

A photograph of Mount Fuji, a snow-capped mountain, centered in the background. The sky is a gradient of soft pink and purple, suggesting a sunset or sunrise. The foreground is a deep, dark blue. The text 'HW REVIEW' is overlaid in the center in a bold, white, sans-serif font.

HW REVIEW



**PUTTING
IT ALL
TOGETHER**

JavaScript and the Page



We've begun looking at data and code syntax in JavaScript in the isolated space of the console...

JavaScript and the Page

Now let's use JavaScript to begin
Manipulating our actual page.



SELECTING ELEMENTS IN JAVASCRIPT

JavaScript and the Page



In order to manipulate things on our page we need to have a way to reference those elements in our JS.

JavaScript and the Page

A background image of Mount Fuji, a snow-capped mountain, centered in the frame. The image is overlaid with a soft, horizontal gradient that transitions from a light pink at the top to a deep purple at the bottom, creating a serene and atmospheric effect.

There are multiple functions and ways to do this by tag type, class, ID, or “walking” the DOM tree.

JS Element selection

document.getElementById("myID");

Get 1 element by ID

document.getElementsByClassName("thing");

Get ARRAY of elements by class

document.getElementsByTagName("IMG");

Get ARRAY of elements by tag

myVariable.childNodes[indexNum];

Get 1 element from children of myVariable element.

JavaScript and the Page

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MODIFYING ELEMENTS

JavaScript and the Page

There are a near infinite number of ways to
manipulate page content with JS...

JavaScript and the Page



Let's look at a few, starting with
modifying CSS via JavaScript.

Adding a Class

```
var element = document.getElementById("myDIV");  
element.classList.add("mystyle");
```

Removing a Class

```
var element = document.getElementById("myDIV");  
element.classList.remove("mystyle");
```


Toggling a Class

```
var element = document.getElementById("myDIV");  
element.classList.toggle("mystyle");
```

JavaScript and the Page

We can also add or modify individual CSS properties directly.

JavaScript and the Page

This is done through the .style property of an element, followed by the JS formatted CSS property name...

(https://www.w3schools.com/js/js_htmlDOM_css.asp)

JavaScript CSS Modification

A background image of Mount Fuji, a large snow-capped mountain, centered in the frame. The sky is a gradient of light blue and white, suggesting a clear day. The mountain's slopes are covered in snow, with some rocky outcrops visible. The overall scene is serene and majestic.

```
var myElement = getElementById("p2");  
myElement.style.color = "blue";
```

JavaScript and the Page



Every aspect of CSS *can* be modified by JS, and
most can be done using the .style property,
however...

JavaScript and the Page

The JavaScript name for some CSS properties are not *exactly* the same, so it is important to search the web and confirm the JS name if you run into issues.

(<http://www.sitestepper.be/en/css-properties-to-javascript-properties-reference-list.htm>)

CSS

JS .style

overflow	overflow
padding	padding
padding-bottom	paddingBottom
padding-left	paddingLeft
padding-right	paddingRight
padding-top	paddingTop
page-break-after	pageBreakAfter
page-break-before	pageBreakBefore
position	position
float	styleFloat
text-align	textAlign
text-decoration	textDecoration

JavaScript and the Page

We can also get or modify the actual contents of a tag using the .innerHTML property...

(https://www.w3schools.com/jsref/prop_html_innerhtml.asp)

JavaScript and the Page

```
document.getElementById("myDIV").innerHTML = "How are you?";
```



BASICS OF INTERACTION

JavaScript and the Page

The single most used way to interact via JavaScript is using what are called event listeners.

JavaScript and the Page

Event listeners “subscribe” to an element or action on page, wait for that interaction to happen, and then execute code.

(https://www.w3schools.com/js/js_htmlDOM_eventlistener.asp)

JavaScript and the Page

```
element.addEventListener("click", function(){  
    alert("Hello World!");  
});
```

// OR:

```
element.addEventListener("click", myFunction);  
function myFunction() {  
    alert ("Hello World!");  
}
```

A photograph of Mount Fuji, a snow-capped mountain, centered in the background. The sky is a gradient of soft pink and purple, suggesting a sunset or sunrise. The word "HOMEWORK" is written in large, white, bold, sans-serif capital letters across the middle of the image, partially obscuring the mountain.

HOMEWORK

JavaScript and the Page

A background image of Mount Fuji, a snow-capped mountain, centered behind the title and list. The image is partially obscured by a dark blue gradient overlay that covers the lower two-thirds of the slide.

1. Write a function called ``halfNumber`` that will take one argument (a number), divide it by 2, and return the result in an ``alert``. It should also log a string to the console like "Half of 5 is 2.5".
2. Write a function called ``fortune`` that will take one argument (your visitor's name) and prints a random "fortune cookie style" fortune into an element of your page.
3. Write a function called ``restyle`` that applies new CSS styles to the ``fortune`` text in a random manner each time it fires. Modify at least three CSS properties.