JQUERY

LEARNING OBJECTIVES

‣ Differentiate between the jQuery library and the JavaScript language, and describe benefits of using each.

‣ Add jQuery to a project.

‣ Recognize jQuery syntax.

‣ Use jQuery to select and update elements in the DOM.

‣ Write jQuery code to detect and react to events in the DOM.

REVIEW

SYNTAX - CALLING A FUNCTION

```
function pickADescriptiveName () {
    // Code to run
}


pickADescriptiveName();
```

ACTIVITY

EXERCISE

KEY OBJECTIVE

‣ Review functions

LOCATION

‣ Starter Code > jQuery Code Along

AS A CLASS

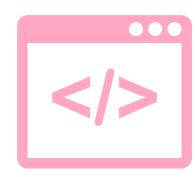*5 min*   1. Follow the instructions in main.js

INTRO TO JQUERY

YOUR RESPONSIBILITIES

Don't feel like you have to sit down and memorize the syntax!
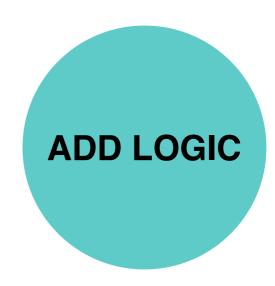
Focus on understanding
the key concepts

Be resourceful. Google
is your best friend

Practice, practice,
practice

WHAT JAVASCRIPT CAN DO!

ACCESS AND MODIFY CONTENT

REACT TO EVENTS

ADD LOGIC

WHAT JAVASCRIPT CAN DO — ACCESS AND MODIFY CONTENT

We can use JavaScript to access and modify content on the page.

Note: we will usually do this in response to something the user does on the page, instead of when the page loads. But we'll get there!

ACCESSING CONTENT:

‣ Find out what the user typed into the password field.
‣ Check to see whether the "remember me" checkbox is checked or not.

MODIFYING CONTENT:

‣ Slide the nav out from the side of a page.
‣ Fade in a paragraph
‣ Fade in an image
‣ Add a red border to the password field

WHAT JAVASCRIPT CAN DO — REACT TO EVENTS

JavaScript is referred to as an event-driven language.

We can wait, or listen, for the user to do something and then respond to that action.

We can write a series of instructions that will happen when an event occurs.

EVENT	ELEMENT	STEPS TO TAKE
click	button	*Slide in the* nav *from the side of the page*
mouseover	anchor	*Fade in a paragraph*
scroll	window	*If the user has scrolled 500px or more, fade in an image*
keyup	input	*Check to see if the input has enough characters and add a red border to the field if not*

PSEUDO CODE — EVENTS

```
// WHEN the user _____ the _____
    // steps to take when that event occurs
    // all steps should be indented




// WHEN the user clicks the button
    // fade in the image
    // display a message that says "You win!"
```
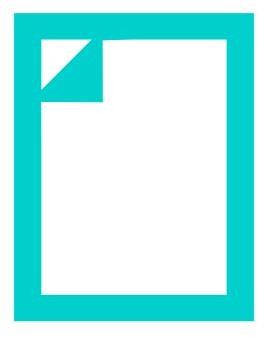
PSEUDO CODE — ALL TOGETHER NOW!

```
// WHEN the user _____ the _____
    // if _____
        // Steps to take if condition is true
    // else
        // Steps to take if condition is false



// WHEN the user scrolls in the browser window
    // if the user has scrolled more than 500px
        // Fade in the image
    // else
        // Fade out the image
```

THE BASICS

INTRO TO JQUERY — YOUR NEW BEST FRIEND!

jQuery is a JavaScript [file](#) you include in your pages.

WHAT CAN WE USE JQUERY FOR?

We can use jQuery to:

‣ Access and manipulate content on the page

‣ Listen for events.

For example:

‣ Listen for when the user clicks the button (event)

‣ Listen for when the user types into an input field (event)

‣ Listen for when the user scrolls in the browser window (event)

‣ Fade in an image

‣ Slide down a nav menu

‣ Add an error message to the page

‣ Add a red border to an input field

INTRO TO JQUERY — YOUR NEW BEST FRIEND!

