

Simplest Rollover (nonJavaScript!)

1. Create a new web page from your template.
2. Download 2 pictures (hopefully the same size) from the internet, or find 2 pictures you've got on your computer somewhere.
3. We're going to change the image's source when the event, "onmouseover" occurs (when you roll your mouse pointer over something, it's called an "onmouseover" event)
4. In the html page you created, add an image. Inside the image include an onmouseover event (replace pic.jpg and pic2.jpg with the images you downloaded:

```
<img src = "pic.jpg" height = "250" width = "250" onmouseover = "src = 'pic2.jpg'" />
```

- What this says is set the src of the image to be pic2.jpg when we roll the mouse over the image in our web page.
 - Note the quotes!! The "src = ..." must be in quotes, as must the name of the pic. But if we put them both in double quotes, we'd get "src = "pic2.jpg" ", which to a browser looks like two separate entities inside of quotes: "src =" and then " "; and the pic2.jpg being outside of the two quotes. Instead we use ' (single quote) inside of the double quote so the browser can tell the difference.
5. Save your html page and load it in a browser. Run your mouse pointer over the image. It should change to the second image.
 - What if we want to change the image back when the mouse pointer leaves the image?
 - We use an onmouseout event (which is when we roll the mouse pointer off the image):
 6. Add to the image code:

```
<img src = "pic.jpg" height = "250" width = "250"  
  onmouseover = "src = 'pic2.jpg'"  
  onmouseout = "src = 'pic.jpg'" />
```

7. Save your html page and load it in a browser. Run your mouse pointer over the image. Then run your mouse off the image. It should change to the new image, and then it should change back.

[ex1.html](#)

Why JavaScript?

- JavaScript is Object Oriented
 - This means it works with objects
 - Javascript considers the Document (the html page) an object.
 - The document object has a bunch of objects inside of it
 - images

- links
- body
- forms
- etc.

So to refer to the images on a web page, JavaScript uses: `document.images`

- This is basically an array of all the images in a document
 - each image is also an object of its own.
- you can refer to an image in one of the following ways:

```
document.images[imageNames]    // array notation
document.images.imageNames      // property notation
```

- Consider the following HTML definition:

```
<IMG SRC="kittenasleep.jpg" id = "kitpic1" HEIGHT="100" WIDTH="100">
```

In JavaScript we'd refer to this image as:

```
document.images["kitpic1"]
```

Note that this **IS NOT** the image's name(kittenasleep.jpg)!!! It's the image's id (kitpic1). We refer to each image using its **id**.

Creating our first JavaScript

In order to let a browser know that certain code in the web page is JavaScript and not xhtml, you must put a tag around it:

```
<script type="text/javascript">

</script>
```

Anything between the opening and closing script tags is considered Javascript.

We can put this either inside the opening and closing head tag, or we can put it in the body of the html page.

For now, we'll place JavaScript inside the head tag.

```
<head>
  <title>Our first javascript!</title>
  <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />

  <script type="text/javascript">

    </script>
</head>
```

Inside the script tags we'll place a **function**. A function is javascript code with a name. We can make the name be anything we want, as long as it starts with a letter and it doesn't have any spaces or special characters in it. For our purposes, we'll call the function `makepicchange`.

To indicate where the code that is included in the function starts, we use `{`, and to indicate where the code that is part of the function ends, we use `}`. So so far we've got:

```

<script type="text/javascript">
    function makepicchange()
    {

    }
</script>

```

And finally, when this function runs, what we want to happen is we want the document's image known as kitpic1 to get a new src, which is kittybelly.jpg.

We do this by saying document.images["kitpic1"].src = "kittybelly.jpg"

Now our script looks like this:

```

<script type="text/javascript">
    function makepicchange()
    {
        document.images["kitpic1"].src = "kittybelly.jpg"
    }
</script>

```

And, finally, we have to make sure that when we run the mouse over the image in the web page, the function we just wrote is actually called, so it will run. We do this by modifying the code in the body of the html page for the image we want to change:

```

<body>

    

</body>

```

Put it all together and we get:

```

<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
<html lang="en-US" xml:lang="en-US" xmlns="http://www.w3.org/1999/xhtml">
    <head>
        <title>Our first javascript!</title>
        <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />

        <script type="text/javascript">
            function makepicchange()
            {
                document.images["kitpic1"].src = "kittybelly.jpg";
            }
        </script>

    </head>
    <body>

        

    </body>
</html>
```

Your turn: Modify the web page you created with the simple rollover so that it now uses JavaScript to create the rollover.

