

Unit 3: Web Development

7th Grade Video Game Coding

22 class meetings

August 2023

Essential Questions

- What is the role of the worldwide web and how can it be used as a medium for creative expression?
- What makes a website easy to read and navigate?
- What pitfalls do I need to look out for when designing a website?
- How can I improve my technological communication skills using the Internet?
- What are the basics needed to design a website?

Enduring Understandings with Unit Goals

EU 1: Web Page Design is a skill that grows and develops throughout the careful planning and study of software and design.

- Use different programming languages to solve different problems.
- Students problem solve as it relates to programming while learning valuable skills such as debugging, using resources, and teamwork.

EU 2: How can students think critically about the impact of sharing information online to be more critical consumers of content.

- Students examine their role and responsibilities as both creators and consumers of digital media.

Standards

- **National Media Arts Standards:**

- MA:Cr1.1.6: Formulate variations of goals and solutions for media artworks by practicing chosen creative processes, such as sketching, improvising and brainstorming.
- MA:Cr2.1.6: Organize, propose, and evaluate artistic ideas, plans, prototypes, and production processes for media arts productions, considering purposeful intent.
- MA:Cr3.1.6b: Appraise how elements and components can be altered for intentional effects and audience, and refine media artworks to reflect purpose and intent.
- MA:Pr5.1.6c: Demonstrate adaptability using tools and techniques in standard and experimental ways in constructing media artworks.
- MA:Pr6.1.6c:a. Analyze various presentation formats and fulfill various tasks and defined processes in the presentation and/or distribution of media artworks.
- MA:Pr6.1.6c:b. Analyze results of and improvements for presenting media artworks.
- MA:Re7.1.6:a Identify, describe, and analyze how message and meaning are created by components of media artworks.
- MA:Re7.1.6:b Identify, describe, and analyze how various forms, methods, and styles in media artworks manage audience experience.
- MA:Re8.1.6: Analyze the intent of a variety of media artworks, using given criteria.

- MA:Re9.1.6: Determine and apply specific criteria to evaluate various media artworks and production processes, considering context and practicing constructive feedback.
- MA:Cn 10.1.6: a. Access, evaluate, and use internal and external resources to create media artworks, such as knowledge, experiences, interests and research.
- MA:Cn11.1.6: a. Research and show media artworks and ideas relate to personal life, and social, community, and cultural situations, such as personal identity, history, and entertainment.
- **ISTE Standards**
- Standard 1: 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.
- Standard 2: Digital Citizens. 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.
- Standard 3: 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.
- Standard 6: Creative Communicator. Students communicate clearly and express themselves creatively for a variety of purposes using the platforms, tools, styles, formats and digital media appropriate to their goal.

ISAAC Vision of the Graduate Competencies

Competency 1: Write effectively for a variety of purposes.

Competency 2: Speak to diverse audiences in an accountable manner.

Competency 3: Develop the behaviors needed to interact and contribute with others on a team.

Competency 4: Analyze and solve problems independently and collaboratively.

Competency 5: Be responsible, creative, and empathetic members of the community.

Unit Content Overview

In this Web Development unit, students are empowered to create and share content on their own web pages. They begin by thinking about the role of the web and how it can be used as a medium for creative expression. As students develop their pages and begin to see themselves as coders, they are encouraged to think critically about the impact of sharing information online and how to be more critical consumers of content. They are also introduced to problem solving as it relates to programming while they learn valuable skills such as debugging, using resources, and teamwork. At the conclusion of the unit, students will have created a personal website they can publish and share.

1. Getting Started

- Identify features of a web design that match the needs of users. Investigate the design of different websites.

2. How do We build Websites? Anatomy of an HTML page

- Introduced to HTML as a solution to the problem of how to communicate both the content and structure of a website to a computer.

3. How do We build web pages?

- Practice of pair programming and debugging.

4. How can I use HTML to express a personal value?

- Practice creating styled webpage on a topic of their choice.

5. Change the style of text on a web page

- Introduces CSS as a way to style elements on the page. Students learn the basic syntax for CSS rule-sets and then explore properties that impact HTML text elements.

6. How can you express your personal style on a web page?

- Investigate ways to use websites as a means of personal expression.

7. Add images on our websites, while making sure we respect everyone's rights.

- To understand the rules governing how to legally use content they find on the web.

8. How can we use websites to express ourselves?

- Engage in the "prepare" stage of the problem-solving process, design and plan webpages before they start coding.

9. Personal Web Page

- Create the pages that they have planned out in previous lessons, with the project guides as a reference. Complete a short reflection on the process.

Daily Learning Objectives

Students will be able to....

- Identify features of a web design that match the needs of users.
- Understand the steps of the problem-solving process
- Explain that HTML allows a programmer to communicate the way content should be structured on a web page.
- Structure content into headings, subheadings, lists and paragraphs.
- Create a webpage using HTML, HTML tags, HTML attributes, HTML elements, styling with HTML and practicing each of the concepts.
- Explain the differences between HTML and CSS in both use and syntax.
- Link to an external style sheet.
- Use CSS selectors to style HTML text elements.
- Students will be able to style their own web pages, create a music library web page and use CSS style for each song in the table.
- Add an image to a web page.
- Follow copyright law, accurately attributing others when using their work
- Identify websites as a form of personal expression.

Instructional Strategies/Differentiated Instruction

- Whole group instruction
- Small group instructions
- Strategic grouping
- Guided notes
- Instructional videos
- Paragraph frames and sentence starters
- Teacher/student modeling
- Written feedback – teacher and peer
- Think-write-pair-share and small-group discussions
- Graphic organizers
- Accountable talk
- Homework
- Electronic word walls with visuals
- Anchor charts
- Conferencing
- Text and video chunking with guiding questions
- Key vocabulary - translation, reinforcing the contextual definition with visuals
- Provide correct pronunciation by repeating student response
- Word wall
- Do Nows as vocabulary review
- Culturally responsive teaching
- Assignment modification

EL Differentiation Instruction:

- Verbal: Prompting, questioning, elaborating, higher level thinking skills
- Explicit modeling
- Word walls with visuals
- Guided and independent practice
- Small group instruction
- Strategic grouping
- Key Vocabulary
- Graphic organizers

Assessments

FORMATIVE ASSESSMENTS:

- Quick Write responses
- Exit Slips
- Accountable Talk Discussions
- Do Now
- Oral questioning
- Graphic organizers
- Regular Homework
- Thumbs up/Thumbs down

SUMMATIVE ASSESSMENT(S):

- Unit Task scoring guide
- Teamwork rubric

Unit Task

Unit Task Name: Design a simple web page using HTML with background audio and inline video.
Create a personal web page on a topic of student's choice.

Description: Develop an organizational diagram of what pages will be included in your site.

Evaluation: Students will demonstrate mastery by creating and publishing a Website on the subject of their choosing.
A rubric will be used to grade the project.