CROSS-BROWSER COMPATIBILITY

Works the same in all browsers

FAMILIAR SYNTAX

Use more familiar, CSS-style syntax

MORE CONCISE

Write way less code to achieve the same tasks

JQUERY VS. JAVASCRIPT

jQuery will ensure that our code works the same in different browsers.

INTRO TO JQUERY — YOUR NEW BEST FRIEND!

CROSS-BROWSER COMPATIBILITY

FAMILIAR SYNTAX

MORE CONCISE

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Use more familiar, CSS-style syntax

Write way less code to achieve the same tasks

JQUERY VS. PLAIN VANILLA JAVASCRIPT
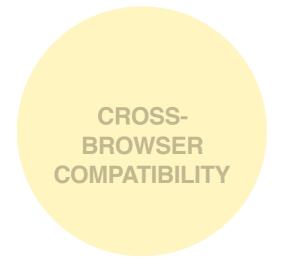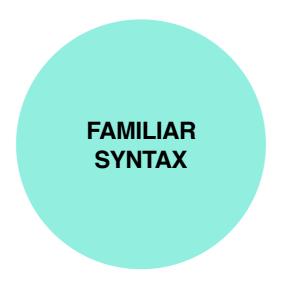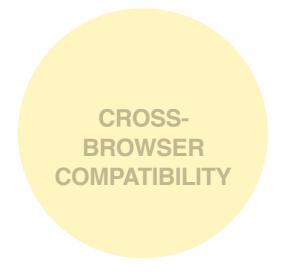
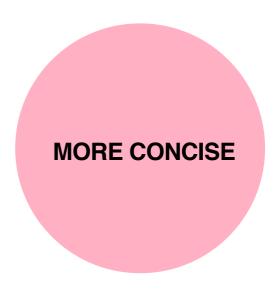jQuery allows us to use the CSS-style selectors that we know and love! Yay!

JS: **JQUERY**

😭 `document.getElementsByTagName('body')[0]` → `$('body')` 😃

😭 `document.getElementById('about')` → `$('#about')` 😃

INTRO TO JQUERY — YOUR NEW BEST FRIEND!

CROSS-BROWSER COMPATIBILITY

FAMILIAR SYNTAX

MORE CONCISE

Works the same in all browsers

Use more familiar, CSS-style syntax

Write way less code to achieve the same tasks

JQUERY VS. PLAIN VANILLA JAVASCRIPT

JS:
```
document.getElementById('heading').textContent = "Your Name";
```
😭

JQUERY:
```
$('#heading').text('Your Name');
```
😄

You could do everything jQuery does with plain-old vanilla Javascript

JQUERY VS. PLAIN VANILLA JAVASCRIPT — A COMPARISON OF BENEFITS

JQUERY

‣ Write way less code to achieve the same tasks
‣ Cross-browser compatibility
‣ Use more familiar, CSS-style syntax

PURE JAVASCRIPT

‣ Better performance
‣ Faster

ACTIVITY

**EXERCIS
E**

KEY OBJECTIVE

‣ Summarize the difference between the jQuery library and the
JavaScript language, and describe benefits of using pure
JavaScript vs. jQuery.

EXERCISE

1 min   Answer the above question.

ADDING JQUERY TO YOUR PROJECT

ADD JQUERY TO YOUR WEBSITE

1. Download the jQuery script (version 3.x, compressed).
2. Add a js folder to your project
3. Move the jQuery file you downloaded to the js folder
4. Use a script tag to include the jQuery file after your HTML content and before any other JavaScript files that use it.

```
<body>

    <!-- HTML content here -->

    <script src="js/jquery-3.2.min.js"></script>

    <script src="js/main.js"></script>

</body>
```

USING JQUERY

PART 1 — SELECT AN ELEMENT

USING JQUERY TO MANIPULATE THE DOM

1
Select an element/elements

2
Work with those elements

JQUERY SELECTORS

When using jQuery, the first step will always be to select, or choose, an element to work with on the page.

For example:

‣ Which element do we want to listen for an event on?

‣ Which element do we want to update the text or styles for?

‣ Which element do we want to hide?

‣ Which element do we want to fade in?

