

# Vision Unit

## Activity 4A: Living with Vision Impairment

### Lesson Overview:

There is an old saying: beauty is in the eye of the beholder. But how does the eye of the beholder affect what we see? Our eyes are complex organs that combine physics, biology, and chemistry enabling us to appreciate and interact with the world. Yet, visual impairments resulting from genetics, injury, or disease can affect how we interpret art and the world. In this lesson, students will create “vision impairment” glasses that mimic the impact common vision impairments have on how people see the world.

### Objectives:

The students will be able to:

- ✓ Differentiate between common eye disorders.
- ✓ Create models to mimic the vision field of common eye disorders.
- ✓ Draw conclusions as to how common eye disorders could impact activities of daily living.



### Tips for Teaching the Visually Impaired



### The 5 “Bees”

#### Be aware...

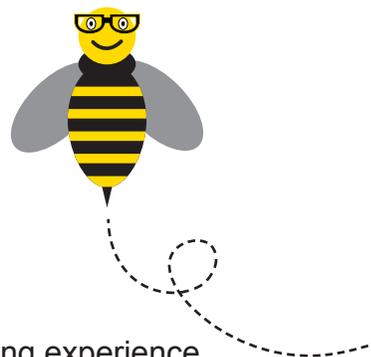
- Of your position: face the class when speaking.
- Of your voice: speak clearly and at a measured pace.

#### Be clear...

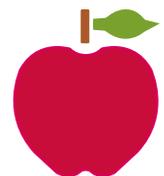
- With directions
- About deadlines
- Regarding expectations

#### Be creative...

- Provide hands-on, tactile experiences
- Think “out-side-the-box” to enhance learning experience
- Provide alternate assignments/assessments



**CHALLENGES AND CHANGES: SENSITIVITY  
TO VISION & HEARING COMPROMISES  
ACTIVITY 4A | LIVING WITH VISION IMPAIRMENT**

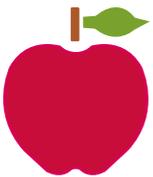


**TEACHER  
SECTION**



# CHALLENGES AND CHANGES: SENSITIVITY TO VISION & HEARING COMPROMISES

## ACTIVITY 4A | LIVING WITH VISION IMPAIRMENT



TEACHER  
SECTION

### Be proactive...

- Research student visual impairments (symptoms, limitations, progression)
- Ask the student for their input
- Consult with school and district experts about support services

### Be positive!

## Directions:

Read through the “Common Eye Disorders” handout. This can be done individually, in groups, or as a class. Discuss any unfamiliar terms which the students.

Based on the descriptions of each disorder, engage the students in a discussion about what impact they think a particular eye disorder would have on:

- ✓ Their classwork or homework
- ✓ Participation in sports
- ✓ Their ability to work (either current job or future job)
- ✓ Their relationship with their friends and family
- ✓ Future college or career plans

**\*\*WARNING:** Some students may experience one of the eye disorders or may have a family member who is affected. Be aware of how students react when discussing a specific disorder. Do not press students to share if they are not inclined to do so.

Students will make their own “foundation glasses” from the template provided. The foundation glasses are best run off on card stock or can be traced onto sturdy construction paper or lightweight cardboard. Once the foundation glasses are assembled, students will cut out the “impairment frames”. The impairment frames have “tabs” which will be folded over and used to loosely hang the impairment frames on the outside of the foundation glasses. If needed, a small piece of tape can be used to temporarily hold the impairment frames in place.

If a student already wears glasses, they may place the foundation glasses over their own glasses or they may opt to hang the impairment frames over their own glasses.

Two of the impairment glasses (cataracts and detached retina) will require students to tape wax paper over the lens openings. The following step is optional: to further illustrate the effect of each of these eye disorders, a

small amount of Vaseline may be smeared over the wax paper. ***If Vaseline is used, it should be smeared on the outside of each lens.*** If it is put on the inside of the lens, the Vaseline may come in contact with the student's eye.

To save time, assign students one specific impairment frame. When students have their impairment frame in place, ask them to look at a picture or diagram or writing sample. They will use their observations to complete the Processing Out handout.

## Materials for Each Student:

- ✓ Foundation glasses template (on card stock)
- ✓ Impairment frames templates (may limit to only 1 impairment)
- ✓ Scissors
- ✓ Single Hole Punch\*
- ✓ Tape
- ✓ Wax Paper Sheet (6" x 4")
- ✓ Vaseline (optional)

\*the single hole punch is needed for the glaucoma, diabetic retinopathy, and macular degeneration frames. The single hole punch will also be helpful to create a starting point for scissors when removing portions of the lens area for the additional impairment frames.

After completing the activity, students should complete the Processing Out handout.

## Extension:

### Explore reduced color vision:

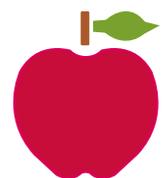
**Option 1:** Provide students with different colored lenses for their impairment frames (the cataract frames work well for this). Students with colored lenses then look at a picture with a variety of colors and determine which colored lenses confuse color detection.

**Option 2:** Place different colored plastic sheets over a picture with a variety of colors and determine which picture colors become indistinguishable.

If space permits, allow students to move around the room to determine if they can "see" better from a different location.



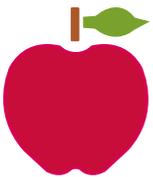
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Place students with the same impairment frames into the same group to compare observations after viewing the same picture.

Place students in groups of six, with each member using a different impairment frame. Students can share observations after viewing the same picture.

To construct a more sustainable version of “impairment glasses”, use safety glasses, recycled frames, or swimming goggles instead of the template.

### **Resources:**

ERIC Digest: Science Instruction for Students with Visual Impairments:  
<http://www.ericdigests.org/2003-1/visual2.htm>

MedlinePlus (US National Library of Medicine; National Institutes of Health):  
<http://www.nlm.nih.gov/medlineplus/visionimpairmentandblindness.html>

National Eye Institute:  
[http://www.nei.nih.gov/strategicplanning/np\\_index.asp](http://www.nei.nih.gov/strategicplanning/np_index.asp)

Teaching Students with Visual Impairments:  
<http://www.teachingvisuallyimpaired.com/art.html>