

Multimedia Module

BRYCE 5 INSTRUCTOR MANUAL



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Modules available online at <http://mll.arizona.edu/workshops.shtml?tutorialpdfs>

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INSTRUCTOR SETUP:

Materials:

- ◆ User Manual (1 copy per student)
- ◆ Instructor Manual
- ◆ Job Aids (1 copy per student)

Equipment:

- ◆ Electronic Classroom
- ◆ PC or Macintosh workstations (1 per student) with Bryce 5 installed
- ◆ Instructor PC or Mac workstation with Bryce 5
- ◆ Overhead projector connected to instructor workstation

Setup:

- ◆ Instructor should be familiar with all aspects/components of the Bryce 5 module.
- ◆ Check that all computers function.
- ◆ Turn on and test projector
- ◆ Have students sit at a computer by themselves
- ◆ The Instructor Manual is set up so that you can see the corresponding User Manual page next to it. To make copies of the User Manual for the participants of the workshop, print out the PDF version from <http://mll.arizona.edu/workshops.shtml?tutorialpdfs>

Workshop Structure:

- ◆ Session length is 2 hours
- ◆ Each section, or Lecturette, of the Instructor Manual contains information that is to be relayed to the students in a lecture like form. Be sure to demonstrate the information covered on the overhead projector for the students to observe.
- ◆ Remember, the User Manual does not have all of the information in the Instructor Manual, so be sure to read through each section completely.
- ◆ After the Lecturettes are To Do Exercises which are for the students to perform in order to practice what was just covered.
- ◆ There are time indicators by each section meant to be a guide for how long to spend on each section. You do not have to follow these exactly, they are just a general guide to follow.
- ◆ Remember to have the students first watch, listen and follow along, then have them do the exercises on their own.

INTRODUCTION AND OVERVIEW:

Bryce is a very easy to use 3D program. Its main strengths are skies and terra forms or landscapes. Although that is what it is famous for, it is capable of many other things. This module will introduce you to the concept of 3D and animation. You are being taught Bryce first because it is easy and has instant gratification.

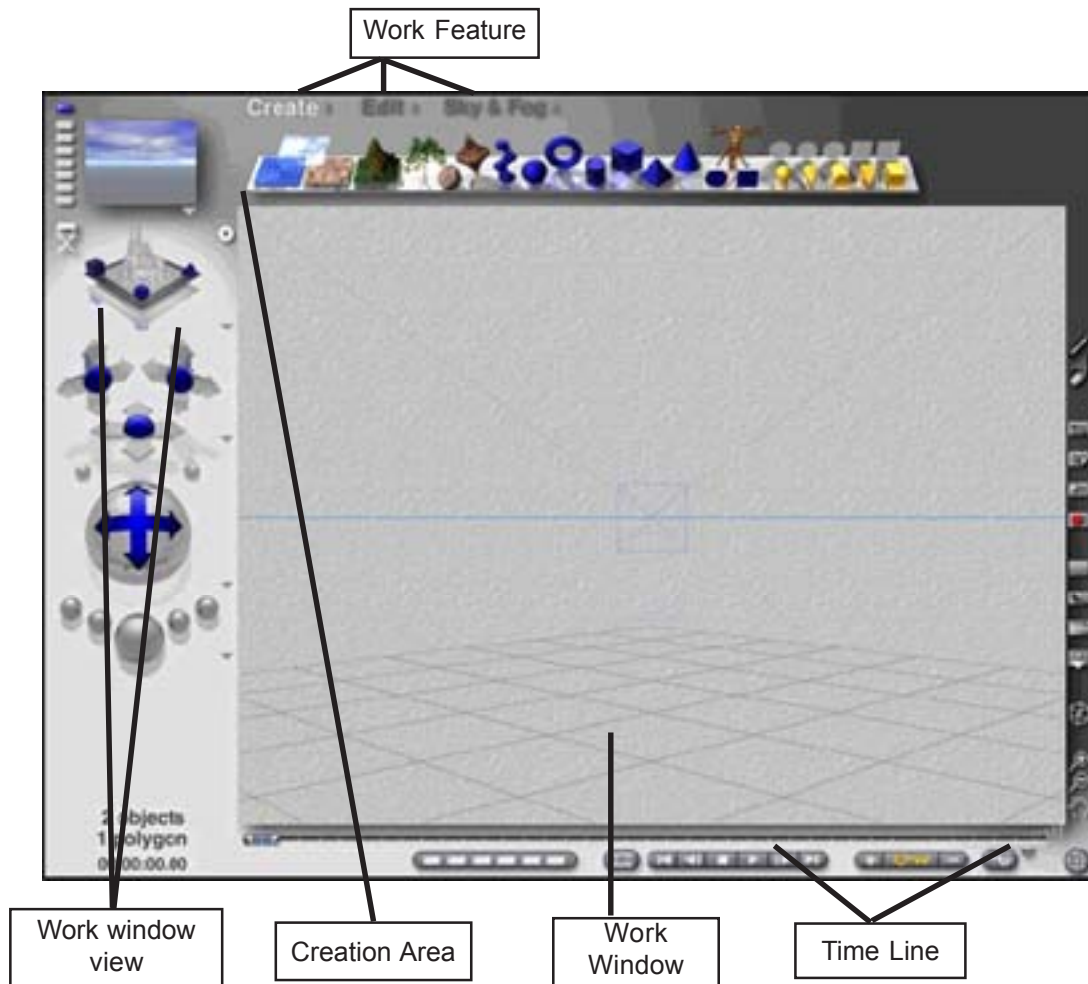
The structure for this module will be; Listen and watch me...do it with me and the do it on your own. Because some of this is conceptual, there will not always be an exercise to accompany the lesson. Remember, at the end, there will be a criterion test to insure comprehension.