$('li')

JQUERY OBJECTS — FINDING ELEMENTS: SOME EXAMPLES

	CSS	JQUERY
ELEMENT	`a { color: blue; }`	`$('a')`
ID	`#special { color: blue; }`	`$('#special')`
CLASS	`.info { color: blue; }`	`$('.info')`
NESTED SELECTOR	`div span { color: blue; }`	`$('div span')`

CLASSES AND IDS — REVIEW

```html
<button id="form-submit">Submit</button>

<li class="circle">One</li>

<h1>Color Scheme Switcher</h1>
```

$('#info')   =   jQuery('#info')

JQUERY

PART 2 — ADD A
METHOD

USING JQUERY TO MANIPULATE THE DOM

1
Select an element/elements

2
Work with those elements

Parameter(s)

$('li')   .fadeIn('slow');

Method

JQUERY METHODS — WORKING WITH THOSE ELEMENTS

After we've selected elements, we can use jQuery methods to:

LISTEN FOR EVENTS

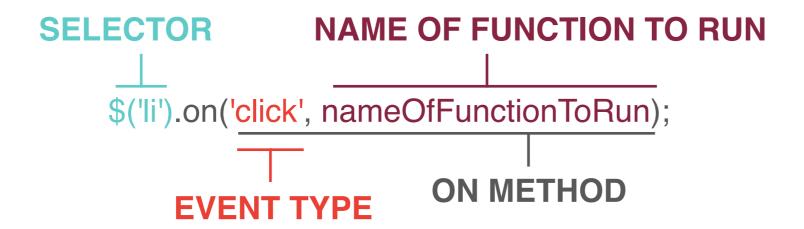GET/SET CONTENT

ADD EFFECTS/ ANIMATION

JQUERY METHODS — EVENTS!

We can use the on() method to handle all events in jQuery.

JQUERY METHODS — EVENTS!

```
$('li').on('click', nameOfFunctionToRun);
```

JQUERY METHODS — EVENTS!

SELECTOR   **NAME OF FUNCTION TO RUN**

EVENT TYPE   **ON METHOD**

```
$('li').on('click', nameOfFunctionToRun);


function nameOfFunctionToRun () {
    // Type code related to event here! :)
}
```

EVENTS — ANONYMOUS FUNCTION

```javascript
$('li').on('click', function () {
    // Type code related to event here! :)

});
```

$('li').on('eventGoesHere', nameOfFunctionToRun);

MOUSE

KEYBOARD

FORM

DOCUMENT

click

dblclick

mouseenter

mouseleave

keypress

keydown

keyup

submit

change

focus

blur

resize

scroll

JQUERY METHODS — WORKING WITH THOSE ELEMENTS

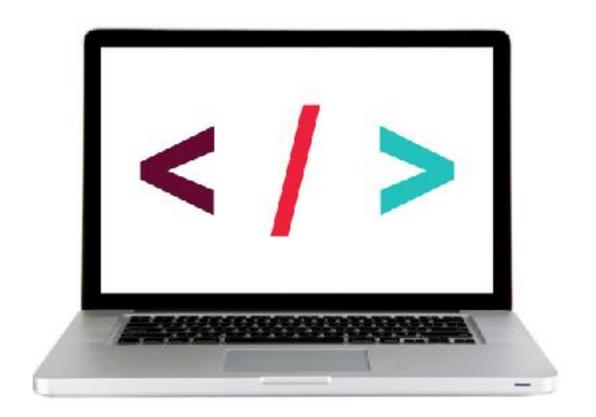After we've selected elements, we can use jQuery methods to:

LISTEN FOR EVENTS

GET/SET CONTENT

ADD EFFECTS/ ANIMATION

GETTING/SETTING CONTENT — PART 1

Get/change content of elements and attributes

METHODS	EXAMPLES
.text()	$('h1').text('Content to insert goes here');
.attr()	$('img').attr('src', 'images/bike.png');
.css()	$('#box1').css('color', 'red');

What goes in the parentheses?
The html or styles you want to change.

