Computers

Grade 1

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Grade 1 Computers

Course Description: Grade 1 Computers is the students first academic experience using a desktop computer with a full keyboard and mouse. Therefore the main focus to start the year is to familiarize them with the components of a computer and understand how they work. Computers is a hands-on and experiential course where students learn most by physically performing tasks with teacher assistance. Proper keyboarding technique is taught and keyboarding programs are used to allow students to become comfortable with the keyboard. Students are introduced to Word processing, Paint, and coding programs as they gain confidence using the computer. An introduction to Google Classroom and Google Docs is a building block for their future computer courses, and students will learn some of the basic formatting techniques. Paint is a great way to practice mouse skills, and also teaches how to use a variety of tools within a program. Students will learn how to navigate the Internet and how to stay safe when online. They will learn how to navigate to a specific website as well as follow bookmarks and links within a web page. Time will also be spent with the basics of coding which teaches problem solving, critical thinking, perseverance, direction following and teamwork. By the end of this course students should feel comfortable using the computers, keyboard, mouse and using the basic functions of Google Classroom, Docs, block coding and Paint.

Course Sequence:

Unit 1: Introduction to Computers and Keyboarding: 13 weeks
Unit 2: Internet Navigation and Online Safety: 13 weeks
Unit 3: Coding: 13 weeks

Pre-requisite: None

** Approximately 2 weeks will be spent on on-line practice assessments*

Unit 1 - Overview

Content Area: Computers

Unit Title: Introduction to Computers and Keyboarding

Grade Level: 1

Core Ideas: As an introductory course the first unit of study will primarily focus on getting students comfortable using a desktop computer. For many students this is their first time using a full size keyboard and mouse as input devices. Time will be spent introducing key computer vocabulary and how to navigate the desktop on their computer. They will need to practice logging on to the computer and opening programs with a desktop icon. Desktop navigation, computer terminology, use of the mouse and proper keyboarding technique are the primary focus of the first unit.

Unit 1 - Standards

Standards: (Content and Technology)**:**

CPI#:	**Statement:**
Performance Expectations (NJSLS)	
Career Readiness, Life Literacies, and Key Skills	
9.4.2.CI.1	Demonstrate openness to new ideas and perspectives
9.4.2.CI.2	Demonstrate originality and inventiveness in work
9.4.2.IML.1 **9.4.2.TL.1** **9.4.2.TL.5** **9.4.2.TL.6**	Identify a simple search term to find information in a search engine or digital resource. Identify the basic features of a digital tool and explain the purpose of the tool Describe the difference between real and virtual experiences. Illustrate and communicate ideas and stories using multiple digital tools
9.1.2.CAP.1 Make a list of different types of jobs and describe the skills associated with each job. **Computer Science and Design Thinking** **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. **8.1.2.CS.2** Explain the functions of common software and hardware components of computing systems. **8.1.2.NI.1** Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network.	
8.1.2.NI.2	Describe how the Internet enables individuals to connect with others worldwide.
8.1.2.IC.1	Compare how individuals live and work before and after the implementation of new computing technology.
8.1.2.DA.2	Store, copy, search, retrieve, modify, and delete data using a computing device.
8.2.2.ITH.1	Identify products that are designed to meet human wants or needs.
8.2.2.ITH.2	Explain the purpose of a product and its value.
8.2.2.ITH.3	Identify how technology impacts or improves life.
8.2.2.ITH.4	Identify how various tools reduce work and improve daily tasks.

Interdisciplinary Connection	
RI.1.4.	Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
RI.1.5.	Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
RI.1.7.	Use the illustrations and details in a text to describe its key ideas.
W.1.6.	With guidance and support from adults, use a variety of digital tools to produce and publish writing, including in collaboration with peers.
1.2.2.Cr1a	Discover, share and express ideas for media artworks through experimentation, sketching and modeling.
1.2.2.Cr1b	Brainstorm and improvise multiple ideas using a variety of tools, methods and materials
Intercultural Statements (*Amistad, Holocaust, LGBT, SEL, etc...)*	
Amistad: Discuss how the access to technology is not equal, and there are many children that don't have the same opportunities.	

Unit Essential Question(s): • How do computers help us in our daily lives? • Why is keyboarding important? • How does the Internet keep us connected to others? • How have technology products changed the way we live?	**Unit Enduring Understandings:** • Computers are useful in helping us communicate, research, create, share information and publish work. • New technology continues to shape our world • There are many careers to choose from in the technology sector • Keyboarding allows us to create and share information
Evidence of Learning	

Formative Assessments:
Ed Club Typing Progress
K5 TechNet activities
Teacher Observations

Summative/Benchmark Assessment(s):
Vocab Quiz

Alternative Assessments:
Student conversations
Student projects

Resources/Materials:

ABCYa!

