

Embedding Audio and Video

20 minutes

Introduction to Web Frontend

Outcome 1.15

Outcome 1.22

Outcome 1.23

Outcome 2.15

Outcome 2.19

Outcome 2.20

Outcome 3.3

WHAT THIS LESSON DOES

In this lesson, you'll first understand the audio and video formats supported by HTML5. You'll then learn to embed audio and video files into your web page using HTML5 tags. Finally, you'll preview your work, test the playback, and reflect on your learning.

CURRICULUM OUTCOMES

Outcome	What the specification asks for
1.15	consider the quality of the user experience when interacting with computers and list the principles of universal design, including the role of a user interface and the factors that contribute to its usability
1.22	read, write, test, and modify computer programs
1.23	reflect and communicate on the design and development process
2.15	explain what is meant by the World Wide Web (WWW) and the Internet, including the client server model, hardware components and communication protocols
2.19	test solutions and decisions to determine their short-term and long-term outcomes
2.20	identify and fix/debug warnings and errors in computer code and modify as required
3.3	use appropriate programming languages to develop an interactive website that can display information from a database that meets a set of users' needs

WHAT STUDENTS SHOULD BE ABLE TO DO

- Understand the common audio and video formats supported by HTML5 and their browser compatibility.
- Master the use of HTML5 tags to embed audio files into web pages.
- Learn to integrate video content using HTML5 tags with appropriate attributes.
- Develop skills to test and adjust multimedia elements for optimal display and functionality.
- Recognise the importance of providing multiple file formats to ensure broad accessibility.

BEFORE THE LESSON

- Confirm the school filter does not block the 123code.org media URLs used in the audio and video steps, and that the browser can reach them from a student machine.
- Test the embedded playground yourself so audio and video actually play, and check that room speakers or headphones are available.

Embedding Audio and Video

HOW THE LESSON RUNS

Understanding Supported Formats

Embedding Audio

Embedding Video

Preview Your Work

Review and Reflect

TEACHING MOVES

- 1. Understanding Supported Formats. Draw out why one file is not enough: different browsers support different formats, so a page may work for you but be silent for someone else. Frame multiple sources as an accessibility decision, not just tidy code.
- 2. Embedding Audio. Point out the controls attribute gives the play bar, and that the fallback text only shows if the format fails. Have them type the tag rather than paste, so they notice the nested source element.
- 3. Embedding Video. Highlight that video adds width and height while audio does not. Stress the code goes after the audio, not replacing it, so both players appear.
- 4. Preview Your Work. Have them change only the width and height and re-run to see the player resize. Warn that placeholder paths must be replaced with real URLs or nothing loads.

WHAT TO WATCH FOR

- Students think a silent or blank player means their code is broken, when the real cause is a blocked URL, a wrong path, or an unsupported format. Show that the fallback text and a missing file look different. Have them open the media URL directly in a new tab to prove whether the file itself is reachable.
- Students believe providing one format is enough because it plays on their own machine. Have a pair compare the same page in two different browsers, then revisit why multiple source elements exist.

DIFFERENTIATION

- Emerging: If the playground shows nothing, give them the exact working audio snippet first and get one player visible before adding video. Pair them with a student whose page already plays so they can compare the two blocks line by line.
- Developing: Ask them to explain aloud what the fallback text does and when it appears before moving on.
- Proficient: Challenge them to add a second source element in a different format inside one tag and explain the order the browser tries them. Have them add width and height sensibly and note the accessibility case for captions, useful evidence for a project write-up.