Instructor Note: *At this time, pass out the User Manual the students. Indicate that the students are **Not** to get ahead and do anything without the instructor. Indicate that the students are **Not** to do anything on the computer besides the indicated tasks at the indicated times.*

LECTURETTE 1: SETTING UP YOUR WORKSPACE

7 min

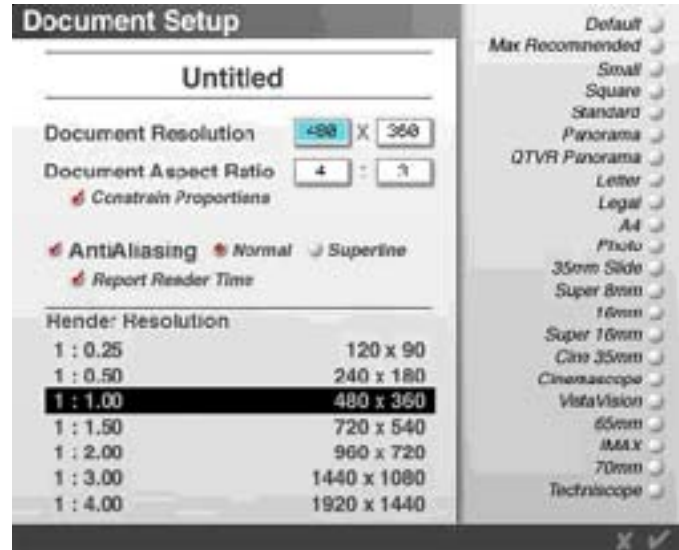
When you first open Bryce, it defaults to a setup that needs some alteration. This will be the first thing we learn, how to setup the window for your needs.