LET'S TAKE A CLOSER LOOK

GETTING/SETTING CONTENT — PART 2

Get/change content of elements and attributes

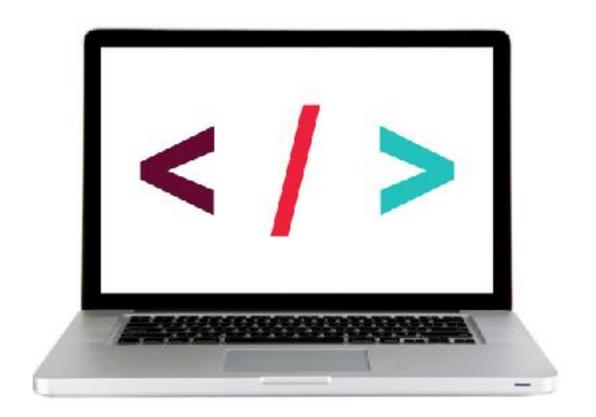| METHODS	EXAMPLES
`.addClass()`	`$('p').addClass('success');`
`.removeClass()`	`$('p').removeClass('my-class-here');`
`.toggleClass()`	`$('p').toggleClass('special');`

What goes in the parentheses?
The classes you want to change.

$('li').addClass('selected');
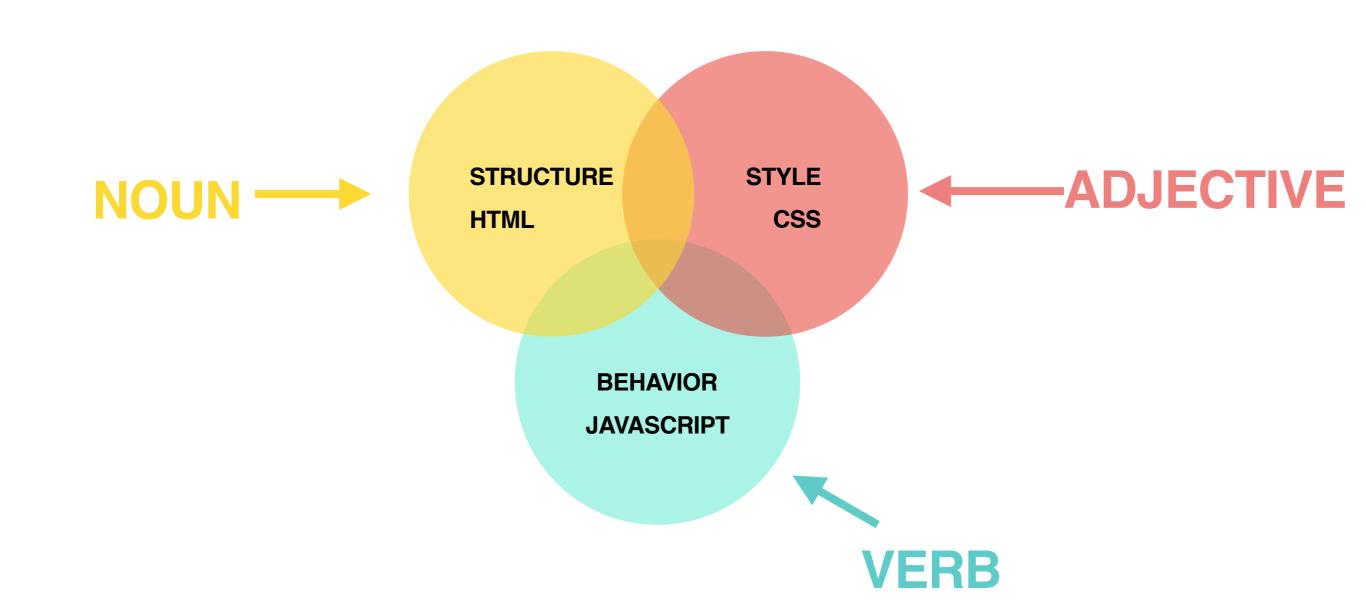
NO PERIOD!!!

