

The Internet

Content Area: STEAM & Coding
Course(s): STEAM & Coding
Time Period: MP1
Length: 2-5 weeks
Status: Pending

Big Idea

The internet is ubiquitous and becoming more so. With connected appliances, lighting, and doorbells, our homes are more reliant on strong internet connections and devices to control them. Students should learn the fundamentals of the internet including how it works, how it was created, and how it might be used in the future. Students will learn academic vocabulary, break down devices to identify functions of components, build websites, understand hacking and passwords, and understand how apps work.

Enduring Understanding

Students will understand how information is stored on and shared through the internet; how email works; how websites are stored, shared, edited, and visited via the internet; how to build a basic website; how to code in HTML/CSS; how to create and maintain strong usernames and passwords; and how to understand interconnected devices and apps.

Skills

SWBAT identify the parts of a computer
SWBAT explain how information is stored and shared via the internet
SWBAT identify and discuss how email works
SWBAT create a basic website using HTML
SWBAT perform basic functions and commands in HTML and CSS
SWBAT create and edit a Google Site
SWBAT evaluate an app or game for internet connectivity
SWBAT test the speed of their internet connection

Standards

ISTE 2016 Standards for Students

Empowered Learner: *Students leverage technology to take an active role in choosing, achieving and demonstrating competency in their learning goals, informed by the learning sciences.*

1a: Students articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.

1b: Students build networks and customize their learning environments in ways that support the learning process.

1c: Students use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.

1d: Students understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.

Digital Citizen: *Students recognize the rights, responsibilities, and opportunities of living, learning and working in an interconnected digital world, and they act and model in ways that are safe, legal and ethical.*

2a: Students cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.

2b: Students engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.

2c: Students demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.

2d: Students manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.

Knowledge Constructor: *Students critically curate a variety of resources using digital tools to construct knowledge, produce creative artifacts and make meaningful learning experiences for themselves and others.*

3a: Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.

3b: Students evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.

3c: Students curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.

3d: Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

Computational Thinker: *Students develop and employ strategies for understanding and solving problems in ways that leverage the power of technological methods to develop and test solutions.*

5c: Students break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.

5d: Students understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

Assessments

Parts of a Computer- Quizizz

How the Internet Works- [Code.org](#) with Video Quiz

How Email Works- Quizizz

Resources/Instructional Materials

[HTML & CSS on Khan Academy](#)

[Code.org](#) Youtube Channel

[Internet - Unit.pdf](#)

[\[Template\] Internet-Robots](#)

Modifications

- Individual accommodations per IEP
- Additional support // Peer-tutoring placement
- Adapting lessons to meet various learning styles
- Struggling students may use a calculator
- Students will be given scaffolded definitions for terms
- Enrichment Challenges

Integration of 21st Century Skills

Focus on the development of 21st Century Content Skills:

- Global awareness

- Civic literacy

Focus on the Development of Learning and Thinking Skills:

- Critical Thinking and Problem Solving Skills
- Communication Skills
- Creativity and Innovation Skills
- Collaboration Skills
- Information and Media Literacy Skills
- Contextual Learning Skills

Focus on the Development of Life Skills:

- Leadership
- Ethics
- Accountability
- Adaptability
- Personal Productivity
- Personal Responsibility
- People Skills
- Self Direction
- Social Responsibility

Interdisciplinary Connections

- Academic and Technical Rigor - Projects are designed to address key learning standards identified by the school or district.
- Authenticity - Projects use a real world context (e.g., community problems) and address issues that matter to the students.
- Applied Learning - Projects engage students in solving problems calling for competencies expected in high-performance work organizations (e.g., teamwork, problem-solving, communication, etc.).
- Active Exploration - Projects extend beyond the classroom by connecting to community explorations.
- Adult Connections - Projects connect students with the wider community.
- Assessment Practices - Projects involve students in regular, performance-based exhibitions and assessments of their work; evaluation criteria reflect personal, school, and real-world standards of performance.