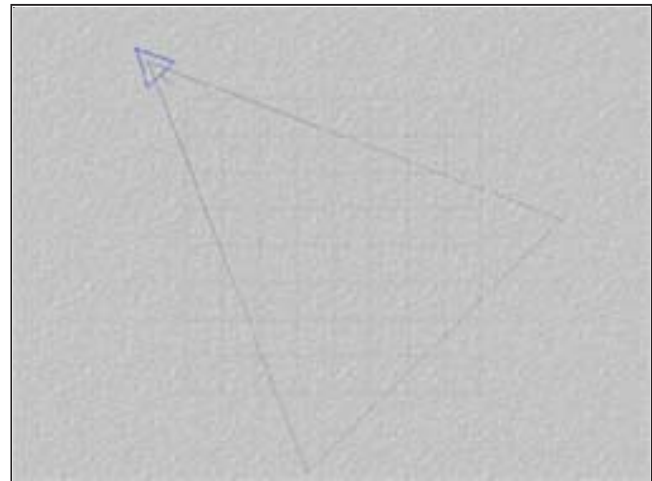
This is the default Bryce window. You could use it as is...but problems would occur as your project became more complex. First we will identify areas and then discuss them.

- ◆ The work window view is a very often-used item. This is how you quickly change the work window view. Notice the triangle...this is a text based change area.
- ◆ Next is the creation area. This is where you place the items that you will edit and animate.
- ◆ The work feature area is where you change from creation items to editing items and also the sky lab. This will be explained more later.

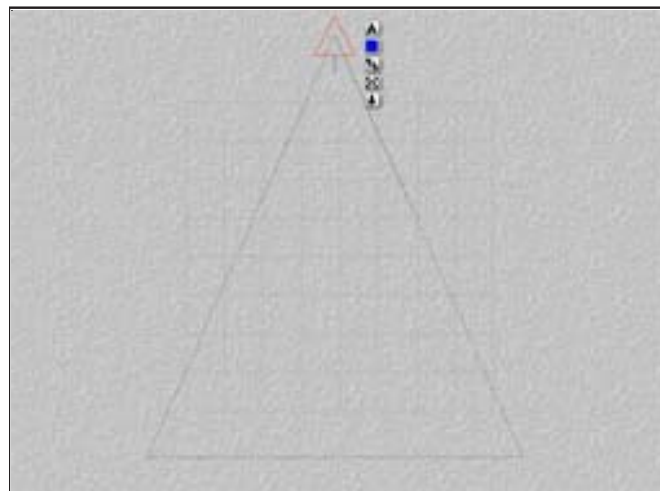
Under **File > Document Setup** you will find this window...Change the document resolution to **800 x 600** and unless you have specific needs, leave the rest alone.



After setting up the document window size, lets get our views right...Under the **Work View** in upper left...click and hold mouse and move it sideways. This will change the work view...continue moving sideways until you have the overhead view. It will look like this.



Click on the red triangle (your camera) and move it to the middle of the top of the grid, then click on the line coming from the front of the triangle and use it to rotate the camera so it looks like this.



Doing this will make all your other views more functional during editing and moving objects you created.

Now **delete** the ground plane, the grid.

EXERCISE 1: SETTING UP YOUR WORKSPACE

You will now practice doing what we just did.

Steps: (2 minutes)

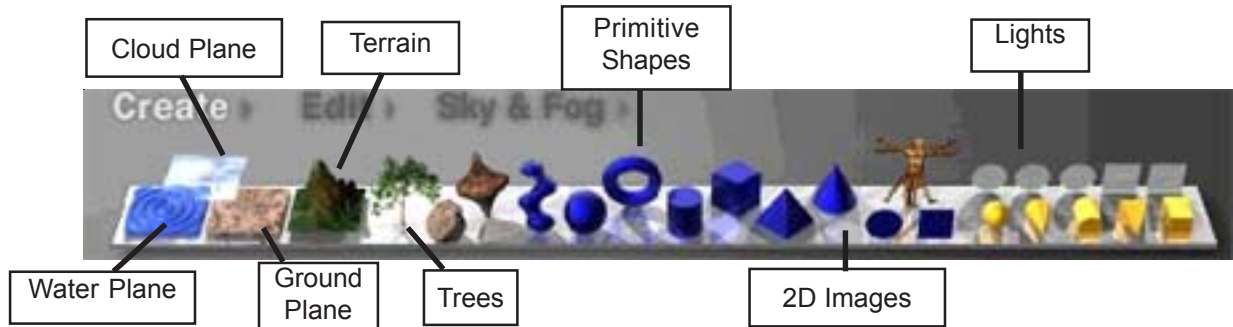
1. **Open** Bryce, if it is not open already.
2. Set up your work space to **800 x 600**
3. Place the camera at **top center** looking down
4. Now click on your grid and delete it.

