

JavaScript 2: Get Element By Id (part 1)

For this tutorial, you can either use the html and js you created for the random number tutorial or you can start a new html and js page.

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So far the programming tools we've learned are:

- Functions,
- Parameters
- Variables
- Alert box
- Prompts
- If conditions
- Else if and else with the if condition
- Random numbers

These are all useful, but they don't let us dynamically change the elements on your web page. For instance, what if I wanted to click on a word and have the web page's picture change to one representing that word (i.e., I clicked on an elephant and a pic of an elephant appears on the web page, along with a paragraph about elephants)? What if I wanted to be able to make an image smaller or larger by clicking on a button? What if I was low vision and wanted to make the font size larger on my web page?

All these can be done in a number of ways. We're going to start by learning about how to use:

```
document.getElementById()
```

document.getElementById()

getElementById only lets you change elements in your html code that have an id. Luckily you can go in and give any element an id. Since every id in your web page must be unique, this only allows us to change one thing at a time.

Let's start by using it to change an image on your web page.

.SRC

Example: if you have an image on your web page, it might look like this in the html code:

```
<img src = "Images/penguin.jpg" width = 220 height = 220 alt = "a cute baby penguin" >
```

You can add an id to the image (e.g.,)

```
<img src = "Images/penguin.jpg" width = 220 height = 220 alt = "a cute baby penguin" id = "pic1">
```

NOTE that I set width and height without saying: style = "...". I did this to make using document.getElementById easier for this tutorial. This way of setting the width and the height is the old-fashioned way, but it works. Because we're just using document.getElementById for the first time, setting and changing the width and the height are easier and more straightforward when using the old-fashioned way of setting the width and the height.

Then in the html page, have a button that calls a function that changes the image, or something like this:

```
<input type = "button" value = "Click to change" onClick = "changeSrc()">
```

Now, let's create the function that changes the pic. In your javascript, create a function.

Inside the function, add a document.getElementById. To identify the image uniquely, I'd say the following:

```
document.getElementById("pic1")
```

and to change the pic that shows up, I want to change the src

Note that in your html code, the img src="penguin.jpg" is what sets the image you see on the web page to be the penguin.jpg pic. So to change the pic, I must change what the src is set to.

So if I wanted to change the pic to a wombat, I'd have inside my function,

```
document.getElementById("pic1").src = "Images/wombat2.png"
```

So my entire function looks like:

```
function changeSrc() {  
    alert("Changing pic")  
    document.getElementById("pic1").src = "Images/wombat2.png"  
}
```

You can try the above:

In your html function:

Step 1: Add an image to your html page. Save the web page and load it. Make sure the image shows up.

Step 2: Give the image a unique id. It can be anything, as long as nothing else on your web page has that id (and it can only be 1 word – no spaces or special characters)

Step 3: Underneath, add a button that calls a function that changes the image when it is clicked on.

Now in your javascript file:

Step 4: Create a function. Make sure the function has the exact same name as the html button calls.

Step 5: Inside the function, include an alert box that alerts the user that the pic is being changed.

Step 6: Now add the document.getElementById. Make sure you have the id that you gave to the image between the parentheses, and make sure you're changing the .src to another image

Step 7: Save this file. Test Everything and make sure everything works.

If it's not working:

- Make sure that the id you gave to the image is the id between the parentheses for document.getElementById

- Make sure the id is in quotes in between the parentheses in document.getElementById("pic1")
- Make sure you did not capitalize ID, just the I (which is not an I as in llama but an I as in Iguana)
- Make sure you did not copy from this document and thus have funky quotes that MS Word creates
- Make sure your html and your js files are linked

(I am trying very hard to go back and change the I in Id to be Times New Roman so you can see the difference between a capital I and a small case letter I, but I may miss one here and there. They're EYES, not ELLS!)

Your Turn:

Part 1: (5) Get the above function working

Part 2: (6) Image as Button

Instead of a separate button, you can add the onClick command directly inside the img html tag, e.g.,

```

```

Try It

Add a new image to your web page. Give it a different unique id.

Download an alternate picture. I went with a snail pic and an explosion pic, but you can go with whatever you like.

Now add another function to your .js code. The function should change the .src to the explosion pic.

Now modify the image in your html code so that when you click on the image, the function you just wrote is called.

Save all and test by loading into the browser. When you click on the image, it should change to your second pic.

Part 3: (8) Random Pic

For this in your html add another image. Give it a unique id. Make the image call a new function when the image is clicked on.

Download 3 more images

In your javaScript, create another function with the same name as the function you're calling with the image you just added.

Inside the function, generate a random number between 0 and 3 (not including 3). Make sure you've got a variable to the left of the random number generator.

Below that, use an if condition to change the src to the first image you downloaded if the random number variable holds 0, the second if the random number variable holds 1, and the third if the random number holds 2.

Passing the ID in as a parameter

When you call a function, you've passed in words (strings) and numbers so far. You can also pass an id into a function's parameter when you call the function. So, for instance if you have the following image code:

```

```

Right now when you call the function thefunc(), you are passing nothing in, so the function in your javascript file should not have a parameter.

However, you can add a parameter. You can place the id of the image between the parentheses in the onClick as follows:

```

```

And then in your javaScript, make sure the function has a parameter as follows:

```
function thefunc(idpar) {
    document.getElementById(idpar).src = " bang.png"
}
```

So now when you click on the image, you're passing in the image's id into the parameter, and then the parameter, which holds the id is what goes between the parentheses for the document.getElementById().

NOTE THAT VARIABLES DO NOT HAVE QUOTES AROUND THEM!

And now, when you click on the image, that image's id goes into the parameter, and inside the function it is used in `document.getElementById`, and the `document.getElementById` is changing the `src` of the image with the id passed in to be "bang.png"

Your Turn:

Part 1: (5) Image id as a parameter:

In your html, add an image, and give the image an id. Make it so that, when the image is clicked on, a function is called. Make it be called with the id of the image (make sure that you put single quotes around the id when it is in between the parentheses when you call the function)

Now in your javascript create a function. Make sure the function's name is the same as the function called by the image above. The function should have a parameter.

Inside the function, use `document.getElementById` and the input parameter holding the id of the image above to change the `src` of the image to a different image

Save both files, test and make sure it works.

If it doesn't:

- Make sure the id of the image and the id you pass into the function are exactly the same.
- Make sure there are single quotes around the id when you call the function with `onClick`
- Make sure that you do not put quotes around the parameter when you're using it inside the parentheses in `document.getElementById`

Part 2 (6): Multiple Images

To your html file, add 3 more images, each with its own unique id. Make each of the images call the function you wrote for Part 1, right above, when clicked on, and make sure each image passes in its unique id when it calls the function.

Now save and test your code. When you click on any of the above 4 images (1 from part 1 and 3 from part 2), the image's `src` should change to the image you set it to in the function