Topics covered in this Lesson:
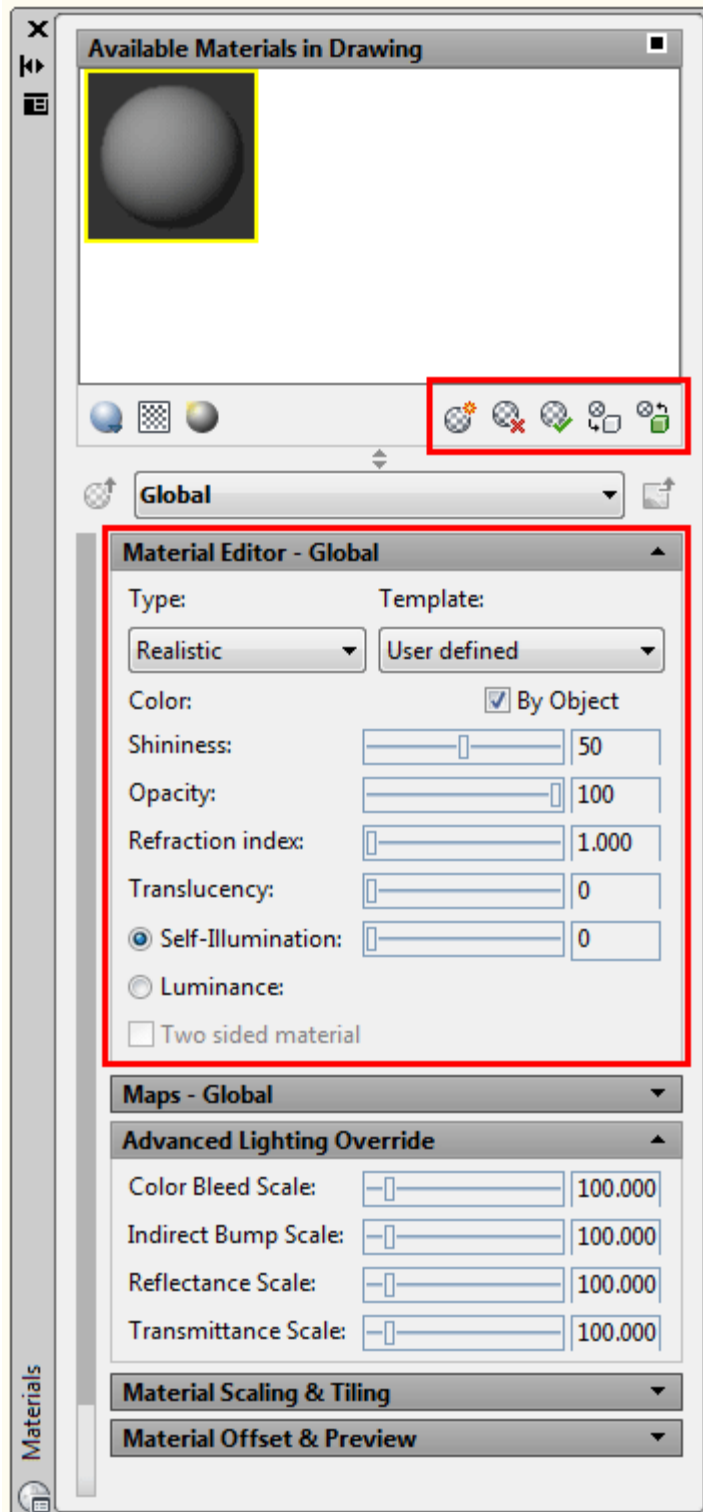
Creating your own custom materials

Once you start working with AutoCAD's default materials, you'll soon realize that you don't really have a large selection. What if you need a white stucco material for a wall? Or grass for the lawn, or brushed aluminum, or... well, you get the picture. What you need to do is create your own materials.

The first step is to locate an image that represents the material you want in your drawing. There are a number of sources available on the internet. Check out the **links** page for some. Below are 3 samples you can try for this lesson.

Metal Sample	Brick Sample	Wood Sample

Pick on any of the images above and when the new window opens, right click on the large image and select "Save image as..." and save it in a folder where you can find it easily.

Now start the **MATERIALS** command to open the Materials Palette.

At first glance, this will look very different if you are used to previous versions of AutoCAD. If you have used 3D Studio MAX, then it may look familiar.

