00:00 Okay, let's go ahead and practice with JavaScript objects. We're going to have an object. This is what our. Bye. I'm just going to look like when we're done.

00:10 We're going to have an object that stores these values and they're going to just come up on the screen here.

00:17 There's no CSS going on here. That's why it's kind of ugly. We're not going to worry about CSS with this one, but it's going to go ahead and put.

00:24 Look at those values on the screen and it's also going to have a method that when we go ahead and enter one of the sections, notice it's going to increase the number here.

00:35 Every time they click. If they want to add to section two, they put two in and it w- would add to that one.

00:42 So that's the idea with this ponder. So we're displaying information from an object as well as calling and method, our own method that we create with this object to enroll students.

00:55 So let's go ahead. And create, in our ponder folder, a file called course. And we'll go ahead and create, also, a JavaScript.

01:14 and subscribe to our channel. I have the same name. Alright, so we're gonna start off, let's go ahead and put our HTML in there.

01:27 So we do need to shortcut this time. So, exclamation tab or enter. And I am going to change the title to be something like, um, JS object.

01:38 And go ahead and paste in the body. Now I'm gonna indent that, take care of some of the extra spaces there.

01:47 Okay, so we do have a table here, and that might be a little new to you. Umm, we're gonna have some headers for the table here, and then notice everything that's gonna come in from, each of the object, or from the object, is gonna be inside this body section, which is empty right now.

02:10 It also has an h1 and h2 that don't have anything in it right now, and then we have the input so that they can put in, which section they want to add to, and of course the button.

02:24 So, let's go ahead and just kind of practice with this object to begin with. So I don't want you to copy all the code yet.

02:31 I'm gonna do it piece by piece so that we can kind of see what's going on here. So, So, here is just a very simple object.

02:40 It's called A-course. It has three name value pairs or key value pairs. And it's the code, name, and logo. For this, we don't have this logo yet, and right now it's just a text value string going in, has the name value pair.

02:56 Okay, I'm gonna go ahead and save that, and I do need to connect that to my HTML with a script tag.

03:04 And, of course it's a GS, and I do, I'm gonna put it deeper in here, right off the bat. Alright, now how do we reference these?

03:15 Let's start with just a simple console log. So we could do console log, and then you'd put the name of the object, and then dot, and then you could either put code, name, or logo here.

03:28 So we'll go ahead and just put code, choose one of them, and you'll notice that now if we open this, page up, and look at the console, we should see that CSE-121B coming in, because that is the code value.

03:47 So again, remember you can use these, code notation with the object name, and refer to any of the key, um, names, uh, or property names, and then they will return the value there, just like a variable.

04:02 Okay, so again, we could do the same thing. There you go. Just copy that, and we could, of course, put name here, and it would do, it would also put the name there.

04:13 Alright, so, let's go ahead and put it on the screen this time. So, remember, we had these two em D, H1, and H2, and it actually has the ID, of course, name, and course code, and camel case.

04:27 So, we can target those easily with a document query selector. And we can get their IDs, so. We could say course name, and then change its text content to be, and then here's where we can, again, refer to the name property in our A-course object.

04:53 Or we could refer to, I'm gonna close that down. We could refer to the code. And because that one is a different element, it was code.

05:05 We're gonna change that and that. Okay, and now they should show up on the screen. It's gonna have to worry about the console.

05:12 Okay, so that's how you could dynamically bring in information using an object and its properties and the values would show up on the screen for you in that h1 and that h2.

05:23 Alright, this really isn't a- part of your homework this week, but I did want to show you, because this will happen a lot of time with the API object, uhm, objects coming in that you'll create as JavaScript objects, uhm, or fetch them from the API and then create a JavaScript object.

05:40 They will have, images, and image paths that are already included in them. So let's just show how we might dynamically put in an image.

05:49 And I'm gonna leave it completely. Um, just the image tag, no, SRC, no ALT. And we're gonna do that dynamically in JavaScript.

05:56 So if we did have an image, called GS logo in our images folder, which right now we don't. Umm, let's grab one really fast.

06:05 And so I'm just gonna say GS logo in Google. Wikimedia is a good one. Umm, let me make sure though, let me just make sure that it's, Gonna be, umm, not copyrighted.

06:19 And this one is 500 by 500. I did that just because the last one I got was like 2000 by 2000.

06:25 It was really big. But we can change the width. Umm, I'm just gonna go ahead and save it from here.

06:31 And make sure it ends up in that images folder. I did have one. Let's see. Yeah, I did. I have one, but you wouldn't have had one.

06:40 So go ahead and I'm going to call it exactly what we had in that property value name G S dot logo and, I'll save that and replace.

06:52 The one I had you probably don't need to replace. You probably did not have one. Okay. So still should be there and still should work.

07:01 Okay. So now we do actually have a logo and it is actually in this pathway. That we have here. So again, this could be a hot-linked image.

07:10 It could be umm, whatever's coming from the API as well. Alright, so how do we get that on the screen?

07:17 we could go ahead and, Target it. The only IMG we have on the page, I didn't give it a class or an ID.

