessment:</i> Hyperdoc Good and Welfare discussions</p> <p><i>Summative Assessment:</i> Pre-written radio commercials produced by students and graded with rubric Student written radio commercials produced by students and graded with a rubric</p> |

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| Digital Video Editing <ul style="list-style-type: none"> Create and edit movies and/or video files Capture/import digital video Export digital videos/movies | Entire cycle | <i>For Support:</i> <ul style="list-style-type: none"> Assist student with long and short term planning of assignments Use the design process to self-evaluate Individual conferring and guiding toward appropriate text and topics Partnering Differentiated teacher feedback on assignments <i>For Enhancement:</i> <ul style="list-style-type: none"> Flexible grouping Student mentoring | <i>Standards:</i> CRLKSP 1 CRLKSP 4 CRLKSP 5 CRLKSP 8 8.1.8.DA.3 9.4.8.C.I.4 9.4.8.IML.3 9.4.8.IML.9 9.4.8.IML.12 9.4.8.TL.3 9.4.8.TL.5 | <i>Formative Assessment:</i> Teacher observation Teacher/student discussion <i>Summative Assessment:</i> Student written and produced final movie project scored with rubric (projects may be, but not limited to: music video, newscast, tribute video, instructional video, etc.) |
| Digital Animation <ul style="list-style-type: none"> Manipulate text and images to create an animated product Edit animated products | Entire Cycle | <i>For Support:</i> <ul style="list-style-type: none"> Restate, reread, and clarify directions/questions Scale project objectives to less challenging outcomes Partnering Teacher modeling Re-teaching and review <i>For Enhancement:</i> <ul style="list-style-type: none"> Flexible grouping Encourage self-implementation of presented topics Student mentoring | <i>Standards:</i> CRLKSP 1 CRLKSP 4 CRLKSP 5 CRLKSP 8 8.1.8.DA.3 9.4.8.C.I.4 9.4.8.IML.3 9.4.8.IML.9 9.4.8.IML.12 9.4.8.TL.3 9.4.8.TL.5 | <i>Formative Assessment:</i> Teacher observation Mini projects for each sub-unit (animating using Google Slides, Powerpoint and stop-motion animation using iMovie) <i>Summative Assessment:</i> Student written and produced “How to” animation project scored with rubric |
| 3D Modeling <ul style="list-style-type: none"> Understand how a 3D printer works Design and create three dimensional models | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> Scale project objectives to less challenging outcomes Peer mentoring Individual conferring and guiding toward appropriate texts and topics Teacher modeling | <i>Standards:</i> CRLKSP 1 CRLKSP 4 CRLKSP 5 CRLKSP 8 8.1.8.DA.3 9.4.8.C.I.4 9.4.8.IML.3 | <i>Formative Assessment:</i> Teacher observation, progress monitoring <i>Summative Assessment:</i> Final 3D printed objects (key chain, utility object, etc.) Scored with rubric |

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| | | <i>For Enhancement:</i> <ul style="list-style-type: none"> Encourage the student to revise and improve assignments Individual conferring and guiding toward more complex topics | 9.4.8.IML.9 9.4.8.IML.12 9.4.8.TL.3 9.4.8.TL.5 | |
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8th Grade Curriculum Map/Pacing Guide

| Unit Topic | Time Allocated | Differentiating Instruction for Students with Disabilities, Students with 504 Plans, Students at Risk of School Failure, English Language Learners, & Gifted & Talented Students | Standards | Assessments |
|--|----------------|--|---|---|
| code.org <ul style="list-style-type: none"> Algorithms Loops Conditionals Functions | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> peer teaching and support differentiated teacher feedback on assignments appeal to diverse learning styles pre-teaching vocabulary work with checklists peer mentoring <i>For Enhancement:</i> <ul style="list-style-type: none"> more complex tasks and problems adjusting the pace of lessons student-driven higher-order thinking skills | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.NI.3 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Classwork Teacher/student discussion <i>Summative Assessment:</i> Course Benchmark Completion provided on Teacher Dashboard in code.org Oral Presentation sharing challenges and achievements (rubric) |

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| Bloxels hands-on, creative video game building <ul style="list-style-type: none"> Topics covered: design logic computer science cross-curricular topics | 7 days | <i>For Support:</i> <ul style="list-style-type: none"> peer mentoring choice to work with others or alone activity choice visual demonstrations, illustrations, and models hands-on activities <i>For Enhancement:</i> <ul style="list-style-type: none"> more complex tasks and problems independent extensions based on student interest, curiosity, and choice independent study student-driven | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Classwork Teacher/student discussion <i>Summative Assessment:</i> Bloxels Game Room Completion Oral Presentation sharing/demonstrating game created with the class |
| CS-First Introduction to computer science and the programming language Scratch. A variety of themes attract and engage students to a number of career areas with engaging educational activities. | 8 days | <i>For Support:</i> <ul style="list-style-type: none"> peer mentoring appeal to diverse learning styles peer teaching and support activity choice pre-teaching vocabulary work with checklists <i>For Enhancement:</i> <ul style="list-style-type: none"> more complex tasks and problems adjusting the pace of lessons independent study higher-order thinking skills student-driven | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Self-guided structured online lesson content includes videos and activities. Projects will be shared for teacher and classmates to view Reflection/discussion both individually and group <i>Summative Assessment:</i> Coursework completed as indicated in the CS-First Teacher Dashboard Showcase of student projects (do the projects meet the project objectives) |

