

Let There Be Light: Lighting Your Shot

Lighting plays a big part in establishing the feel and mood of a scene. Any given scene can be made to look inviting, scary, or any other look you're going for simply by the type, number, and intensity of the lights you place in the scene. The basics of lighting are easy to learn and, once mastered, can be applied to a variety of scenes.

- Understanding the three-point lighting system
- Using the lights
- Lighting your scene
- Performing light linking

Understanding the Three-Point Lighting System

There are some exceptions, but most scenes are lit with the three-point lighting system. The *three-point lighting system* is a technique for making sure that elements of the scene are well lit and stand out from the background. A basic three-point lighting setup is shown in Figure 13.1.

Although any scene can have dozens or even hundreds of lights in it, each light generally falls into one of three categories:

- ▶ Key light
- ▶ Fill light
- ▶ Rim light

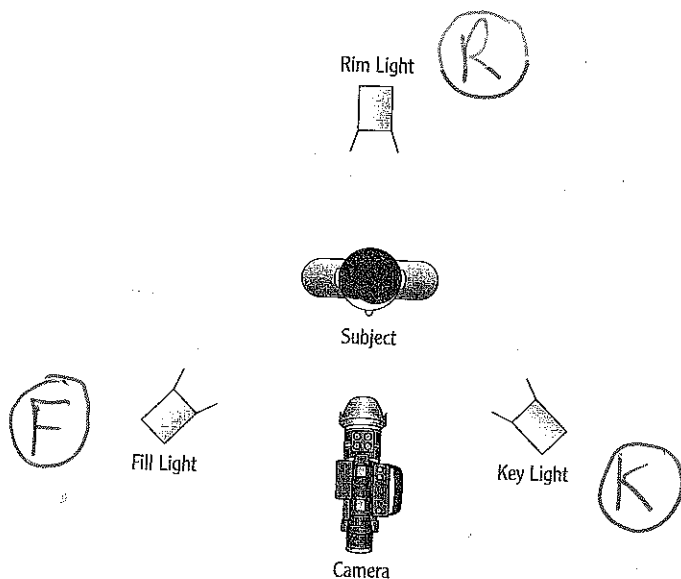
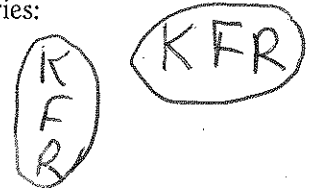


FIGURE 13.1 Three-point lighting setup

Key Light

The *key light* is the main light in a scene, and is the light that provides most of the illumination for the scene element it is lighting. The key light is usually placed to one side of the camera and is the brightest light in the scene. Figure 13.2 shows a basic scene lit by a key light.

Fill Light

The key light does a good job of illuminating the scene but creates some pretty stark shadows. The *fill light*'s job is to put some light in these areas so the scene doesn't look quite so film noir-ish. The fill light is usually placed on the opposite side of the camera from the key light, and is less intense than the key. Figure 13.3 shows the scene with a fill light added.

Rim Light

The *rim light*'s job is to help separate the scene elements from the background. The rim is placed above and behind the scene, and is usually set at a fairly high intensity. Figure 13.4 shows the scene with a rim light added. Figure 13.5 shows the Autodesk® Maya® scene with the camera and light placements.

Using the Maya Lights

Maya has several light types, each with different properties and uses. There are three that are most versatile, and you will find yourself using them frequently:

- ▶ Directional light
- ▶ Spot light
- ▶ Point light

Directional Light

The best way to think of the *directional light* is as the sun. The sun's rays travel in all directions, but the Earth is so far away and so small in comparison that when the sun's light reaches us, the rays are essentially parallel. The directional light is similar: it illuminates everything in the scene (unless you exclude some geometry—more on this later), and the rays travel in parallel. It doesn't matter where the light is in the scene, it only matters which direction the light is pointing. The directional light icon is shown in Figure 13.6, and its effect on the scene is shown in Figure 13.7.

Spot Light

The *spot light* is just like a spot you'd see used on a stage or movie set. It casts light in a given direction and has an area that it covers; anything outside that area is not illuminated. The rays cast by the light fan out from the light source

in a radial pattern.

Point Light

A *point light* is like a lightbulb. Light emanates from it in all directions, and there are no boundaries to where the rays travel. Think of it as a lamp with the shade removed. Figure 13.10 shows the point light icon, and Figure 13.11 shows a scene illuminated by a point light.