Waleed Alkefari

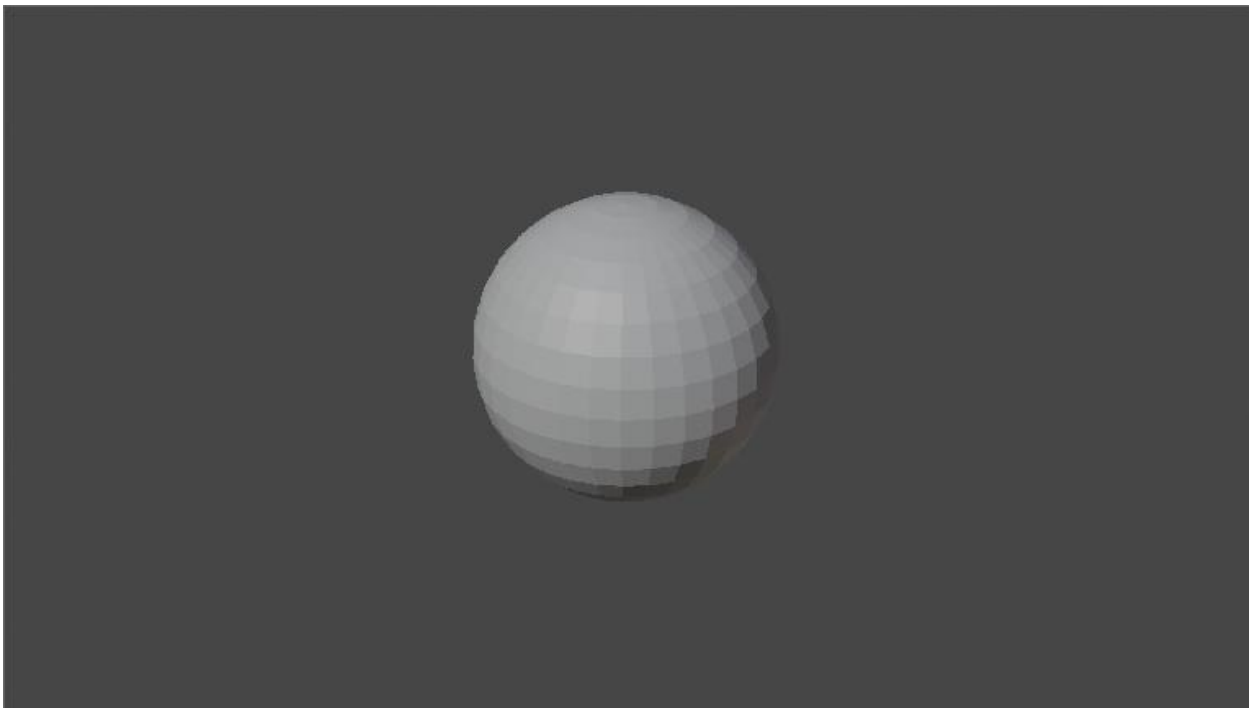
CSC 322

Dr. Bui

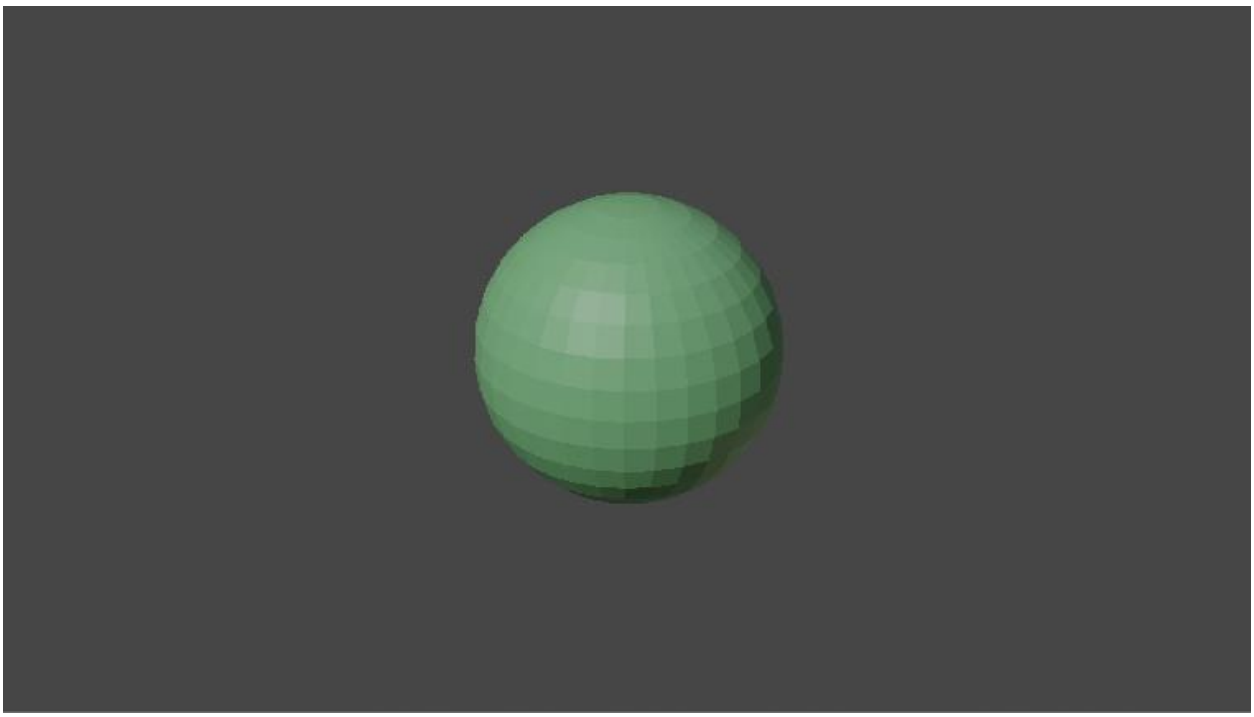