07:33 And we can go ahead. There's probably other ways to do this, but I'm gonna go ahead and just, do set attribute and change the SRC as the first parameter.

07:41 And then what do we want to change it to? And here's where you put in the name of the object.

07:46 and then the property name which So, now if we save that and look at our page, we will see that coming in.

08:00 And it's still pretty big, even at 500 by 500. So we might change that here in a minute. I'm going to go ahead and copy.

08:05 This because we're going to do a very similar thing for the alts. We should always have an alt as well.

08:12 And we can go ahead and just put that as maybe the name of the course just to make it quick.

08:17 So it's going to have alt, JavaScript language. And go ahead and save that. Again, I'm going to throw in one called style.

08:29 We've seen this one before and just change that width. So it's a little bit, uhm, oops, it needs an equal sign.

08:37 And whatever pixels needs to come in as a string. And then that will make it a little smaller. Okay. So this was just to make it a little smaller on our page.

08:47 But these two were using the object and, property names with dot notation. And it's actually showing up on our page, which is pretty cool.

08:56 Okay. Let's add a little bit more. More to our object. Let's go back to our ponder section. And we're going to go ahead and add this section's array to it.

09:06 Now we didn't see an array on our introduction video. So this might be a little different. Always put a comment.

09:13 Between every name and property pair. In this case, it is another property. So yeah, don't forget that comment there. But instead of just a string or text that we have up here, this one's going to contain an entire array.

09:30 And inside that array, we have more objects, two more objects. This is also very common in real-life API data that you'll bring in, will, it will have nested objects inside object arrays.

09:43 And so you will see stuff like this, but it's- it is a little different to now call these values because now it's inside of a array.

09:52 So let's go ahead and just kind of look and see how that would look. So let's start with the console again.

09:58 And we'll go ahead and reference the object. This time we'll reference the sections property, but it needs to know which one because now there's multiple things in here.

10:11 So we're going to use square brackets to let it know which one we want. Let's do one first. And we'll just leave it at that.

10:21 So we want a console log section, but we want the number one index. And which one will that be? Will that be Brother Thompson or Brother Urs?

10:31 Sister Anderson. So let's go ahead. And see what that ended up in our console. And we'll see when we open that, that is actually SIS-A, which is the second one.

10:42 Remember, the indexing on our arrays are zero based, meaning if we wanted the first one, we would have to use.

10:50 And then we would get Brother Thompson's. Alright, so remember, if you're looking at an array inside there, you do need to put the square brackets and let it know which one it just doesn't know which one of these to get.

11:05 At this point then. And we could go ahead and put the dot notation for the values that are inside of those objects.

11:14 And it's, there's the instructor one. And so this one, of course, should put protein. Or we could do. The other one.

11:23 And then it would say, sis-a. We could also put the room number or, uh, days, whatever we want. Room num.

11:34 And it would show the room number for that index one. Which is the second one. So it would do the 3 47.

11:42 So, just remember when you've gotten an array inside of your object, you need to let it know which one inside of that array.

11:49 And then you can go ahead and drill down further into the different properties there. That's quite a paste in a, method that we get from Ponder.

12:00 So, remembered methods are different from the properties. Oh, let me just go ahead and copy the code. And again, this is gonna be a little tricky because I, I'm adding piece by piece, but remember, you gotta put a comma, And then, the next part of let me go ahead and down that, like, it should be.

12:18 And this one is not a property. It is, well, it's a property that has a function as its value, which they call methods.

12:25 Methods will take action upon your, object. It's not a very exciting action. It's when they call enroll student. It's just going to console log student was enrolled.

12:37 So how do you call that? You would go in here and you'd say, again, the object name, and then just simply the name.

12:44 Of the method. And then it is a method, so it needs parens. Okay, eat some, eat weather without a parameter.

12:54 Okay, so now if I save that, I should see student enrolled was called. Okay, so it called that method with the object and it went ahead and ran this code when that happened.

13:08 Alright, now let's replace it with some more useful code. This code is a little more complicated, so I wanted to show a very simple.

13:16 One first, but let's go ahead and grab the information. Now, if things weren't working right, you forgot commas or something, you can go ahead and paste this entire thing.

13:27 I'll go leave what I had and just make sure I put what's inside. Of the enroll. Watch the curly braces that you get the right number of curly braces there.

13:38 let me copy that. And I'm going to. Replace the console log with that information. Again, if it, if you confuse you or you have some red, um, curly braces here or something, you can just go ahead, replace this whole object with what you had.

13:57 I'm going to wait on the rest of this. That's why I didn't do the copycode, because I want to just do it bit by bit here again.

14:04 So, now instead of console log, it's going to do something a little more useful for us. It's actually going to add a student to whichever section.

14:15 It was picked. And it's not going to run until the user clicks that button. So, we will have an event listener here in just a minute.

14:23 But when this runs, it's using a .find index method that's going to be going to ahead and do a few things for us.

14:33 It's going to loop through each of the sections. So, remember that this keyword just says this object sections, and it's going to go through each one of them.

14:43 This is one of those array methods that we've used. Oh, I'm seeing these three dots here, because we do need to bring in what the user actually chose.