[ex3.html](#)

OnMouseOut:

Right now the image changes when we roll the mouse over it, but it doesn't change back when we roll the mouse off the image. To have the image change back, we can write another function. I'll call it `changepicback`.

In this function, we'll set the source back to `kittenasleep.jpg`. Otherwise the function looks just about the same:

```
<head>
    <title>Our first javascript!</title>
    <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />

    <script type="text/javascript">
        function makepicchange()
        {
            document.images["kitpic1"].src = "kittybelly.jpg"
        }
        function changepicback()
        {
            document.images["kitpic1"].src = "kittenasleep.jpg"
        }
    </script>

</head>
```

In the body, I have to add to the `img` code an `onmouseout` event and a call to `changepicback` when an `onmouseout` event happens:

```
<img src = "kittenasleep.jpg" name = "kitpic1" id = "kitpic1" width = "500" height
= "375"
    onmouseover = "makepicchange()"
    onmouseout = "changepicback()" />
```

Your turn: Modify the web page you created so that it changes the picture back with an `onmouseout` event.

[ex4.html](#)

Variables

What if you have 35 images on your web page, and for each web page, you want the picture (the src) to change when you roll the mouse over them?

You could write 35 different JavaScript Functions, but that's tedious, and, to be honest, a waste of time.

Instead, we can use variables.

Variables are technically spaces in memory that can be modified. If you don't like that definition, think of a variable as a box that can hold whatever we put in it. We give the box a name. Then when we want to use what value is in the box, we just use the box's name.

So, if I have 35 images, each image is going to have its own id. I can create a box called idholder. Then I can put whichever id I want into the idholder and use idholder as if it is the id of the image!!!! This is awesome!

Now our function will look like this:

```
<head>
  <meta http-equiv="Content-Type" content = "text/html;charset = utf-8" />
  <title>cats and kittens </title>

  <script type = "text/javascript">

    function makepicchange(idholder)
    {
      document.images[idholder].src = "kittybelly.jpg"
    }

    function changepicback(idholder)
    {
      document.images[idholder].src = "kittenasleep.jpg"
    }
  </script>
</head>
```

Now every image can put its own id into idholder, and the function will modify the src of whichever image idholder is holding.

Our code needs to change a bit too now, so that we place in the idholder box the id of the image we want to change:

```
<img src = " kittenasleep.jpg"    width = "500" height = "375" id = "kitpic1"
      onmouseover = "makepicchange('kitpic1')\"
      onmouseout = "changepicback('kitpic1')"/>
```

Notice how our code now calls makepicchange with the id of the image it wants changed. That id name goes into the box idholder, and the function uses idholder in the same way it would use 'kitpic1'.

Put it all together and you get:

```
<!DOCTYPE html PUBLIC "-//W3C//DTD XHTML 1.0 Transitional//EN"
"http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd">
```

```

<html lang="en-US" xml:lang="en-US" xmlns="http://www.w3.org/1999/xhtml">
  <head>
    <title>Our first javascript!</title>
    <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
    <script type = "text/javascript">
      function makepicchange(idholder)
      {
        document.images[idholder].src = "kittybelly.jpg"
      }
      function changepicback(idholder)
      {
        document.images[idholder].src = "kittenasleep.jpg"
      }
    </script>

  </head>
  <body>
    <p>
      <img src = "kittenasleep.jpg" width = "500" height = "375" id = "kitpic1"
        onmouseover = "makepicchange('kitpic1')\"
        onmouseout = "changepicback('kitpic1')\"/>

      <br />
      <img src = "kittybreakfast.jpg" width = "500" height = "375" id = "kitpic2"
        onmouseover = "makepicchange('kitpic2')\"
        onmouseout = "changepicback('kitpic2')\"/>
      <br />
      <img src = "kittydove.jpg" width = "500" height = "375" id = "kitpic3"
        onmouseover = "makepicchange('kitpic3')\"
        onmouseout = "changepicback('kitpic3')\"/>
      <br />
      <img src = "kittyfight.jpg" width = "500" height = "375" id = "kitpic4"
        onmouseover = "makepicchange('kitpic4')\"
        onmouseout = "changepicback('kitpic4')\"/>
    </p>
  </body>
</html>

```

Your turn: Modify the web page so that multiple pictures change images when you roll the mouse over them.

[ex5.html](#)

Two variables:

Is this what we want?

Instead of having every image change back to the first image, we probably want to have the image change back to the one it was.

