Rendering and Animation

Rendering and Animation Basics

RENDERING:

A rendering is a pictorial output of a 3D scene or object. Features like materials, lighting, oversampling and shadows control the effects and quality of the rendering. The more of these features you add, the more realistic your scene become, but also lengthens rendering times.

Materials and Textures:

You can control the way an object appears by applying color and textures. Materials provide realism with added effects. You an control glossiness (specularity), self-emitting lighting characteristics, transparency and pattern repetition. Ray-tracing can provide reflection (mirror) and refraction (transparency) effects. Textures can be made from any scanned photograph or drawn object in an image-editing or painting-type program. Images in almost any format (jpeg, bitmap, png) can be used. Blender also has many built-in texture generators that can simulate a variety of surface characteristics such as wood, marble, clouds, waves and surface roughness.

Lighting:

Lighting provides the realism to your scene through reflections and shadows. You can control the type of light, intensity and color. Some lights can give a "fog" or "dusty" look with a halo or volume lighting effect. Illumination distances can also be set.

Cameras:

Your camera is your point-of-view for the scene. Just like a real camera, you can control lens length to achieve close-ups or wide angles. Clipping distance can also be set to control how far and near the camera sees. Depth-of-field can be controlled using nodes.

ANIMATION:

An animation is a series of rendered images that form a movie. The quality of your movie is controlled by all of the above mentioned features including frames per second (fps), output size, file type and compression. The most common method of animation is called *key-framing.* Key frames are created at various points in the animation while the computer generates all of the transition frames between the two keys. Basic animation options include changing size, rotation and location of objects.