

Studio: Weather Web App

40 minutes

Project studios (optional extension sessions)

Built in JavaScript

Outcome 2.5

Outcome 3.1

Outcome 2.2

WHAT THIS LESSON DOES

Students build a JavaScript weather web app in CodePen that fetches live data and displays it for a chosen location, then explain where the data comes from and how the app retrieves it.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
2.5	create a small website using HTML and CSS to showcase their learning
3.1	creatively design and write code for short programming tasks to demonstrate the use of operators for assignment, arithmetic, comparison, and Boolean combinations
2.2	investigate and describe how data is transported on the internet and how computers communicate and cooperate through protocols

WHAT STUDENTS SHOULD BE ABLE TO DO

- Build a web app that shows real weather data (LO 2.5, LO 3.1)
- Explain where the data comes from and how the app fetches it (LO 2.2)

BEFORE THE BELL

- Students logged in to the platform with devices ready and CodePen open in the browser
- Confirm network access so API calls to OpenWeatherMap and Unsplash can run
- Have a sample Irish place name ready (for example Dublin or Galway) for the class demo
- Optional: open a blank pen on the board so the first setup steps can be modelled

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

Studio: Weather Web App

HOW THE LESSON RUNS

4 min	introduction	Start: what we're building
2 min	content	Set up the project
2 min	content	Add jQuery
2 min	content	Add Fontawesome
3 min	content	Add HTML structure
3 min	content	Style the structure and headings
2 min	content	Style the Data Elements
3 min	content	Initialize JavaScript
3 min	content	Fetch Weather Data
3 min	content	Display Weather Data
2 min	content	Add Unit Toggle and Update the Weather
2 min	content	Test your Weather Web App
3 min	content	Enhance Your Weather Web App
3 min	content	Make sense: what worked, what broke
2 min	content	Reflect
1 min	summary	What you covered

TEACHING MOVES

- Model the first CodePen setup and the jQuery link on the board before pairs continue alone
- When the fetch step arrives, pause and ask where the weather numbers are coming from before anyone pastes further
- Point the default location at an Irish town so the live data feels relevant
- Treat debugging as a named skill: when something fails, ask what they expected, what they saw, and which line to check first

WHAT TO WATCH FOR

- jQuery or Font Awesome link missing or in the wrong panel, so icons or script calls fail: check the external resources list matches the step
- Place name spelling or empty location so the API returns an error: try a clear Irish city name and re-run
- Click handler for the temperature toggle not attached, so Celsius and Fahrenheit never switch: confirm the listener sits after the update function and the element id matches

DIFFERENTIATION

- Support: The full page markup is given on the Add HTML structure step, so anyone slow at typing can paste it and spend their time on the fetch and display steps instead
- Support: Stay on one fixed Irish location until the app runs cleanly before any search feature
- Extension: Add a city search bar or show extra fields such as feels-like, sunrise or sunset from the same response