LET'S TAKE A CLOSER LOOK

SEPARATION OF CONCERNS

THE THREE AMIGOS: STRUCTURE, STYLE, BEHAVIOR

NOUN →

STRUCTURE
HTML

STYLE
CSS

← ADJECTIVE

BEHAVIOR
JAVASCRIPT

VERB

JQUERY METHODS — WORKING WITH THOSE ELEMENTS

After we've selected elements, we can use jQuery methods to:

LISTEN FOR EVENTS

GET/SET CONTENT

ADD EFFECTS/ ANIMATION

JQUERY METHODS — EFFECTS/ANIMATION

Add effects and animation to parts of the page

METHODS	EXAMPLES
.show()	$('h1').show();
.hide()	$('ul').hide();

JQUERY METHODS — EFFECTS/ANIMATION

Add effects and animation to parts of the page

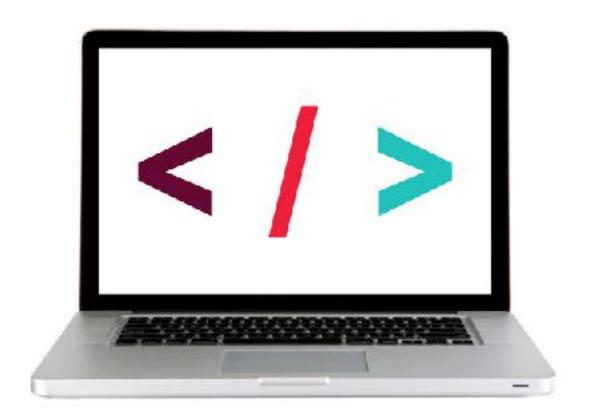| METHODS	EXAMPLES
`.fadeIn()`	`$('h1').fadeIn(300);`
`.fadeOut()`	`$('.special').fadeOut('fast');`
`.fadeToggle()`	`$('h1').fadeToggle(350);`

What goes in the parenthesis?
An animation speed

JQUERY METHODS — EFFECTS/ANIMATION

Add effects and animation to parts of the page

METHODS	EXAMPLES
.slideUp()	$('div').slideUp();
.slideDown()	$('#box1').slideDown('slow');
.slideToggle()	$('p').slideToggle(300);

What goes in the parenthesis?
An animation speed

LET'S TAKE A CLOSER LOOK

ACTIVITY

EXERCISE

KEY OBJECTIVE

‣ Practice listening for an event and updating the page when that event happens.

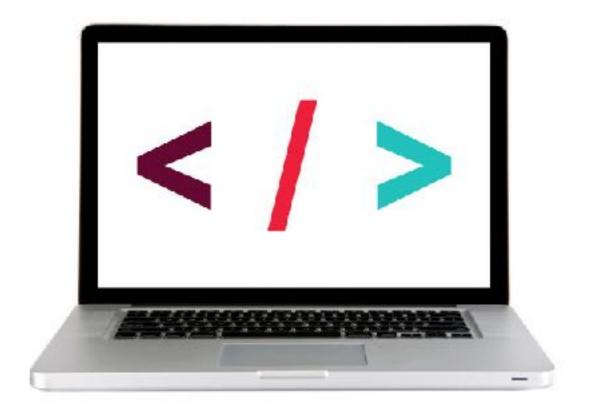### TYPE OF EXERCISE

‣ Starter Code > jquery_mini_lab

EXERCISE

8 min

1. Follow the instructions in main.js

2. Use cheat sheet as a guide

METHOD CHAINING

METHOD CHAINING!!!

JQUERY METHODS — METHOD CHAINING

`$( )`

`.slideUp( )`

`'li'`

`'slow'`

JQUERY METHODS — METHOD CHAINING

`$( 'li' )`

`.slideUp( 'slow' )`

```
$('li').slideUp('slow');
```

`$( )`

`.addClass( )`

`'li'`

`'.complete'`

`'complete'`

```
$( 'li' )

.addClass( 'complete' )
```

JQUERY METHODS — METHOD CHAINING

```
$('li').addClass('complete');
```

`$( )`

`.slideUp( )`

`'.item'`

`300`

```
$('.item')

.slideUp(300)
```

```
$('.item').slideUp(300);
```

DEBUGGING

DEBUGGING — WHERE TO START

Always start by defining the problem.