EdClub Typing

Google Education Suite

K5 Technet

Google Classroom

Faronics Insight

Key Vocabulary:

Computer Internet

Keyboard Icon

Mouse Search Box

Monitor

Speakers

Suggested Pacing Guide

Lesson Name/Topic	Student Learning Objective(s)	Suggested Tasks/Activities:	Day(s) to Complete
Introduction	-Rules & Procedures	-Explain program -Review rules and procedures	1
Navigating with a mouse	-Manipulate a mouse effectively	-K5 Tech Net activities	2
Computer parts and terminology	-Know the names of the main components of a computer and their purpose	-Show on Smartboard -Watch videos explaining computer basics	2
Keyboarding technique & Home Row	-Know the keys of the home row	-Demo proper keyboarding technique -Review the keys and the correct form -Show how to navigate to keyboard program	2
Typing Club Lessons	-Navigate independently to Typing Program	-Demonstrate how to navigate to website -Show students how to log in -Have students practice logging in and practicing keyboarding	4

Microsoft Paint	-Create a drawing using the mouse and the tool	-Demonstrate how to open Paint and use the basic tools -Show how to save work -Answer questions as they arise	2

Teacher Notes:

Additional Resources:

Differentiation/Modification Strategies

Students with Disabilities/504

- Preferential Seating
- Strategic/flexible grouping and pairing
- Ample wait time before calling on students
- Student self-assessment, self-monitoring of progress
- Speaking: Provide sentence starters, processing time, cues and prompts, embedded choices, practice time; repeating/ simplifying of directions; clear visual, verbal and demonstrative modeling; think/Pair/Share
- Have students set personal growth goals
- Groups/Pairs: teach rules and expectations; skills of independence – bridging phrases, disagreeing agreeably, voice level; strategies for moving in and out of groups; signal for getting teacher's attention
- Allow: flexible grouping; adequate/extra time; assign group roles; ample use of visuals; kinesthetic activities; rhythm, music, body movements; teach vocab in context, and in small chunks; break down assignments into manageable parts/tasks
- Reading: Use peer tutoring; label main ideas; label 5 W's; visual imagery; graphic organizers
- Allow: Highlighting of key words/concepts; silent pre-reading; partner reading
- Teach: Pre-reading strategies; 'During' reading strategies; Post-reading strategies; Use of manipulatives; Use of graphic organizers; Frequent repetition; Learning centers or stations that address varied activities, skills, learning modalities
- Writing: Shorten task; Require lists rather than sentences. Allow: note-taking; visual representation of ideas; collaborative writing; Brainstorm word bank; Pre-writing with graphic organizers. Provide: Model of writing; Structure for writing; Fill-in-blank form for note-taking

English Language Learners

- Give instructions/directions in writing and orally
- Assign a buddy, same language or English speaking
- Allow errors in speaking
- Allow errors in writing
- Highlight key vocabulary
- Reduce amount of work required
- Rephrase questions, directions, and explanations
- Allow extended time to answer questions, and permit drawing, as an explanation

Gifted and Talented

- Anchor Activities
- Appoint as teacher's helpers
- Assign additional Internet activities

Students at Risk

- Online Enrichment activities
- Peer tutoring

Unit 2 - Overview	
Content Area: Computers	
Unit Title: Internet Navigation and Online Safety	
Grade Level: 1	
Core Ideas: It is important for students to feel comfortable navigating the Internet on desktop computers. They need to know how to find websites using bookmarks and links as well as type in a specific web address. They should also be able to use a search box and find their way to assigned websites through the www.mpsnj.org website and Google Classroom. Teaching them about the importance of staying safe and keeping their information private while using the Internet, video games, tablets and other devices is essential.	
Unit 2 - Standards	
Standards: (Content and Technology)**:**	
CPI#:	**Statement:**
Performance Expectations (NJSLS)	
Career Readiness,\ Life Literacies, and Key Skills	
9.1.2.CAP.3	Define entrepreneurship and social entrepreneurship
9.1.2.CAP.4	List the potential rewards and risks to starting a business.
9.4.2.DC.3 **9.4.2.DC.4**	Explain how to be safe online and follow safe practices when using the internet Compare information that should be kept private to information that might be made public.
9.4.2.DC.5 **9.4.2.DC.6** **9.4.2.TL.7** **9.4.2.IML.1**	Explain what a digital footprint is and how it is created. Identify respectful and responsible ways to communicate in digital environments. Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts Identify a simple search term to find information in a search engine or digital resource.
9.4.2.IML.4 Compare and contrast the way information is shared in a variety of contexts **Computer Science and Design Thinking** **8.1.2.IC.1** Compare how individuals live and work before and after the implementation of new computing technology. **8.1.2.NI.3** Create a password that secures access to a device. Explain why it is important to create unique passwords that are not shared with others.	
8.1.2.NI.4	Explain why access to devices need to be secured.
8.2.2.ED.1	Communicate the function of a product or device.
8.2.2.EC.	Identify and compare technology used in different schools, communities, regions, and parts of the world.
Interdisciplinary Connection (*must include Companion Standard(s) R and W)*	
RI.1.5.	Know and use various text features (e.g., headings, tables of contents, glossaries, electronic

