

Unit Overview

Scholars interact with browsers and the internet on a daily basis. The Internet allows us to almost instantaneously access to an enormous amount of information and communicate with millions of people around the world. We live in a society that actively engages with browsers on a daily basis, yet very few people truly know how the Internet works. This unit starts with scholars beginning to build out their own websites using HTML and CSS. Scholars will learn how to integrate basic tags, lists, images, and links into a website and manipulate the color, background color, and alignment of their content through CSS. By the end of this unit, scholars will build out two full websites.

Lesson Summary

Do now

Review – 5 min

Create

Why Computer Science?– 40 min

Objectives

SWBAT differentiate between HTML and CSS syntax

SWBAT create a physical representation of a website

AP CS Principles Standards

EK 1.1.1A Creating computational artifacts employs an iterative and often exploratory process to translate ideas into tangible form.

EK 1.1.1B A creative process in the development of a computational artifact can include, but is not limited to, employing nontraditional, nonprescribed techniques; the use of novel combinations of artifacts, tools, and techniques; and the exploration of personal curiosities.

Vocabulary

Syntax: The set of rules that defines the combinations of symbols that are considered to be correctly structured.

Lesson Overview

Instructions

Directions

The purpose of this activity is for scholars to see the HTML, CSS, and preview all in one place. It's easy to mix up the syntax for HTML and CSS, and this will help engage all learners in remembering the small details of website development. These can also make great classroom or hallway décor.

Directions

Materials needed:

- Scissors
- Glue sticks
- Ziplock bags
- Posters
- Markers/Crayons/Colored Pencils

Before Class Preparation:

- Use a paper cutter to cut out manipulatives quickly (This is a great activity to get student/parent volunteers to help you with)
- Put manipulatives in Ziplock bags. You will need enough for every pair of students to have one set of manipulatives to make one poster
- The manipulatives are attached as a Google doc in color. If you don't have a color printer, printing them in black and white is fine
- If you don't have access to posters, print the manipulatives in smaller font and use a piece of paper or several pieces of paper.

Teacher Tips

Modifications for older students:

Have students cut out their own manipulatives
Instead of cutting an h1 opening tag, to increase the difficulty, you can cut out the angled bracket, the h1, and the other angled bracket.

Timing:

Do Now: 5 minutes

Instructions: 5 minutes

HTML cut and glued: 10 minutes

CSS cut and glued: 10 minutes

Preview drawn and colored: 15 minutes

Modifications for younger students:

Cut out a full opening and closing tag instead of individual angled brackets and slashes

Don't include the image CSS

Before students glue anything down, have them check their HTML and CSS with you, then give them glue sticks and then allow them to glue

Don't pass out art supplies until the very end when they have had their work checked, glued down, and are ready to draw the preview.

Timing:

Do Now: 5 minutes

Instructions: 5 minutes

HTML glued: 10 minutes

CSS glued: 10 minutes

Preview drawn and colored: 15 minutes

Fast finishers:

Have students write in comments

Students can use other extra time to write a description of the website including what each part of the HTML and CSS do to contribute to the preview.

If several groups finish early, they can verbally present to each other

Do Now

Review – 5 minutes

Say

Today is our last class period before our first project, and we're going to do something a little bit different. Instead of practicing our HTML and CSS on the computer, we're going to recreate a website on a poster! I'll give you all the details in just a minute, but let's first review some HTML and CSS.

1

4 minutes – Answer questions independently

2

1 minute – Whole class discussion

Directions

Call a scholar up to write their responses on the board so that the whole class can see the syntax. If scholars respond with an h2 tag for the first question, ask them why. It's not important that they use an h1 tag vs. an h2 tag, but that they know why they've selected their text tag.

Student View

Question 1: Jalil wants to write "My name is Jalil" in really big letters on his website. Write the exact text tag and words he should type into the HTML editor (i.e. `<p>sample</p>`)

Question 2: Now Jalil wants to change the background color of his text tag from the previous question to purple. Write the CSS Jalil would need to use.

Exemplar Answers

```
<h1>My name is Jalil</h1>
```

```
h1 {  
  background-color:purple;  
}
```

Teacher Tips

For the sake of time, if you feel comfortable with where your students are with HTML and CSS syntax, this Do Now may be skipped, and scholars can jump right into creating their poster.

Create

Why Computer Science Exemplar - 40 minutes

Directions

Show students the exemplar on the platform. If you've made an exemplar poster ahead of time, you can model that for students as well. Explain to students that they will need to break their poster into three sections, HTML, CSS and then Preview. They will use the manipulatives that have already been cut out for them and glue them in the appropriate place under HTML and CSS. When they are finished, they will draw the preview using the appropriate colors.

1

5 minutes - Give instructions

2

35 minute - Create poster with shoulder partner

Student View

Computer Science Exemplar

Today, we're going to make a website, but on paper! Using the manipulatives that your teacher will pass out to you, recreate this website.

Why Computer Science?

Average Salary: \$81,430

There will be about 1.5 million available jobs in computer science and only 400,000 people to fill those jobs. Computer scientists do anything from building robots to sending astronauts to space. You should think about getting a college degree in computer science.



Instructions

Instructions:

Add your HTML tags on one side

- Choose from p, h2, and h1

Add your CSS declarations on the other side

- Make sure to consider the alignment, image size, font color, and background color

Then draw the preview that users will see