Lesson 8.12: Server-side Languages

https://codehs.com/course/16771/lesson/8.12

Description	In this lesson, students will learn about web development stacks and create basic server-side programs.
Objective	Students will be able to: • Identify essential components of a web stack • Identify different web development stacks • Use a server-side language to create a program
Activities	8.12.1 Video: Web Stacks and Server-side Languages 8.12.2 Example: Server-side Hello World 8.12.3 Example: Server-side Weather 8.12.4 Exercise: Server-side About Me 8.12.5 Exercise: Server-side Calculations
Prior Knowledge	• Basic understanding of HTML
Planning Notes	• Decide if students will take notes in a notebook or through the "Take Notes" function on CodeHS. • Review the lesson activities in order to assist with student questions while completing them.
Standards Addressed	
Teaching and Learning Strategies	**Lesson Opener:** • Have students brainstorm and write down answers to the discussion questions listed below. Students can work individually or in groups/pairs. Have them share their responses. [5 mins] **Activities:** • Review the lesson slides *Web Stacks and Server-side Languages*. [10 mins] • Review the *Server-side Hello World* example. [5 mins]

- Discuss with students what they notice after comparing the client-side and server-side code.
- Review the *Server-side Weather* example. [5 mins]
  - Discuss with students what they notice after comparing the client-side and server-side code.
- Complete *Server-side About Me* exercise activity. [10-15 mins]
  - Students can be paired up to complete the activity.
  - Ensure students review the client-side code by viewing the frame source.
- Complete *Server-side Calculations* exercise activity. [10-15 mins]
  - Students can be paired up to complete the activity.
  - Ensure students review the client-side code by viewing the frame source.

Lesson Closer:

- Have students reflect and discuss their responses to the end-of-class discussion questions. [5 mins]

Discussion Questions

Beginning of Class:

- How have you used a cloud service or server so far in this course?
  - *Answers will vary, but should include storing data on a server rather than locally.*
- What programming languages have you used when working with data on a server?
  - *Answers may vary, but students may reflect on their use of JavaScript, JSON, jQuery library, and other JavaScript-related tools with storing data on servers or in the cloud.*
- Why is it important to use cloud tools to store data on a server?
  - *Sample Response: Storing data on a server can help keep personal account data protected when connectivity is protected adequately. Storing data on a server can also provide users with a personalized experience.*

End of Class:

- What is a web development stack?
  - *Sample Response: A web development stack is a set of tools and software that's used in the development of a web application or site.*
- What are some examples of server-side programming languages?
  - *Sample Response: Examples of server-side programming languages include Python, PHP, JavaScript, Ruby, and C#.*
- Why might a developer choose to use a specific web development stack over another?
  - *Answers may vary, but students should reflect on a developer's comfort-level of working with specific tools and languages. Students may also discuss how some tools may be better-suited for a specific project over another tool.*

Resources/Handouts

Vocabulary

Term	Definition
[web stack](#)	A collection of software required for developing a web project

Modification: Advanced	Modification: Special Education	Modification: English Language Learners
- Allow students to complete the next lesson activities when finished. - Encourage students to research other web development stacks and compare their benefits. - Allow students to work with classmates who may need assistance with the assignments.	- Consider having students work in pairs to complete these assignments. - Give students ample time to complete the exercises. - Print out slides for students to reference.	- Consider having students work in pairs to complete these assignments. - Give students ample time to complete the exercises. - Print out slides and have students use a dictionary to translate unknown vocabulary.