Introduction to Web Design  Web Audio and Video
Sound consists of pressure waves moving through air.

Without air, there is no sound.

Our ears are sensitive to pressure waves and transmit these signals to the brain.
Introduction to Web Design

Web Audio and Video

Hand Clap
Periodic Wave
When sound is recorded, acoustic waves are converted to electrical waves.

A microphone consists of a small membrane that vibrates. Movements of the membrane are translated into electrical signals.

Higher pressure typically corresponds to higher voltage.
Digital Audio

An audio signal is an analog (continuous) format.

The electrical waves must be converted to digital information for computational processing.

Digital recording is accomplished with an analog-to-digital converter (ADC).

The ADC captures a snapshot of the electric voltage on an audio line and represents it as a digital number.

Capturing the voltage thousands of times per second creates a good approximation of the original audio.
Introduction to Web Design

Web Audio and Video

Digital/Analog Sound
Digital Audio Playback

All computers must give us analog signals to be useful.

The screen converts digital information to light.

The digital-to-analog converter (DAC) takes the sample and sets a certain voltage on the analog outputs to recreate the signal.

This voltage is conveyed to the speakers which create pressure waves in the air.
HTML Audio and Video

HTML5 supports audio and video natively in the web browser.

For years, it was necessary to rely on a third party to deliver this kind of content.

Now we can use the `<audio>` and `<video>` tags.

The `<audio>` and `<video>` tags use `src` attribute or the `<source>` tag to specify one or more media resources.
HTML Inline Frames

Another way to embed media on a web page is with the HTML inline frame element: `<iframe>`

An inline frame represents a nested browsing context, embedding another HTML page into the current one.

Embedding all or part of one web page into another is way to present content on a website.