

Today's Class

Class Objectives

In today's class, we will introduce:



JavaScript Definitions



JavaScript Basics:



Variables



Logging, alerting, prompting



Arrays



If/else statements

JavaScript

Prepare to become true coders!



How to Learn JavaScript





Time to Take Notes!



Learning JavaScript

Follow these general tips:



Review classwork immediately.



Redo class activities at home.



Come to office hours and keep asking questions.



Do not fear—you will get this!

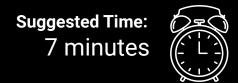


Partner Activity:

Code Dissection

A big part of being a developer is learning on the fly!

Instructions sent via Slack



Partner Activity: Code Dissection



Download the file sent to you via Slack.



Open it in Chrome and observe what happens.



With a partner, try to explain how the code connects to the events that happen on the page.



When downloading code from Slack, make sure you choose **Download**. If you copy and paste directly from Slack, your code will not work!





JavaScript Definition

JavaScript is one of the three fundamental programming languages of the modern web (the others are HTML and CSS).

HTML	css	JavaScript
Used to write content.	Used to format content.	Used to create dynamic web applications that take in user inputs, change what's displayed to users,
HTML		animate elements, and much more.

JavaScript Definition

JavaScript is one of the three fundamental programming languages of the modern web (the others are HTML and CSS).



JavaScript === ECMAScript
Java !== JavaScript

JavaScript is a VERY distant cousin to Java.

JavaScript is MUCH easier to learn!

JavaScript is simply text, and does not need to be compiled.

"I've heard of TypeScript. What is that?"

TypeScript is a superset of JavaScript, built and maintained by Microsoft. Superset means that plain JavaScript is valid TypeScript. TypeScript adds additional type safety features and other functionality, often referred to as 'Syntactic Sugar'. Many of these features have in the past worked their way into plain JavaScript, like optional parameters and modules.

TypeScript transpiles to JavaScript before it is deployed.



Typescript vs JavaScript: What's the Difference?



Variables



The *nouns* of programming



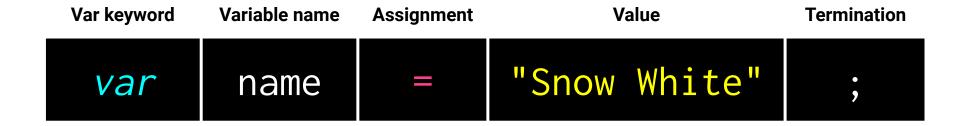
Numbers, strings, Booleans, etc.



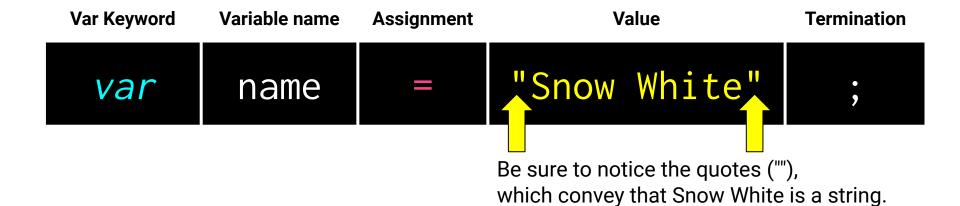
Made up of a **name** and a **value**

```
var name = "Snow White";
var dwarfCount = 7;
var isSleeping = true;
```

Variable Basics: Syntax



Variable Basics: Syntax





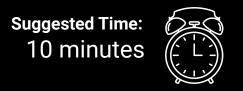
Instructor Demonstration Variables



Activity: Variables

In this activity, you will fill in the missing JavaScript code to create variables.

Instructions sent via Slack



Activity: Variables

01

Using the instructions in the file sent to you, fill in the missing JavaScript code to create variables.

02

When you are done, open the file in Chrome and check the output.



If you successfully complete the activity, you will see a series of pop-up windows with text inside.



Finally, look at the rest of the code and try to figure out why the text displayed the way it did.





Time's Up! Let's Review.





Instructor Demonstration Console Log

Console.log

console. log is a quick expression that prints content to the debugger—very useful during development and debugging!

```
var quick = "Fox";
var slow = "Turtle";
var numbers = 121;
// The console.log() method is used to display data in the the browser's console.
// We can log strings, variables, and even equations.
console.log("Teacher");
console.log(quick);
console.log(slow);
console.log(numbers + 15);
```

How do you comfort a JavaScript bug?



How do you comfort a JavaScript bug?





Activity: Console Log

Instructions sent via Slack



Activity: Console Log

01

Using the file sent to you as a guide, modify the code so that is uses *console*. log instead of alerts to display messages.

02

Then open the file in the browser and open up Chrome Developer Tools -> Console to confirm that the changes worked.

