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1. Define and describe, in detail, the difference between minification and magnification in texture mapping.

Minification is when a texture that is bigger than the object it is being mapped to gets shrunk to fit the object. Magnification is the opposite; the texture is smaller than the area it is being mapped to so it gets enlarged to fit the object. Minification can cause loss of data, since it has to be compressed, which can make the texture look less good. Magnification, while retaining all visual information, distorts it and makes it blurrier, since the computer has to extrapolate the information in the extra pixels.

1. What is mip mapping? Why would it be used?

Mip mapping is when the texture is taken and made into a series of lower resolution pictures, so that it can always have a texture that will fit the area it is being mapped to. It is used to keep the textures looking nice and so that the computer doesn’t have to resize the texture every time it is used.

1. What is an environment map? Why would it be used?

An environment map is a texture applied to the world around the picture. It is useful in reducing the computation resources required for shading, as it is a picture slapped on some surfaces, which means the computer doesn’t have to go through and calculate each individual pixel.