Name _____ ID# _____ Section:_____

Sensation & Perception
Lab 2: Feature and color adaptation

1. Selective Adaptation

In this demonstration you will view a high-contrast grating for 1-2 minutes. This is an *adapting stimulus*. Keep your eyes focused on the black dot in the middle. After the adaptation period has ended, the grating will be replaced by a series of gratings. Keeping your eyes on the fixation point, note how the contrast appears to have changed only for completely vertical gratings.

A. **Describe** the apparent change in contrast sensitivity after adaptation. **Explain** how selective adaptation causes this effect. Draw an orientation tuning curve if this will help.

B. Repeat the experiment with one eye closed. **Describe** how the contrast appears to both eyes. **Explain** why they may be the same or different, making reference to where in the brain the processing may take place.

2. Color adaptation

A. Stare at the red square on the screen for 1-2 minutes, and then look at a blank white screen. **Describe** changes in appearance (1) as you adapted and (2) of the afterimage you saw when looking at the white surface.

B. Repeat the experiment above with one eye closed. Look at the blank white screen with the adapted eye and the previously covered eye. **Describe** what you experience and **explain** what this says about where color afterimage processing takes place.

C. **Explain** your color afterimage experience in terms of the opponent-processing model of color coding in the retina. Specify the activity of: B+Y-, Y+B-, R+G- and G+R- cells.

Include 2 bar graphs:

1. Cell activity to white light **before** adaptation.
2. Cell activity to white light **after** adaptation to red.