	menus, icons) to locate key facts or information in a text
RI.1.6.	Distinguish between information provided by pictures or other illustrations and information provided by the words in a text
NJSLSA.W6.	Use technology, including the Internet, to produce and publish writing and to interact and collaborate with others.

Intercultural Statements (*Amistad, Holocaust, LGBT, SEL, etc...)*

Holocaust: Be kind online and stand up for those that are being bullied

Unit Essential Question(s):

- What is cyberbullying and what do we do if we see it happening?
- How can we leave a positive digital footprint?
- What are some ways to make sure we balance our technology use?
- How can our online words affect others?

Unit Enduring Understandings:

- Technology allows us to connect with others in meaningful ways
- It is important to keep our information and identities private while online.
- How to keep our computers free from Malware and safe from hackers
- People often lie about their real identity so you should not talk to strangers online
- What you post online can live on forever
- There can be real world consequences to poor online behavior

Evidence of Learning

Formative Assessments: BrainPop assignments
Common Sense Media assignments
Successful independent naviagtion to websites

Summative/Benchmark Assessment(s):
Online Safety and Vocabulary Quiz

Alternative Assessments:
Student conversations
Student choice of project

Resources/Materials:

BrainPop Jr.

Common Sense Media

Google Be Internet Awesome

Code.Org

Google Classroom

Faronics Insight

Key Vocabulary:

Cyberbully

Online

Digital Footprint

Screentime

Search Box

Hyperlink

Suggested Pacing Guide

Lesson Name/Topic	**Student Learning Objective(s)**	**Suggested Tasks/Activities:**	**Day(s) to Complete**
Internet Intro	Understand what the Internet is	Watch video explaining Internet basics Discuss ways Internet benefits us Discuss problems of the Internet	1
Internet Vocabulary Internet Navigation	Comprehend Internet Vocabulary Get to assigned websites independently	Introduce key words when navigating the Internet Show students these terms when on Internet Assign websites for students to visit Demonstrate how to get to the website Have students et to these websites independently Have students sign into Google accounts	2 2
Hyperlinks	Follow hyperlinks within a website	Put hyperlinks in Google Classroom Show and explain how they work Have students follow multiple hyperlinks to get to desired page	1
Online Safety	Students will understand importance of being responsible online	Code.org Lesson 1 My Online Neighorhood Common Sense Media Activities Watch Internet Safety Videos as a class Work with peers to come up with Internet Safety Tips Poster	5
K5TechNet	Know how to stay safe online	Activities 1-4 at https://www.k5technologycurriculum.com/1st-grade/	2

Teacher Notes: Be mindful of reading levels and check for understanding.

Additional Resources:
YouTube
K-5Tech.Net https://www.k5technologycurriculum.com/1st-grade/

Differentiation/Modification Strategies

Students with Disabilities/504
- Preferential Seating
- Strategic/flexible grouping and pairing
- Ample wait time before calling on students
- Student self-assessment, self-monitoring of progress

- Speaking: Provide sentence starters, processing time, cues and prompts, embedded choices, practice time; repeating/ simplifying of directions; clear visual, verbal and demonstrative modeling; think/Pair/Share
- Have students set personal growth goals
- Groups/Pairs: teach rules and expectations; skills of independence – bridging phrases, disagreeing agreeably, voice level; strategies for moving in and out of groups; signal for getting teacher's attention
- Allow: flexible grouping; adequate/extra time; assign group roles; ample use of visuals; kinesthetic activities; rhythm, music, body movements; teach vocab in context, and in small chunks; break down assignments into manageable parts/tasks
- Reading: Use peer tutoring; label main ideas; label 5 W's; visual imagery; graphic organizers
- Allow: Highlighting of key words/concepts; silent pre-reading; partner reading
- Teach: Pre-reading strategies; 'During' reading strategies; Post-reading strategies; Use of manipulatives; Use of graphic organizers; Frequent repetition; Learning centers or stations that address varied activities, skills, learning modalities
- Writing: Shorten task; Require lists rather than sentences. Allow: note-taking; visual representation of ideas; collaborative writing; Brainstorm word bank; Pre-writing with graphic organizers. Provide: Model of writing; Structure for writing; Fill-in-blank form for note-taking

English Language Learners

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- Highlight key vocabulary
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- Rephrase questions, directions, and explanations
- Allow extended time to answer questions, and permit drawing, as an explanation

Gifted and Talented

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Students at Risk

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- Peer tutoring

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Unit 3 - Overview

Content Area: Computers

Unit Title: Coding

Grade Level:1

Core Ideas: Students will have the first introduction to coding during this unit. Each student will have their own Code.org account that allows them to work their way through various levels. Coding teaches many lifelong learning skills such as creativity, critical thinking, problem-solving, perseverance and teamwork. Coding terminology will be taught as well has basic block coding skills. A wide variety of online coding games will be used as well as hands-on board games and activities.