We can add another variable! This variable will hold the name of the image we want to change back to. We can call it anything (with no spaces or special characters), but I'll call it `imgsrcholder`.

Our changepicback function would now look like this:

```
function changepicback(idholder, imgsrcholder)
{
    document.images[idholder].src = imgsrcholder
}
```

And then in body:

```
<img src = "kittydove.jpg"
width = "500" height = "375" id = "kitpic3"
onmouseover = "makepicchange('kitpic3')\"
onmouseout = "changepicback('kitpic3', 'kittydove.jpg')\"  />
```

So our code should now look like this:

```
<html lang="en-US" xml:lang="en-US" xmlns="http://www.w3.org/1999/xhtml">
<head>
    <title>Our first javascript!</title>
    <meta http-equiv="Content-Type" content="text/html; charset=ISO-8859-1" />
    <script type = "text/javascript">
        function makepicchange(idholder)
        {
            document.images[idholder].src = "kittybelly.jpg"
        }
        function changepicback(idholder, imgsrcholder)
        {
            document.images[idholder].src = imgsrcholder
        }
    </script>
</head>
<body>
    <p>
        <img src = " kittenasleep.jpg"    width = "500" height = "375" id = "kitpic1"
        onmouseover = "makepicchange('kitpic1')\"
        onmouseout = "changepicback('kitpic1','kittenasleep.jpg')\" />

        <br />
        <img src = "kittybreakfast.jpg"    width = "500" height = "375" id = "kitpic2"
        onmouseover = "makepicchange('kitpic2')\"
        onmouseout = "changepicback('kitpic2', 'kittybreakfast.jpg')\" />
        <br />
        <img src = "kittydove.jpg"    width = "500" height = "375" id = "kitpic3"
        onmouseover = "makepicchange('kitpic3')\"
        onmouseout = "changepicback('kitpic3','kittydove.jpg')\" />
        <br />
        <img src = "kittyfight.jpg"    width = "500" height = "375" id = "kitpic4"
        onmouseover = "makepicchange('kitpic4')\"
        onmouseout = "changepicback('kitpic4','kittyfight.jpg')\" />
    </p>
</body>
</html>
```

Your turn:

- 1. Modify the web page so that each picture changes back to its original image when you roll off of it.*
- 2. Modify the script and html code so that each picture changes to a different picture when you roll over it.*
- 3. Create a new web page. In it place 2 images: one of anything you want, and one should be a picture of a button (any button you like). Now write a javascript that will change the image src in the first picture when you click on the picture of the button. Instead of onmouseover, you will use onclick, which is an event that happens when you click your mouse on something.*

[ex7.html](#)

Other things you can change in images:

- `src` : The URL of the image to be displayed. (we've changed this)
- `border` : The width of the border around the image in pixels.
- `height` : The height of the image in pixels.
- `width` : The width of the image in pixels.
- `hspace` : The read only amount of horizontal space to the left and right sides of the image.
- `vspace` : The read only vertical space above and below the image.
- `complete` : A Boolean (True/False) value which identifies whether an image is completely loaded yet.
- `lowsrc` : The read or write string giving the URL of an alternate image for low resolution screen display.
- `name` : The assigned name of the image.

Example:

```
<head>
  <meta http-equiv="Content-Type" content = "text/html;charset = utf-8" />
  <title>cats and kittens </title>
  <script type = "text/javascript">
    function makepicchange(idholder)
    {
      document.images[idholder].src = "kittybelly.jpg"
    }
    function changepicback(idholder, imgsrcholder)
    {
      document.images[idholder].src = imgsrcholder
    }
  </script>
</head>
<body>
```



```
<p>
<img src = "kittenasleep.jpg" width = "500" height = "375" id = "kitpic1"
      onmouseover = "makepicchange('kitpic1')\"
      onmouseout = "changepicback('kitpic1', 'kittenasleep.jpg')\"/>
<br />
<img src = "kittybreakfast.jpg" width = "500" height = "375" id = "kitpic2"
      onmouseover = "makepicchange('kitpic2')\"
      onmouseout = "changepicback('kitpic2','kittybreakfast.jpg' )\"/>
<br />
<img src = "kittydove.jpg" width = "500" height = "375" id = "kitpic3"
      onmouseover = "makepicchange('kitpic3',)\"
      onmouseout = "changepicback('kitpic3', 'kittydove.jpg')\"/>
</p>
</body>
</html>
```

- [Ex8.html](#)