

LESSON 70

Studio: Interactive Quiz Game for the web

40 minutes

Project studios (optional extension sessions)

Built in JavaScript

Outcome 2.5

Outcome 3.1

Outcome 3.6

WHAT THIS LESSON DOES

Students build an interactive web quiz in CodePen using HTML, CSS and JavaScript, then document and extend it with their own questions.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
2.5	Create a small website using HTML and CSS.
3.1	Creatively design and write code for short programming tasks, demonstrating operators for assignment, arithmetic, comparison and Boolean combinations.
3.6	Document programs so others can understand them.

WHAT STUDENTS SHOULD BE ABLE TO DO

- Build an interactive quiz page with HTML, CSS and JavaScript (LO 2.5, LO 3.1)
- Document the code so a classmate could extend it (LO 3.6)

BEFORE THE BELL

- Students logged in at their devices with a modern browser ready
- CodePen (<https://codepen.io>) available; students can use a free account or guest pen
- Model opening a new pen and the HTML, CSS and JS panels on the board before pairs begin
- Optional: have one sample topic ready if students stall when inventing their own questions

WHAT YOU NEED

Item	Qty	Per	If you do not have it
tablet or laptop with JavaScript	1	pair	run the lesson on the IWB with students taking turns

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HOW THE LESSON RUNS

4 min	introduction	Start: what we're building
2 min	content	Set up the project
2 min	content	Add HTML structure
2 min	content	Add CSS styling
2 min	content	Add the jQuery Library
3 min	content	Setup the Questions
3 min	content	Setup the Variables
3 min	content	Display a Question
3 min	content	Check the Answer
3 min	content	Next Question
3 min	content	Display the Score
2 min	content	Challenge: Timer
2 min	content	Challenge: Levels
3 min	content	Make sense: what worked, what broke
2 min	content	Reflect
1 min	summary	What you covered

TEACHING MOVES

- Model the first HTML and CSS steps on the board, then let pairs drive the JavaScript while you circulate
- Stress that the click handler is replaced, not duplicated, when the next-question and score steps arrive; a second handler is a common silent bug
- When students write their own five questions, keep the same object shape (question, answers array, correctAnswer) so the rest of the code still works
- Treat debugging as a named skill: ask what they expected, what they saw, and which line they checked first

WHAT TO WATCH FOR

- jQuery not added in Settings, so \$ is undefined: reopen Settings, JS tab, add jquery, Save and Close, then run again
- Two click handlers left in the file after the next-question or score step: delete the older handler so only one remains
- correctAnswer text not matching a button label exactly (extra space or different capitalisation): align the string with the answers array entry

DIFFERENTIATION

- Support: provide three ready question objects in the same shape and ask the student to add two more; sit with them while they replace the click handler once
- Extension: timer challenge (auto-advance on timeout) or difficulty levels with separate question sets
- Extension: add short comments above each function explaining purpose so a classmate could extend the quiz