THE IMAGE IS NOT MOVING

NONE OF MY CODE WORKS

DEBUGGING

To access debugging console:

PC: CTRL+SHIFT+J
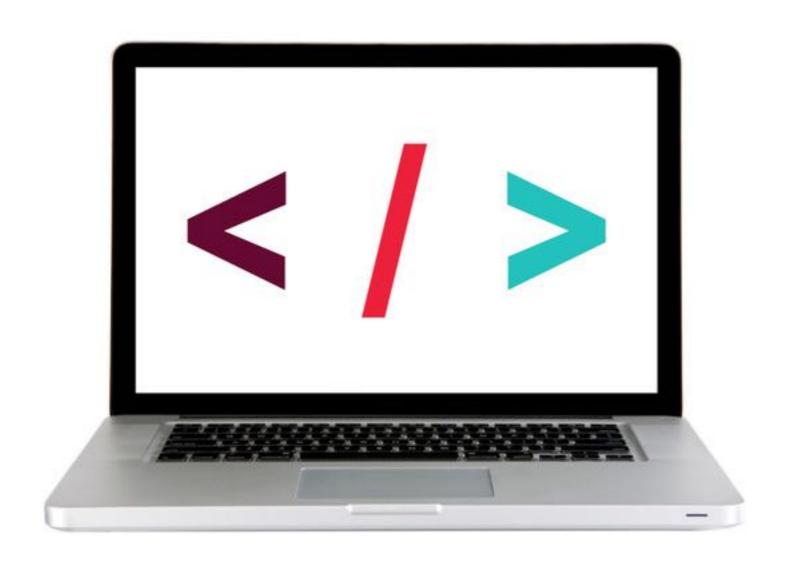
Mac: COMMAND+OPTION+J

Click the error

DEBUGGING — LEVEL 1

Check for errors in console

‣ The location may not be correct but is a good place to start.

‣ Ex: Unbalanced brackets or parentheses

❌ Uncaught SyntaxError: Unexpected token)   main.js:13

DEBUGGING — FIND THE BUG

DEBUGGING — LEVEL 2

Do some Googling!

‣ Try Googling it

‣ Be ready to clearly articulate the problem (Write out what your problem is)

DEBUGGING — LEVEL 3

Get help!

If you still can't find a solution, ask your instructor.

Help us help you!

  1. Slack your instructor

  2. Be descriptive about the problem.

  3. Tell us what you've already done to try to figure it out.

  4. Attach a .zip file
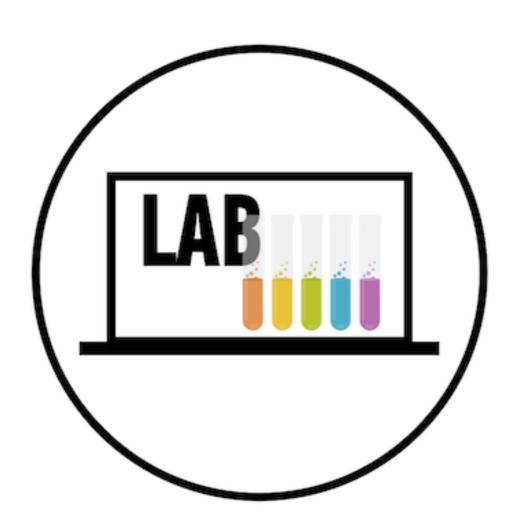
JQUERY DOCUMENTATION

JQUERY DOCUMENTATION - IT'S YOUR FRIEND!

Help! There's too much to learn! I feel overwhelmed!

A good developer is one that can look things up!!!

1. The jQuery Examples page has an example for almost every method!
2. jQuery documentation — Look things up

LAB

ACTIVITY

EXERCISE

KEY OBJECTIVE

‣ Use jQuery to select and update elements in the DOM.

‣ Write jQuery code to detect and react to events in the DOM.

TYPE OF EXERCISE

‣ Individual / Groups

AS A CLASS

30 mins   Lab is in starter code > select_fun

1. Follow the instructions in main.js

2. Use cheat sheet as a guide for syntax and look up any methods you're not familiar with in the jQuery documentation.

3. Bonus: Complete part 2 of the lab for more practice (Starter Code> select_fun_bonus)

LEARNING OBJECTIVES

‣ Differentiate between the jQuery library and the JavaScript language, and describe benefits of using each.

‣ Add jQuery to a project.

‣ Recognize jQuery syntax.

‣ Use jQuery to select and update elements in the DOM.

‣ Write jQuery code to detect and react to events in the DOM.

EXIT TICKETS