

## Lighting Exercise

1. Take an image from a magazine or find a photograph with interesting lighting.
2. Open up scene from previous 'camera' exercise or use basic primitives.
3. Recreate the lighting effects from magazine or photo in 3DS Max.
4. Show me photograph and max scene for credit.

## Ask the following questions about the scene in the photo or magazine:

### Key Light

- Where is the 'sun' or key light? Which side of the subject receives the most light? (*left, right top, bottom*)?
- What is the source of the key light (*sun, lamp, ceiling light, candle...*)
- What is the size of the key light? (*hot and falloff value*)
- What is the angle of the light (*top, side, bottom*)?
- How intense is the key light? (*multiplier value*)

### Light Color

- What color is the light falling on the subject? (*color of light*)
- What is the primary light source (*sun, tungsten lamp, fluorescent*)?

### Shadows

- What side of the subject has shadows (*shadows on opposite side of key = low multiplier value for fill; no shadows on opposite side of key = high multiplier value for fill*)?
- What is the ratio of key to fill? Is the side of the subject not illuminated by the key light in complete shadow or is it completely illuminated (*low key to fill = all lights in scene have high intensity; high key to fill = key has high intensity, fill lights have low intensity or no intensity*)?

### Cast Shadows

- What side of the subject has cast shadows (*turn object shadows on*)?
- What is the depth of the cast shadows? How transparent are the shadows (*higher density value = opaque; lower density value = transparent*)?
- Does the cast shadow have a hard edge or soft edge (*hard = ray traced map; soft = shadow map with high sample range*)?
- Does the cast shadow occur on a semi-transparent subject (*ray traced map*)?

### Fill Lights

- Where are the other light sources?
- How many other light sources are there in the scene?
- How bright are the other light sources in comparison to the key? (*multiplier value*)
- Is light bounced off of walls onto the subject in the scene (*this would represent another fill light since light in 3ds Max does not bounce*)?

### Light Shape

- In relation to the subject is the spot large or small on the subject? (*specular and glossiness; hotspot and falloff values*)
- Does the light have a sharp edge or a soft edge (*hotspot and falloff values*)
- Is the light round or square? (*projection light or cookie*)
- Does the light filter through another object before it hits the subject; (*cookie or projection light*).
- How far does the light travel (*attenuation*)?