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| Code Combat <ul style="list-style-type: none"> Utilize formal syntax of coding in a realistic environment Focus on debugging skills | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> peer mentoring appeal to diverse learning styles peer teaching and support activity choice <i>For Enhancement:</i> <ul style="list-style-type: none"> more complex tasks and problems adjusting the pace of lessons independent study higher-order thinking skills student-driven | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Classwork Teacher/student discussion Good and welfare discussions <i>Summative Assessment:</i> Course Benchmark Completion provided on Teacher Dashboard in Code Combat Oral presentation featuring progress and achievements |
| Code HS <ul style="list-style-type: none"> Introduce applicable computer science skills Develop problem solving and computational thinking skills Develop the conceptual understanding necessary to learn new programming languages | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> differentiated teacher feedback on assignments visual demonstrations work with checklists peer teaching and support <i>For Enhancement:</i> <ul style="list-style-type: none"> independent extensions based on student interest, curiosity, and choice student-driven adjusting the pace of lessons | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Classwork Teacher/student discussion <i>Summative Assessment:</i> Course Benchmark Completion as shown in Teacher Dashboard in Code HS Oral Presentation sharing achievements with the class |

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| Code Academy <ul style="list-style-type: none"> Independent exploration to a variety of programming languages including, but not limited to: <ul style="list-style-type: none"> Ruby Alexa JavaScript HTML CSS Technical programming skills taught through interactive lessons including practice projects. | 5 days | <i>For Support:</i> <ul style="list-style-type: none"> peer mentoring activity choice work with checklists <i>For Enhancement:</i> <ul style="list-style-type: none"> more complex tasks and problems independent study student-driven higher-order thinking skills | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Classwork Teacher/student discussion <i>Summative Assessment:</i> Course Benchmark Completion as displayed in the Teacher Dashboard in Code Academy Oral Presentation and progress log displaying course progress |
| Lightbot/Blockly <ul style="list-style-type: none"> Lightbot – puzzle game based coding Skills taught: <ul style="list-style-type: none"> Sequencing Overloading Procedures Recursive loops Conditionals Blockly – series of educational games that teach programming logic Skills taught: <ul style="list-style-type: none"> Loops Conditionals Functions | Entire cycle | <i>For Support:</i> <ul style="list-style-type: none"> Activity choice Choice to work with others or alone Peer teaching and support <i>For Enhancement:</i> <ul style="list-style-type: none"> More complex tasks and problems Independent extensions based on student interest, curiosity, and choice Student-driven Independent study | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation classwork Teacher/student discussion Good and welfare discussions <i>Summative Assessment:</i> Oral Presentation and Progress Log showing evidence of progress and accomplishments |

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| 3D Printing/TinkerCAD <ul style="list-style-type: none"> 3D design and printing skills Creative project design from paper to actual 3D object creation | Entire cycle | <i>For Support:</i> <ul style="list-style-type: none"> Activity choice Choice to work with others or alone Visual demonstration, illustrations and models <i>For Enhancement:</i> <ul style="list-style-type: none"> More complex tasks and problems Independent study Student-driven | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Classwork Teacher/student discussion <i>Summative Assessment:</i> Final 3D printed object (examples: cell phone case, keychain or other object) Is the object fully functional and purposeful? |
| Self-guided/Independent Projects <ul style="list-style-type: none"> Students will delve into a previous platform of their choice Develop a presentation outlining independent study project | Entire cycle | <i>For Support:</i> <ul style="list-style-type: none"> Peer mentoring Activity choice Differentiated teacher feedback on assignments Progress checks <i>For Enhancement:</i> <ul style="list-style-type: none"> More complex tasks and problems Independent study Student-driven | <i>Standards:</i> CRLKSP1 CRLKSP4 CRLKSP5 CRLKSP8 8.1.8.CS.4 8.1.NI.1 8.1.8.DA.1 8.1.8.DA.2 8.1.8.DA.4 8.1.8.DA.5 8.1.8.AP.1 8.1.8.AP.2 8.1.8.AP.3 8.1.8.AP.4 8.1.8.AP.5 8.1.8.AP.6 8.1.8.AP.7 8.1.8.AP.8 8.1.8.AP.9 | <i>Formative Assessment:</i> Teacher Observation Classwork Progress Checks Teacher/student discussions <i>Summative Assessment:</i> Course Benchmark (if applicable) Student progress log Oral Presentation featuring progress and accomplishments |