03

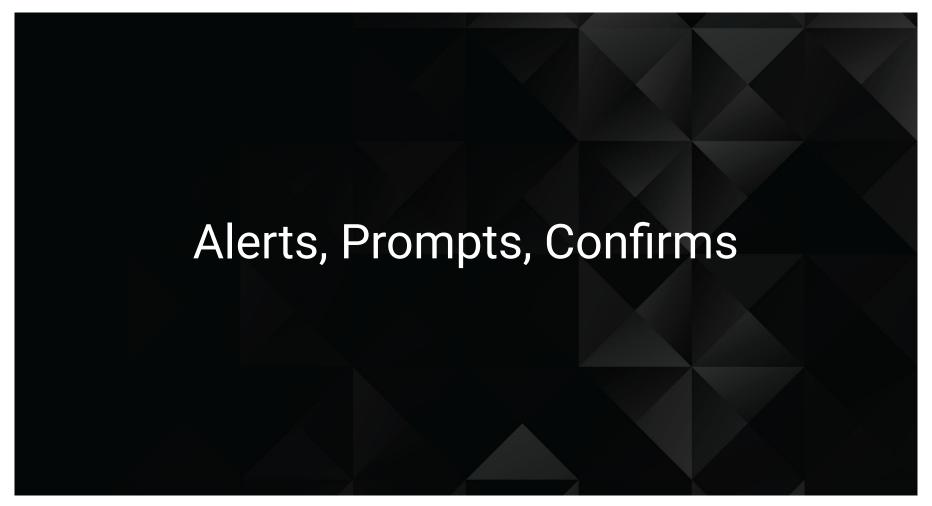
With a partner, discuss the difference between console.log and alert.

```
alert("Welcome: " + name);
alert("Pizzas cost $5 each");
alert("Your total is: $" + totalCost);
alert("Still Hungry: " + isHungry);
```



Take a Break!



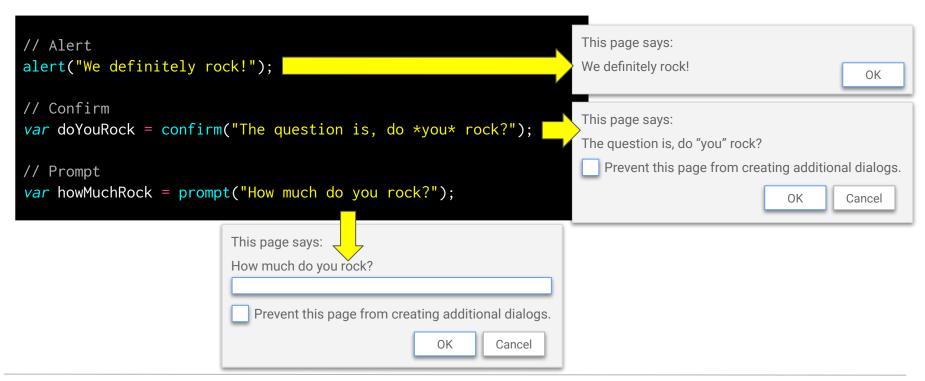


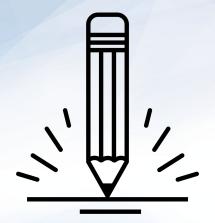


Instructor Demonstration
Alerts, Prompts, Confirms

Alerts, Prompts, Confirms

Alerts, prompts, and confirms create a popup in the browser when run. These are also useful for development and debugging.





Activity: Alerts

Instructions sent via Slack



Activity: Alerts

Write JavaScript code that does the following:

01

Using a confirm, ask the user "Do you like _____?" and store their response in a variable.

02

Using a prompt, ask the user: "What kind of ____ do you like?" and store their response in a variable.



alert both variables to the screen.





Time's Up! Let's Review.





Instructor Demonstration Conditionals

If/Else Statements Are Critical

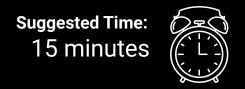
Each statement is composed of an if, else-if, or else (keyword), a condition, and the resulting code in curly brackets { }.

```
// If the user likes sushi (confirmSushi === true), we run the following block of code.
if (confirmSushi) {
  alert("You like " + sushiType + "!");
// If the user likes ginger tea (confirmGingerTea === true), we run the following block of code.
else if (confirmGingerTea) {
  alert("You like ginger tea!!");
// If neither of the previous condition were true, we run the following block of code.
else {
 alert("You don't like sushi or ginger tea.");
```



Partner Activity: If/Else Part 1

With a partner you will create a website (from scratch) that asks users if they eat steak.



