14.3 Lesson Summary - JavaScript with D3js

JavaScript can be used to read data from a webpage and it can also be used to dynamically edit data in a webpage. D3 is a JavaScript library that helps manipulate the HTML DOM in order to change the webpage. D3 can be used to generate dynamic data visualizations.

Concept: Webpages are created using HTML text. The **Document Object Model** (DOM) represents HTML elements as objects to allow for easier manipulation of a webpages HTML.

* Suppl link: <https://developer.mozilla.org/en-US/docs/Web/API/Document_Object_Model/Introduction>

Concept: **D3** is a JavaScript library that allows you to manipulate the HTML on your webpage and generate dynamic data visualizations. To add D3 functionality to a webpage add the following element to the *<head>* element of your webpage before any references to D3 library:

*<script src="https://d3js.org/d3.v5.min.js"></script>*

* Activity: 01-Evr\_D3\_Select
* Suppl link: <https://d3js.org/>

Concept: You can use D3 to ***select*** and edit elements in your webpage using the following code:

*d3.select(".my-class").text("Change to this text.");*

You can add new elements to the HTML of a webpage using the **append** function. For example:

*d3.select("body").append("p").text(“New text in your webpage.”)*

* Activity: 01-Evr\_D3\_Select, 02-Stu\_D3\_Select

Concept: D3 allows you to run code after a specified user interaction with your webpage through the use of **event listeners**. To log a message to the console after a element with id *my-button* is clicked you can use the following code:

*var button = d3.select("#my-button");*

*button.on("click", function() {*

*console.log("Your button was clicked");*

*});*

* Activity: 04-Ins\_Event\_Listeners, 05-Stu\_onChange, 06-Stu\_Button\_Click

Concept: In JavaScript the ***this*** object is the object that owns the code. In an event listener you can use the *this* keyword to identify the element that triggered the event.

* Activity: 07-Ins\_This
* Suppl link: <https://www.w3schools.com/js/js_this.asp>

Concept: HTML **Forms** provide the ability to group user input into a common location. Forms are often used when a user must provide information, such as logging in, or providing a delivery address. Event listeners can be used to run JavaScript after a form is submitted.

* Activity: 08-Ins\_Forms, 09-Par\_Form\_Filter
* Suppl link: <https://www.w3schools.com/html/html_forms.asp>