Palettes are used in AutoCAD in much the same way as dialog boxes. A big difference is that they can be left on the screen while you are drawing. You can expand or collapse a palette by clicking the **<** or **>** buttons on the bottom left. Close it by clicking the **X** on the top left corner.
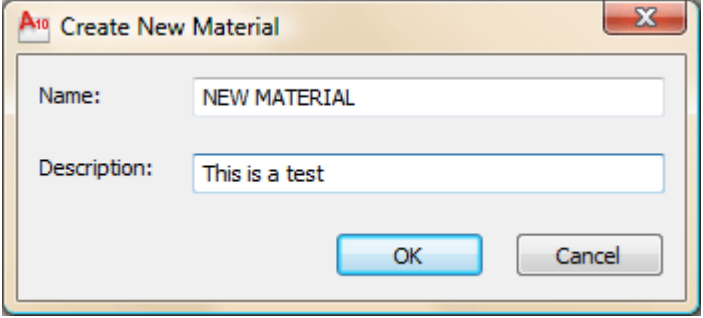
In the top section of the palette is the materials used in the drawing shown as balls in default view. Below are buttons you will be using to work with the material, and at the bottom is a section for editing the material.

I will take you through the simple process of creating a material from an image file and applying it to an an object in your drawing. Then you will learn how to modify the material.

The small red box shows where some icons are that you will be using this tutorial. The larger red box shows where the controls are to modify your material.

Other lessons will give you more information on **mapping** the material to an object.
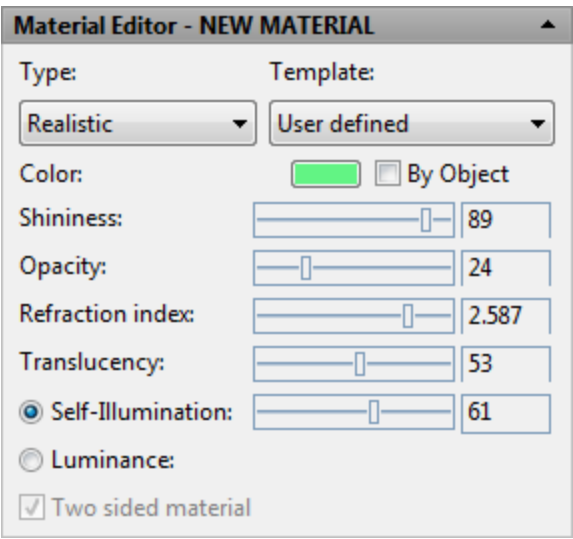
To create a new material from one of the images from above (or another texture) open the materials palette and click New Material

Create New Material

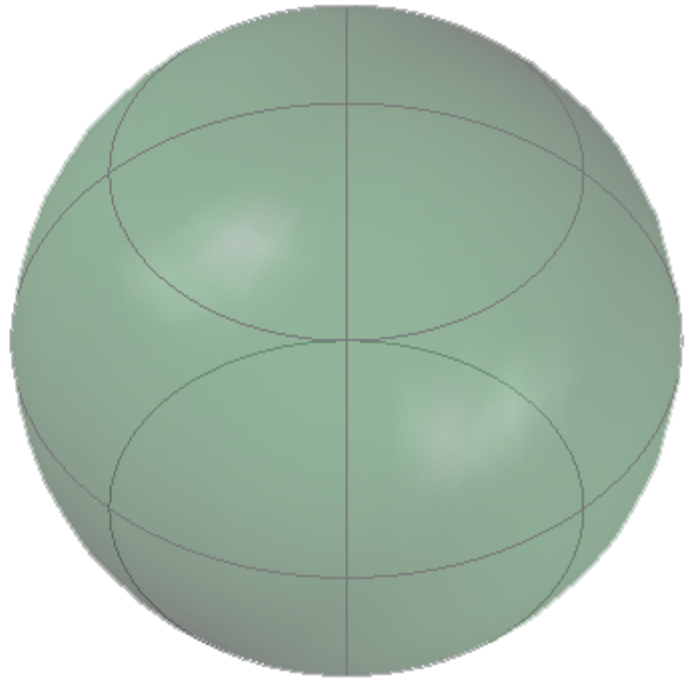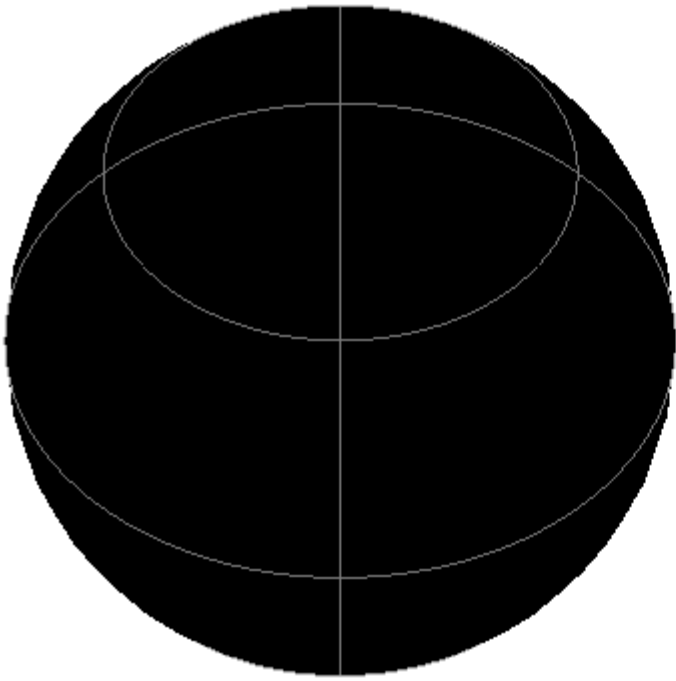button. This will open a dialog for naming.