After doing that, get ready to create 3D!

LECTURETTE 2: CREATING OBJECTS OR ITEMS

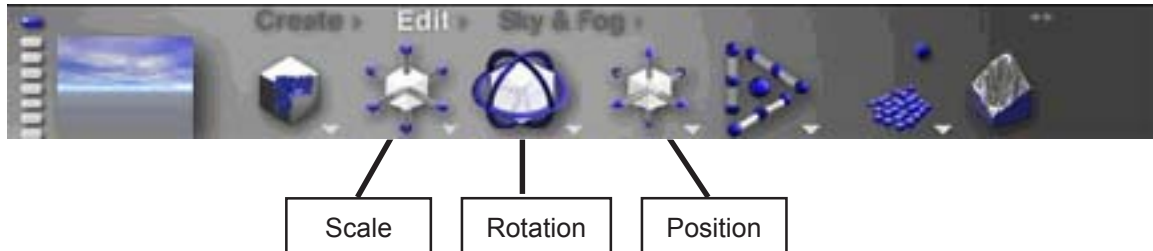
5 min

Clicking on the **creation tab** opens an area filled with what can be placed into Bryce.



Creating objects are easy...put your mouse over any of the above objects and in lower left corner will appear what it is. Single click creates any of the above. Each thing you create is editable for scale with the handlebars that surround it.

You can also edit any object using these tools:



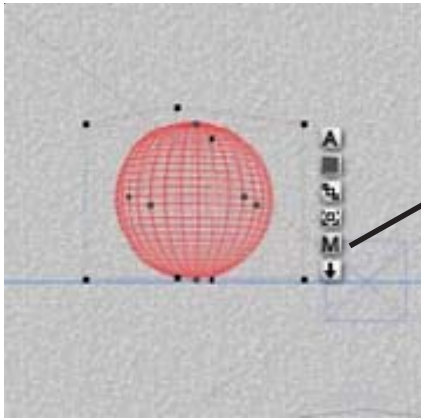
EXERCISE 2: CREATING OBJECTS OR ITEMS

Steps: (3 minutes)

1. Using your set up document...create a **sphere**.
2. Add a **square**.
3. Select your sphere and using **scale** tool, make it bigger.
4. Now select the square and using the **rotate** tool, make it spin.
5. Select the sphere and using the **position** tool, move it around.
Notice the different parts of the tool moves it in different directions...as always, practice will be needed.
6. Select the sphere and **delete** it...do the same with the square

LECTURETTE 3: EDITING MATERIALS OR APPEARANCE

8 min



Besides editing the size, and orientation (rotation), you can also edit the texture (surface appearance). This is done by clicking on the **M** near each object and getting into the **Materials Lab Window**.