Partner Activity: If/Else Part 1



With a partner, create a website (from scratch) that asks users if they eat steak.



If they respond with yes, alert the following to the page: "Here's a Steak Sandwich!".



If they respond with no alert the following to the page: "Here's a Tofu Stir-Fry!".



Bonus: Ask what the user's birth year is. If they are under 21, alert the following: "No sake for you!"





Time's Up! Let's Review.



Activity: If/Else Part 2

As a class, we will go through and predict what the result of a conditional statement will be.

Instructions sent via Slack.



Activity: If/Else Part 2

Do this activity as a class.



Open the file sent to you in your code editor.

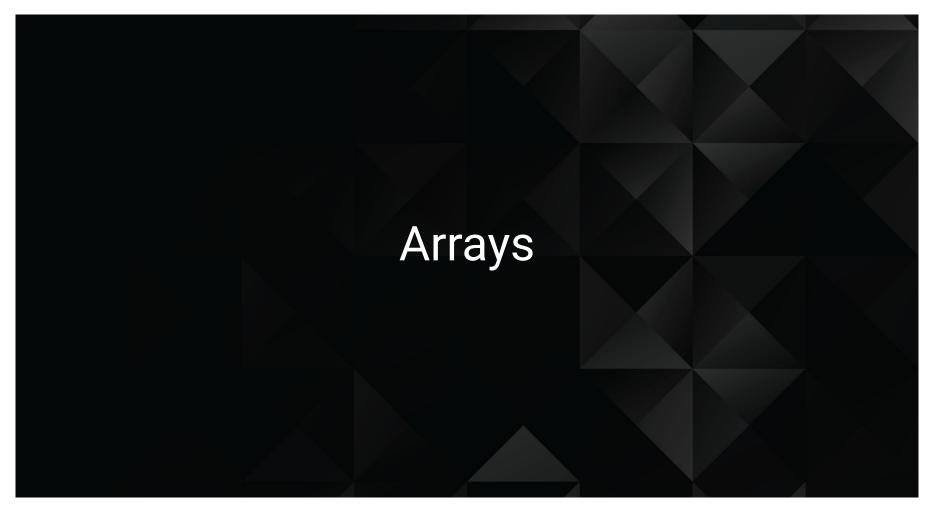


As a class, go through and predict what the result of each conditional statement will be (i.e., will the "if" or the "else" be triggered).



Then run the program to check if you are right. Note any that you got wrong and ask about it in class.





The Zoo Pen

Array Name: zooAnimals



The Zoo Pen: Coded

Array Name: zooAnimals



Coded in JavaScript using an array:

```
// Our array of zoo animals.
var zooAnimals = ["Zebra", "Rhino", "Giraffe", "Owl"];
```

Arrays



Arrays are a type of variable that are collections.

These collections can be made up of strings, numbers, Booleans, other arrays, objects ... anything.

Each element of the array is marked by an index. Indexes always start with 0.

```
var nickCharacters = ["Tommy", "Doug", "Oblina"];
var diceNumbers = [1, 2, 3, 4, 5, 6,];
var mixedArray = ["Zoo", 12, "Carrot", 3];
```

Arrays: Indices



To recover the value at any specific index, include the name of the array with a square bracket and inside the bracket is the element's index.



You can easily grab the number of elements in the array using the method array.length.

```
// Our array of zoo animals.
var zooAnimals = ["Zebra", "Rhino", "Giraffe", "Owl"];

// Prints 4 to the console because there are 4 items in our zooAnimals array.
console.log(zooAnimals.length);

// Prints Rhino to the console. Remember, the first item in an array has an index position of 0!
console.log(zooAnimals[1]);

// Prints undefined...because the last index ("Owl") is 3.
console.log(zooAnimals[4]);
```



Instructor Demonstration Arrays

Partner Activity: Code Dissection

With a partner, take a few moments to look over the following code (sent via Slack).

Above each *console*.log(), write a comment predicting what you think the output will be.





Homework #3



Challenge: Favorite Band Array

In this challenge, you will create an array of your favorite bands.

Suggested Time: 15 minutes

Challenge: Favorite Band Array

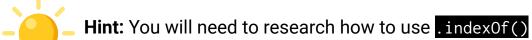
Create a website that accomplishes the following:

O1 Create an array of your favorite bands.

02 With a prompt, ask the user's favorite band.

O3 If it's one of your favorites, alert: "YEAH, I LOVE THEM!"

04 If it's not, alert: "Nah. They're pretty lame."



Hint: You will also need to research how to use .toLowerCase()



Challenge: Code Dissection (Re-examined)

Re-examine the file sent to you at the start of class. See if you can better understand how it works after having completed today's class.

Suggested Time: 12 minutes