Unit 3 - Standards

Standards: (Content and Technology)**:**

CPI#:	Statement:
Performance Expectations (NJSLS)	
Career Readiness, Life Literacies, and Key Skills	
9.4.2.TL.7	Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts
9.4.2.CT.2	Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
9.4.2.CT.3 Use a variety of types of thinking to solve problems (e.g., inductive, deductive). **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). **9.4.2.CI.2** Demonstrate originality and inventiveness in work **Computer Science and Design Thinking**	
8.1.2.AP.1 **8.1.2.AP.3** **8.1.2.AP.4** **8.1.2.DA.2**	Model daily processes by creating and following algorithms to complete tasks. Create programs with sequences and simple loops to accomplish tasks. Break down a task into a sequence of steps. Store, copy, search, retrieve, modify, and delete data using a computing device.
8.1.2.NI.1 **8.1.2.NI.2**	Model and describe how individuals use computers to connect to other individuals, places, information, and ideas through a network. Describe how the Internet enables individuals to connect with others worldwide.
8.2.2.ED.2	Collaborate to solve a simple problem, or to illustrate how to build a product using the design process.
8.2.2.ITH.3	Identify how technology impacts or improves life.
8.2.2.ITH.4	Identify how various tools reduce work and improve daily tasks
8.2.2.EC.1	Identify and compare technology used in different schools, communities, regions, and parts of the world.
Interdisciplinary Connection (*must include Companion Standard(s) R and W)*	
RI.1.4.	Ask and answer questions to help determine or clarify the meaning of words and phrases in a text.
RI.1.5.	Know and use various text features (e.g., headings, tables of contents, glossaries, electronic menus, icons) to locate key facts or information in a text.
W.1.3.	Write narratives in which they recount two or more appropriately sequenced events, include some details regarding what happened, use temporal words to signal event order, and provide some sense of closure.
Intercultural Statements (*Amistad, Holocaust, LGBT, SEL, etc...)*	
Amistad: Discuss some african american pioneers of coding such as Roy Clay Sr.	

Unit Essential Question(s):	**Unit Enduring Understandings:**
• What is coding? • How is coding used in everyday life?	• Coding terminology • How to do basic block coding • How to sequence instructions

Evidence of Learning

Formative Assessments: BrainPop and K5Tech assignments
Code.org Lesson Work

Summative/Benchmark Assessment(s):
Vocabulary Quiz

Alternative Assessments:
Student conversations
Student project

Resources/Materials:	**Key Vocabulary:**
BrainPop Code.Org Botley Robots Coding Caterpillar Flocabulary Google Classroom Faronics Insight	Algortihm Steps Coding Click Block Coding Drag Computer Programming Drop Loop Bug Debug

Suggested Pacing Guide

Lesson Name/Topic	**Student Learning Objective(s)**	**Suggested Tasks/Activities:**	**Day(s) to Complete**
K5Tech Net	-Undertsand what Bug and Debug means in Code -Work through lessons in Code.org accounts	-Watch "Debugging" video together -Students will follow links to coding practice	2
Code.Org		-Demonstrate how to log-in to Code accounts -Show how the program works and how to go through the lessons -Watch videos at beginning of lessons together -Students work at own pace	7
Unplugged Code.org Hour of Code	-Be able to write precise instructions -Code using a variety of platforms	-Watch "Happy Maps" video together -Work as teams to get the flurb to the fruit -Watch videos explaining impacts of coding and importance to our world -Review variety of websites with free coding activities available -Allow students to choose activities that interest them	1 3

Teacher Notes:

Additional Resources:
YouTube
K-5Tech.Net
https://code.org/learn

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- Reading: Use peer tutoring; label main ideas; label 5 W's; visual imagery; graphic organizers ●

Allow: Highlighting of key words/concepts; silent pre-reading; partner reading

- Teach: Pre-reading strategies; 'During' reading strategies; Post-reading strategies; Use of manipulatives; Use of graphic organizers; Frequent repetition; Learning centers or stations that address varied activities, skills, learning modalities
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