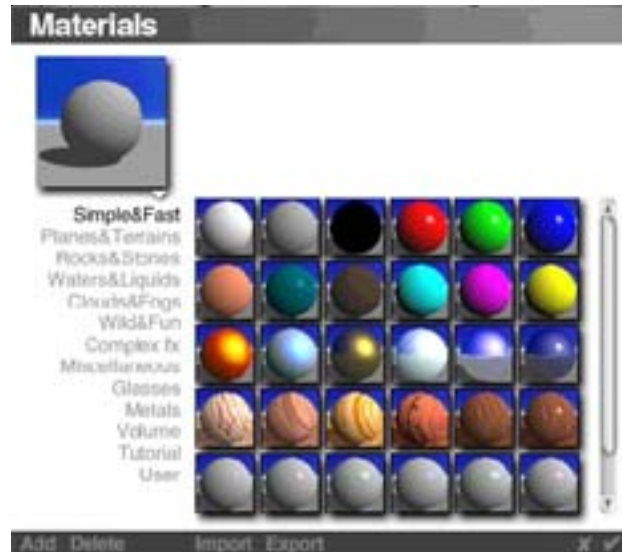
Clicking on the M of any object will open the window below...This is the material lab...where you will edit the properties of the material you select. First thing is to select a material for your object...you can either accept the one that appears (the last one used) or select a new material for yourself. To select a material, click on the triangle noted. This opens the materials.



This is where you choose a material to apply to your object (terrain and water are considered objects)

You simply navigate through the preset options and choose one...then click the check mark...

Clicking on the check mark takes you back to the Materials Lab...



Once you have selected a material...you can choose to accept it as is....Click on the check mark, or you can choose to edit it. Editing here is tricky...In upper left is the preview window.



The center area is attributes of the material...and on the right is the Material Texture windows. Stay away from the right area! Wait til you understand this from later learning or just play with it...getting what you want is next to impossible when first starting. Move the sliders in the middle area and look at the effect to the preview. When you like what you have done, click the check mark.

This area is complex and will take awhile to master...you will need to just play to get a feel for it.

What you have just done is basically the way that you edit any object in Bryce, including shapes, water planes, terrains, ground planes, stones and symmetrical lattice

EXERCISE 3: EDITING MATERIALS OR APPEARANCE

Steps: (2 minutes)

1. Create a sphere in your work area.
2. Click on the M and edit the materials.
3. Choose any material to apply and click the check mark in both the materials and materials editor.

Notice that you cannot see what changes happened. That is because to see effects besides scale, position and rotation, you need to render....rendering is letting the computer generate an image based on the info you provided. In Bryce, this is done with the render button on lower left.

LECTURETTE 4: EDITING MATERIALS OR APPEARANCE PART II

3 min

When you create something and are ready to see it rendered, use the following tools. First change your view to the director view, denoted by the director chair in work window view area, then position the image using the position tools...these do not move your objects, rather these change you view of the entire picture.

Pan right and left

Rotate and **skew** picture

Finally, push the **render button** and wait for the computer to generate the image.



YOU MUST RENDER an image to export it as an image, if you export a wire frame, you will get a wire frame.

EXERCISE 4: EDITING MATERIALS OR APPEARANCE PART II

Now, I want each of you to continue on your project.

Steps: (3 minutes)

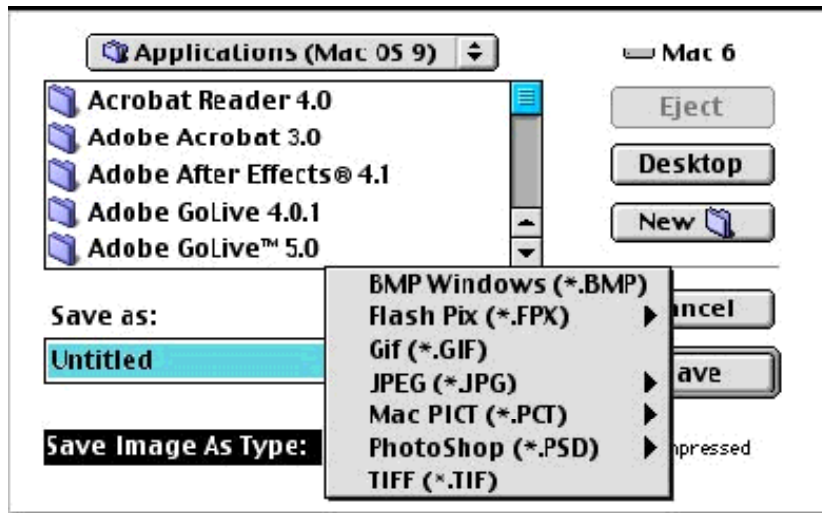
1. Add a cube to your image.
2. Select a material and position it near the sphere.
3. Push the render button...Neat!

