The purpose of computer graphics is to generate images for humans to interpret. A successful graphics system will create computer generated images that allow for the most information to be extracted by viewers with the least amount of visual processing. Computer generated scenes start with a geometric description of each object in the scene in the form of polyhedral models. The time required to render each polyhedral model is related to the number of polygons in the model. One successful method of creating images in less time is to simplify the models in a scene before rendering them. The main challenge is designing a simplification scheme which creates simplified models that have removed maximum polygons while retaining as much similarity as possible to the original model. This research explicitly addresses a link between computer graphics and human perception. The work explores how to apply our knowledge of the human visual system to solving graphics problems. Specifically, the task of object simplification is used as a test and form perception is the targeted perceptual domain that is explored.