Give it a good name and description (start with good habits) and press OK. Now you are back in the Materials Palette.

Editing Basic Materials

Using the sliders in the Material Editor - Global section, try some new settings on your new material. Here are the setting I made for the material shown below.
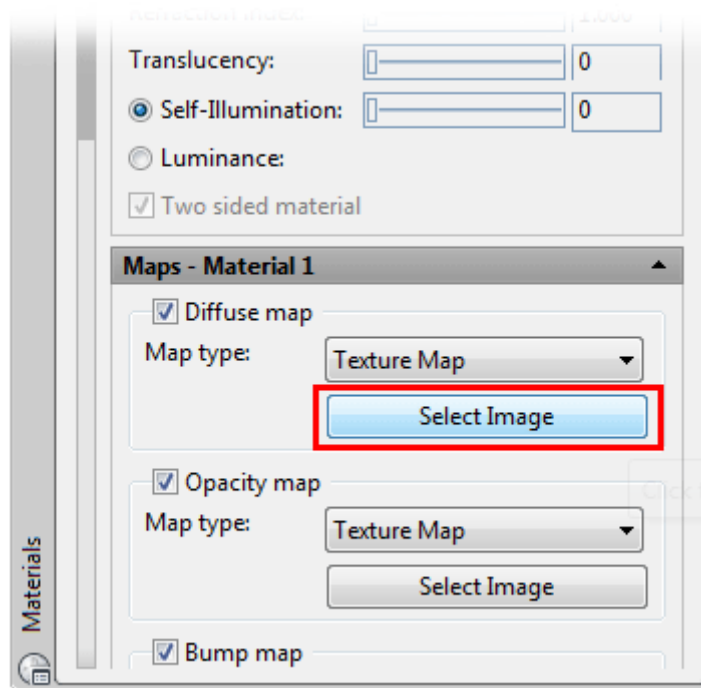
Although the example above is very basic, it shows how you can quickly create some materials for a fast rendering. Keep this in mind when you are just starting your rendering process or when you don't have any advanced materials to work with.

Editing Custom Materials

Create another new material like you did above. Instead of editing the material, this time you will use on of the images you saved (from above) to create a more realistic material.