LECTURETTE 5: EDITING MATERIALS OR APPEARANCE PART III

4 min

Now that you have a rendered image, you can do two things...one is click on any tool and continue the creating process or you can save that image as...You can see that there are many useful formats...chose the one that suits your need and save it as...

A saved image is what you see on the screen...it must be rendered if you want it complete.
File>Save Image As...



Now, what you have just done with a simple object can also be done with the sky, a ground plane, a cloud plane, a water plane and a mountain object. All you do is click on the plane or object. Edit its size, position and then click on the M and select a material. The only exception to this is the sky...It has basic presets, like all materials and an editor that has many features. Rather than going into them all, I suggest you play with them on your own time as you can create any look you want...Really, any look you can imagine.

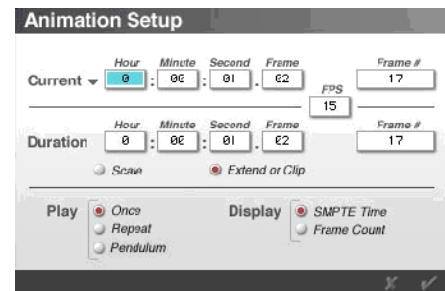
LECTURETTE 6: ANIMATION

10 min

Animation is simple...It is just an object or group of objects doing some kind of change over time. How do you do it in Bryce? Well there are several ways...An easy and a hard way. Here we will only learn the easy as that is all that is really needed for simple animations.

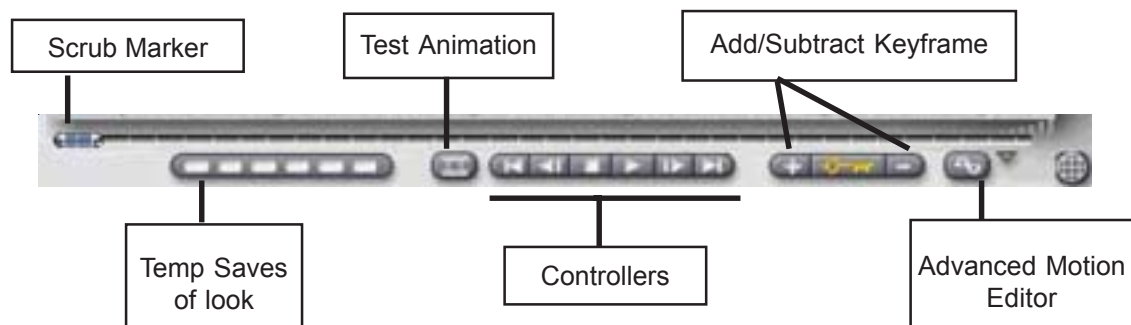
Under **Menu > File > Animation setup...**

The window to the right pops up...here is where you enter the desired length of your animation (duration) as well as the desired frame rate (fps). 30 frames a second is film quality, while 8 frames a second is good for tests. 15 fps is good for web and general animation. Remember!!! Rendering takes lots of time, more frame/sec equals more time.



Creating the length of your animation creates the following:

A time line of the desired length and your first Key frame. Lets take a moment to discuss key frames...they are the icon that indicates a change of something over time...an animation with one key frame is a static image...it has no changes...an animation with two is a morph, the image morphs into the end image. There is no limit to how many key frames you can have, but the fewer the better as they add time to the render and add to the saved file size.



Now that you have set up the animation...it is time to make it. Start by placing the camera at the desired place...use the top view to assist.

Next, place all objects in the desired place...This will be your starting look and you should save it as such.

Next, move the scrub marker to the next look time, like 1 second or 30 frames...now move your objects including the camera to the next desired look. When done, all things you moved will have a starting look/position and an end look/position.

