

Lesson Purpose

This challenge day gives scholars more opportunities to interact with CodePen. It also combines HTML and CSS together in one challenge, so that scholars can differentiate between the two and feel comfortable with both.

Lesson Summary

Do now

Errors– 6 min

Explore

Problem Solving Rubric– 4 min

Create

Found Pet – 32 min

CFU

HTML and CSS – 3 min

Objectives

SWBAT build new websites utilizing tags and styling

SWBAT apply styling not previously taught utilizing online resources

AP CS Principles Standards

EK 1.2.4A A collaboratively created computational artifact reflects effort by more than one person.

EK1.2.4C Effective collaborative teams practice interpersonal communication, consensus building, conflict resolution, and negotiation.

EK 1.2.4F A collaboratively created computational artifact can reflect personal expressions of ideas.

Vocabulary

Selector: Creates a connection in HTML to tell the browser what element should be affected.

Property: Tells the type of style being affected.

Value: Tells the specifics of the affect.

Declaration: A property and value combined.

Do Now

Errors – 6 minutes

Say

Raise your hand if you've ever made a mistake. It happens all the time in life, and it happens all the time in programming. Mistakes in computer science are no big deal if you know how to fix them. The more you practice, and the more code you write the better you are at quickly finding mistakes and fixing them, so you won't make that mistake again.

1

4 minutes – Answer questions independently

2

2 minutes – Whole class discussion

Student View

Question 1: What is the error in this code?

```
1 <h1 Aaron Rodgers is the best  
   quarterback ever</h1>
```

Question 2: What mistake was made?

```
10 p {  
11   color; pink;  
12 }
```

Exemplar Answers

The opening h1 tag is missing a closing bracket or a greater than symbol.

The first semi-colon should be a colon instead.

Teacher Tips

To help students identify errors, sometimes they need a fresh eye. A great habit to get scholars into is to ask their shoulder partner when they can't find an error and see if their shoulder partner can. For older students, push them not to tell where the error is if they find it but to ask questions to direct their partner to the error. That can be built into the class by modeling and by providing sentence starters for students.

Explore

Problem Solving Rubric – 4 minutes

Directions

Give students two silent minutes to answer the question on their own because they should already be familiar with the Problem Solving Rubric. Cold call scholar responses based on platform data. Remind students that anytime they are stuck or come across a new problem, they should use this approach.

1

2 minutes – Answer questions independently

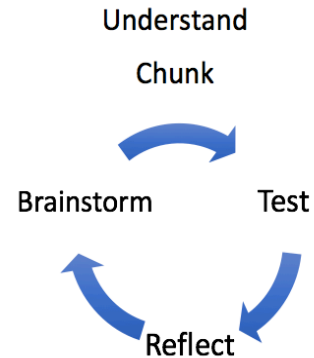
2

2 minutes – Whole class discussion

Student View

Question 1:

Problem Solving Rubric



How can we use the Problem Solving Rubric in web design?

Exemplar Answers

We can use the Problem Solving Rubric in web design just like we did in Scratch. First we have to understand the problem, and then chunk it into parts. Then we brainstorm how we're going to complete one part of the problem, then we try it, and finally, we reflect to see if it worked.

Teacher Tips

Develop a system for scholars to use the Problem Solving Rubric. You can print out a copy of the actual rubric or the tracker with places for scholars to write things down. You can have scholars take notes in the note section or write down their problem solving process in a journal.

Found Pet Challenges - 37 Minutes

This challenge combines both HTML and CSS challenges so scholars can learn to switch between the two languages. A big focus on this lesson will be identifying errors, so celebrate scholars who are correcting their own errors or helping their shoulder partner correct the error. Have each student create their own project, but they should be allowed to ask their shoulder partner a question if they have one.

Student View

You are exploring in your back yard and have come across a strange creature in your backyard. You decide you want to create a website to help the animal find its home.

Students have access to an embedded CodePen Editor

Hint: You can use [W3 Schools](#) with these challenges.

Challenge 1: Select ANY animal you want. Create an h1 tag to create a title representing this animal.

Challenge 2: Create an h3 tag describing the location in which you found this animal.

Challenge 3: Create a p tag with a description of their habits. Be detailed, how are they responding to captivity? Elaborate in detail in 4-6 sentences.

Challenge 4: Create a p tag with a detailed description of their looks. This should be 2-3 sentences.

Exemplar Answers

Exemplar

C1: `<h1>Dog Found</h1>`

C2: `<h3>The dog was found on Barnes Street.</h3>`

C3: `<p> The dog was found playing in a mud puddle in my back yard. She was standoffish at first, but is now extremely friendly. She limps on her right hind leg. She has eaten a lot.</p>`

C4: `<p>This dog has a short tan coat with black spots. She has a collar, but the ID tag has fallen off.</p>`

Student View

Challenge 5: Create an h4 tag with information about how to get in contact with you to retrieve their found animal.

Challenge 6: Change the color of the background.

Challenge 7: Change the background color of each section to a different color.

Challenge 8: Change the font color of each section to a color that works with the background colors you have chosen.

Bonus Challenge:

Use the W3 schools to figure out how to create a border, change the size, color, and style of the border for your text tags.

Use the Problem Solving Rubric if you get stuck.

Paste the link to your website.

Exemplar Answers

C5:
`<h4> Please contact (insert scholar's name) at (insert scholar's email) if this dog is yours.`

C6:
`body{ background-color:tan; }`

C7&8:
`h1{ background-color:red; font-color: white; }`

`h3 { background-color:red; font-color: white; }`

`p{ background-color:red; font-color: white; }`

HTML and CSS - 3 minutes

Directions

You can save this CFU until the end, or you can use it in the middle of the Found Pet Challenge to break it up. Either way, this CFU doesn't ask scholars questions about any new material, so it's a good check to see where they are before they take their quiz. There is one HTML question and one CSS question. Respond to this data in the moment or at the beginning of the next lesson.

1

3 minutes - Answer questions independently

Student View

Question 1: Which of the following would make a p tag have a background color of red?

Question 2: What is the error in the code below?

```
<h1>This is my tag<h2
```

Exemplar Answers

```
p{  
background-color: red;  
}
```

The beginning tag and the end tag do not match. The closing tag is missing the backslash and the closing carrot