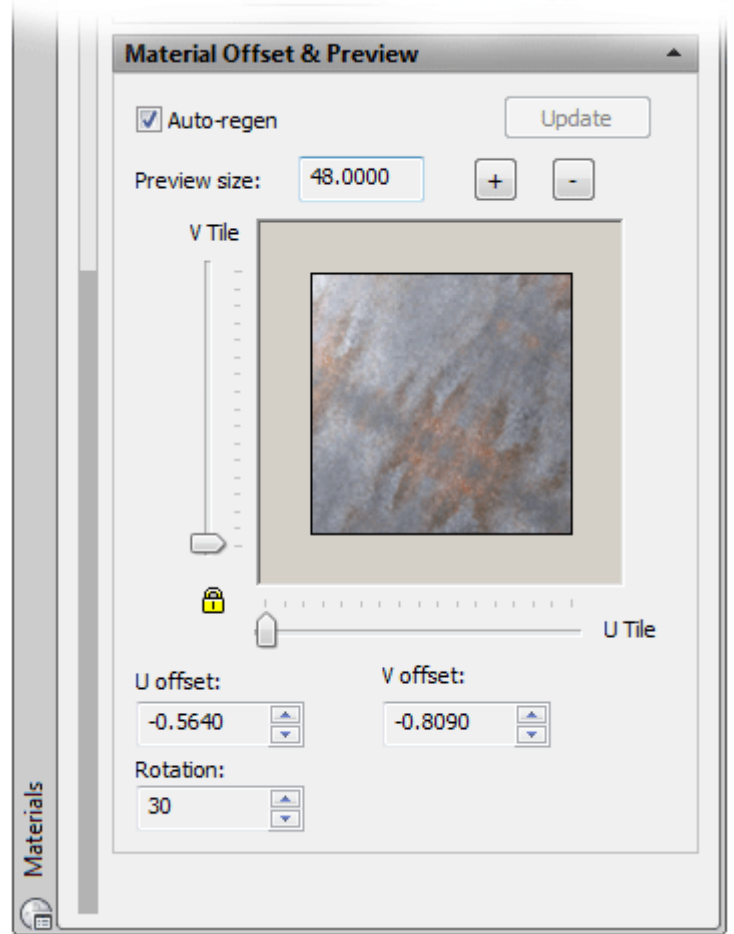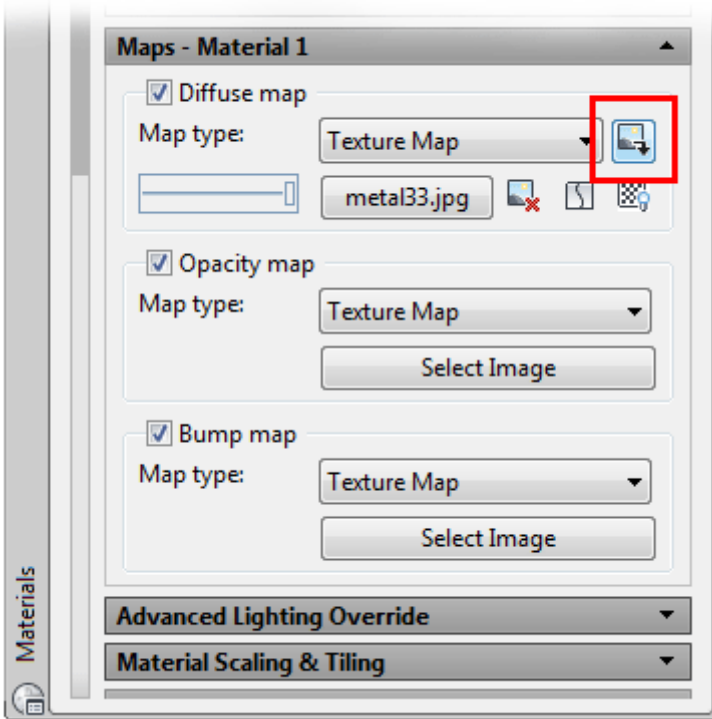Click on the Select button in the Diffuse map section:

You should notice a new ball in the top section that has the material mapped to it. The clarity of the material will depend on it's contrast in the image and the size of the ball in the top section.

Now is the east part. Draw a solid object of some kind. Highlight your new material by clicking on the ball. Next click the Apply Material to Object button . Finally, select the object.

If everything looks right, great. If not, you may have to use the mapping tools you learned in **Lesson 3-13** to adjust the material to your liking.

Another option to get the materials set in scale to the object is to use the "Scale to Object" setting in the Materials Palette. This is found after you have created a new material next to the Select... button which will open up the Adjust Bitmap dialog (formally found in the SETUV command).

Maps - Material 1

☑ Diffuse map

Map type: Texture Map

metal33.jpg

☑ Opacity map

Map type: Texture Map

Select Image

☑ Bump map

Map type: Texture Map

Select Image

Advanced Lighting Override

Material Scaling & Tiling

Materials

Material Offset & Preview

☑ Auto-regen   Update

Preview size: 48.0000   +   -

V Tile

U Tile

U offset: -0.5640

V offset: -0.8090

Rotation: 30

Materials

This will help get the scale close to what you want it to be, of course this depends on the size of your original image file (as a rule, larger files are better as you can scale them down and retain clarity) and the size of your object. This dialog box also allows for more settings, but each will apply to your own specific needs and image files. Try different settings and check the results. There are an infinite number of possibilities - so explore - go crazy with it - have fun.

To make the material transparent or translucent, move the opacity slider on the Materials Palette to about 50 - making the material 50% transparent. You can adjust other options as shown in this dialog box.

This is just an introduction to the world of creating new materials. If you have a photo editing program like Photoshop, **Gimpshop** (it's free) or another, you will be able to adjust the image files to fit your needs.

For practice, here is good way to get graphics into your renderings. Draw an octagon (**POLYGON** command) and turn it into a **REGION**. Then create a new material using this image of a **stop sign** and apply it to the region. You will most likely have to adjust map settings to make it look good (or use the scale to object option shown above). For even more fun, add a wooden pole to it and use **3DROTATE** to make it stand up properly.

For more practice, try downloading some images or using ones that you already have and apply them to objects. Use the mapping tools to adjust them.