Move the scrub marker to another time position and then move your objects and camera. To see what you have done, click on test animation...it will create a small frame with your rendered animation in it. If this looks as you desire, continue with your animation...If not, you can either open your saved starting position or move scrub marker to previous position and reposition camera and objects.

What you are doing takes practice...I really mean it...There is no way to convey the needed skill, just the details to do. Practice on your own to get this to be easy and smooth.

EXERCISE 5: ANIMATION

Steps: (5 minutes)

1. Taking the document you have already set up, **File > Animation Setup** and put in **5 seconds at 8 fps**.
2. Make sure scrub marker is at beginning of time line. Move **scrub marker to 3 seconds** and move your objects around a little.
3. Move **scrub marker to 5 seconds** and move your objects some more.
4. Now Click on **Camera View** by moving work window view.
5. Now click on **test animation** and wait.

You just animated something you created!!!

EXERCISE 6: REVIEW

Ok...I want to pull together all we have done.

Steps: (7 minutes)

1. I want you to open a **new blank file**...Set it up as you were shown.
2. Create 3 objects...A **sphere** positioned off the ground, a **ground plane** and a **terrain/mountain**.
3. Give each a **material**.
4. Now **set up the animation** for 3 seconds at 12 frames per second.
5. Position the camera so it sees the sphere and the mountains behind it
6. Move **scrub marker to 1 second** and move the sphere to the ground.
7. Using the **edit scale** tool, squish the sphere a little.
8. Now, move the **scrub marker to 2 seconds**.
9. **Move** the sphere up off the ground and make it round again.
10. Move the **scrub marker to 3 seconds** and place the sphere just on the ground.
11. Click on **Test animation** and watch!

LECTURETTE 7: RENDERING

5 min

To output your final animation into QuickTime, you must File> Render Animation.
Things to remember:

- ◆ The window you are viewing is what will be rendered...to render the camera view...you must select the camera view from work view controller.
- ◆ There are different compressors to render with...each has a benefit and limitation; you need to learn them to make sure you are using the correct one based on your desired output.
- ◆ A high frame per second creates smooth animations and huge file size...balance this depending on output destination.
- ◆ Using no compression is best for importing into a video editor.
- ◆ Use cleaner 5 to shrink file size after editing.
- ◆ The size of the window is the size of the QuickTime movie...to change to a smaller size...use the document setup area and set it to 320 x 240...this is best for most animations because of file size and web destinations.
- ◆ On a PC it defaults to AVI...change to Quicktime

CRITERION TEST**20 min**

Instructor Note: *Instruct the students to turn to the last page of their User's Manuals. Inform the students they have 20 minutes to complete the Criterion Test, which should be more than enough time. At the end of the time allowed, check the students' final products to ensure they have passed successfully.*

- ◆ Begin by opening the program, if it is open, create a new document
- ◆ Set the document up as a 800 x 600
- ◆ Position the camera as taught and delete the ground plane
- ◆ Add a Mountain, apply a material
- ◆ Add another mountain, apply a material
- ◆ Add a sphere, place between mountain and camera, apply a material
- ◆ Add a square, place between mountain and camera, apply a material
- ◆ Place all objects so mountains are in background and sphere and square are in foreground.
- ◆ Create a ground plane and apply a material
- ◆ Set up animation to 5 seconds at 8 fps (frames per second)
- ◆ Set scrub marker at 0 and position camera so all objects are visible (remember to switch views to check your placement).
- ◆ Move scrub marker to 1 second and make some moves with the sphere and square
- ◆ Move scrub marker to 2 seconds, add a rotation to the sphere and square.
- ◆ Move scrub marker to 4 seconds and make some move with the square.
- ◆ Move scrub marker to 5 seconds and move the sphere and rotate the square
- ◆ Render the image
- ◆ Save image as a tiff on to the desktop.
- ◆ Change the window to 320 x 240 and render the animation, use animation compressor and save to desktop