14:54 Umm, it's going to have a parameter this time. So, it's going to be section, um, with camel case. And if you copied it, it would have already been, There.

15:01 But I didn't. So, I do need to have an actual method coming in this time. Okay, so it's going to go through each of the sections when it says, this section is looking right here.

15:12 And it's saying, go through each one of those, and check it and say, If the current section is equal to whatever section number the user put in one or two, find its index.

15:32 next. So it's going to find the index. So it's going to say, hey, section number is coming in. It was either a one or two that the user put into their input.

15:43 And I'm going to take the current section. Now remember this word section is kind of like our item. Umm, that we used in past with array methods.

15:53 So it's just going to say the current one, the first time it's going to be this class, section will be this class, and the second time section will be this class.

15:59 And it's going to say, take the section number one or two, see if it's equal to what the user put in one or two.

16:08 Umm, so it's going to then find that index of that. So the one's going to become zero, and the two's going to become one, and it's going to store it in section index.

16:19 I know, it's little confusing. You don't need to completely understand. And this, but just realize it's doing something a little more useful, so we had to kind of do some extra code here.

16:27 So in the end, this is going to get either a zero or one. From the, the classes. Now, if it didn't find, if the user didn't put one or two in there and.

16:37 And we didn't get a zero or one, we're actually, it's actually going to return this line index a negative one.

16:43 So we're going to check and make sure the user didn't put in something other than one or two. And we didn't get back a negative one.

16:50 So that's what this is checking, you know, if that section index is greater than or equal. It's zero, meaning they got a zero or a one.

16:58 And not a negative one. Then we're going to go ahead and add one to that section. Now the reason we needed this, remember, in the square brackets, we need to let it know which one, to add two.

17:12 And that's going to come in, remember, as a zero or a one, because that's what find index, sign to section index here.

17:18 And it's going to go ahead and add one to the proper class. Then it's going to go ahead and re-render, or re-show it up on the page.

17:27 Umm, let me show it here. It's going to re-do this section here, that we'll see here in a minute, so that it has the right numbers.

17:35 So it's going to put it back on the screen again, with a render, function, which we have. So let's go ahead and grab that.

17:42 Alright, I'm going to go ahead and get the rest of the information then, so we can understand what the render is.

17:49 Oh, I didn't get the app there. Alright, let's take off how we ran Enrolled Student, because we're not going to run that anymore until they click a button.

18:01 So I'm going to make sure that's taken out. And here it is, exactly. Like, we need to have it done.

18:09 We're waiting until that Enroll Student button, which is right here. ID Enroll Student is clicked. And then in this anonymous function, we'll run.

18:19 And it will go ahead. Grab the value that the. User put into that input box that the section number. So there it is, section number, whatever the user put in there.

18:31 And it's going to grab that value, the one or the two. And it's going to put it into section number.

18:36 And remember, that's what came in. Two. That method that we just looked at. There is where the actual method gets called.

18:47 And this only happens after the user has put a one or two in there. Okay, the render sections. And this is run the first time just with the current values inside of our object just so we can have something on the screen the first time.

19:03 In fact, let's go ahead and look at that now that I've added it. And you'll see those two are coming up automatically.

19:09 I haven't done anything with the method. Or the added that listener. But I am seeing those two coming in. And that's because this is running right here.

19:18 It's going in and it's going to grab all the sections. And again, we're just looking at this part of the object.

19:29 Sending it in. And it's going to go ahead and map those. So that means it's an array and we're creating a new array with some changes.

19:40 So for each section class that comes in, it's going to actually. We call section template right here and it's going to grab the first classes, section number, room number, how many are enrolled days in the instructor.

19:54 Do it again. And it's adding this table row and table data. And then we're going to put that HTML just so it doesn't have commas in between.

20:07 We put a join there and it's going to replace that empty sections. Remember, we had an empty sections. There. And it's going to do that.

20:16 Now, what's cool about this is these are going to get reused again and again. Every time our method gets called.

20:24 Because our method renders the new numbers. So after something gets added to this 26 and 28, it's going to. To rerun it every time they click.

20:34 Every time that that a course enroll student method gets called. Okay, so a little bit of new stuff. A little bit of stuff that we've seen.

20:44 But let's go ahead and see how that's working. So now. If the user puts in, I want to add one to Brother Thompson's class and he knows it is section one.

20:54 The user doesn't have to worry about zeros and zero indexing. So they're going to say, I want section one. Now watch the 26 when I click the button.

21:03 Turn to 27. If I keep adding, it's going to keep adding students to his class. If I want to add a class as student to section two, the same thing.

21:13 You'll notice that it's going to go up as you add students there. But because we had our method that was keeping track up.

21:20 The zero and one index, we were able to, uhm, the user didn't have to worry about that indexing. And it went ahead and added the right number added one to the right course.

21:32 Alright, so a little, little more complicated, but a good. Umm, real life, more real life, I guess, of calling a method and actually getting something useful to happen.

21:45 In your homework this week you will do that with numbers that will increase and decrease as well. Okay, so there we have a little demonstration with how we can use an object with properties, arrays, and methods, and use it on our web app or website.

22:05 Bye.