Nov 14th, 2022

[Blender Activity #1]

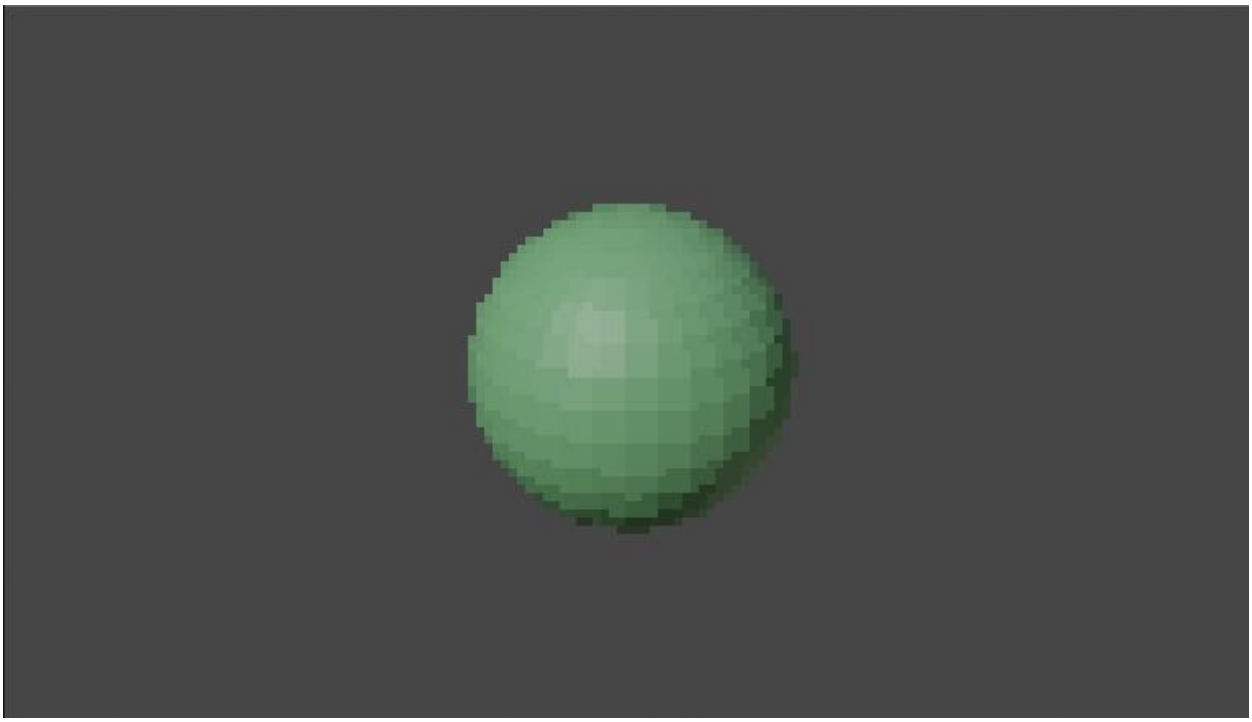
Checkpoint 1:



Checkpoint 2:



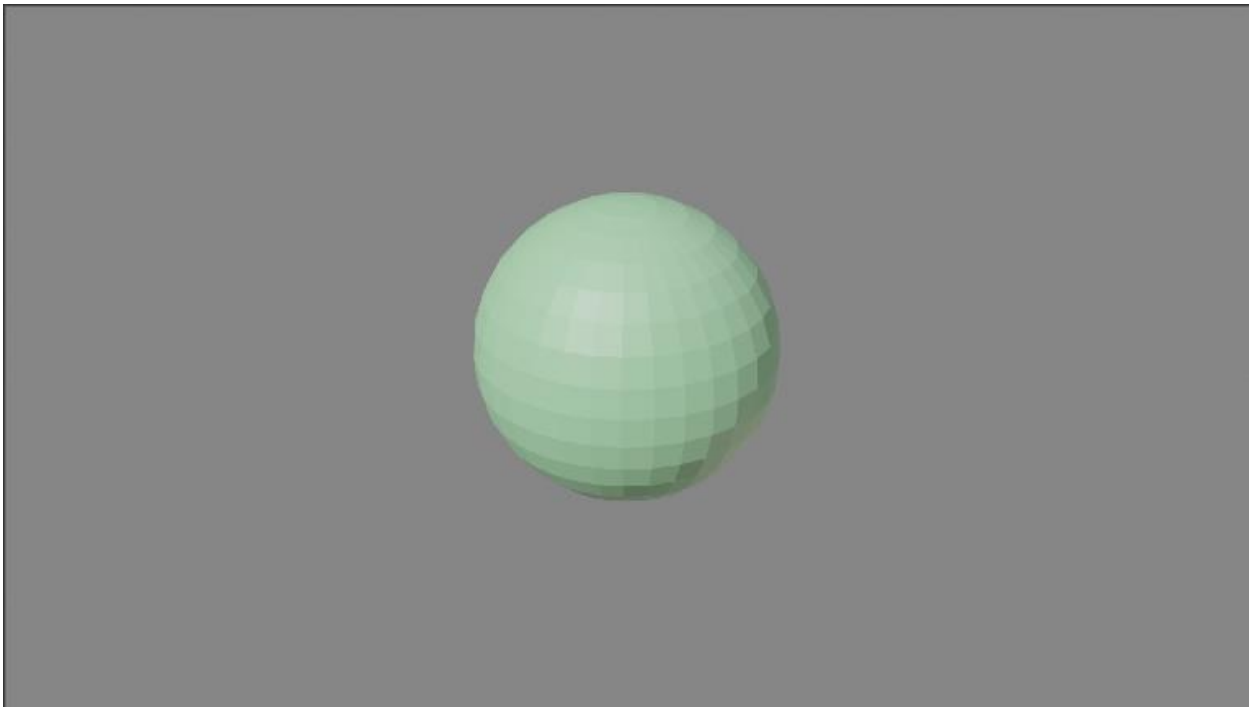
Checkpoint 3:



Checkpoint 4:

The image in checkpoint 3 is smaller and blurry than checkpoint 2 since we reduced the resolution from **1920×1080** to **160×90**

Checkpoint 5:



Checkpoint 6:

The image in checkpoint 5 is brighter than checkpoint 2 since we increased the gamma from **1.0** to **2.0**

Questions:

1) How does light interact differently with different objects in real life? Give 3 examples.

- when light reflect on a mirror

- when light emitted by a fire

- black or dark light will adsorb the heat

2) Why do objects appear to have different colors to our eyes?

Objects have different color because light travel at different wavelengths, which are interpreted through our eye.

3) What's the advantage of using YUV color space?

YUV color-spaces are a more efficient coding and reduce the bandwidth more than RGB capture can.

4) How are colors added differently for lights compared to paint? What does R+G+B equal to in each case?

light is created by combining RGB wavelength to create other colors, while Paint is mixing different color paints to show the RGB.

5) Why are green screens green? Hint: think about the arrangement of color filters in front of the camera sensor.

because green is one of the furthest colors from skin tone which is going to be easy to edit out

6) Why is tone mapping needed for HDR images?

because tone mapping gives the HDR images full details and give them a dynamic twist and a realistic look

7) What's the relationship between the wavelength of the light and the color of the light? E.g. why is the wavelength of 700nm associated with red, and 400nm associated with purple?

The relationship is that wavelength determines the color of the light. The wavelength 700nm has longer wavelength which gives red color, while 400nm has short wavelength which gives the purple color.