

Eye Session 1 Lesson Plan - Total time: 1 hour

Overall plan:

Introduction (5 min)

Pre-assessment (10 min)

Video and PowerPoint Discussion of the eye and the visual system (20 min)

Activity/Game (15 min)

Q&A (10 min)

Supplemental activities (as needed, 20 min)

Introduction - (5 minutes):

Presenter introduces self and colleagues/students/helpers, describes the NSF or other sponsoring organization, describes plans for program, explains why group will be doing a pre-assessment

Pre-assessment - (10 minutes):

Participants take test and leaders collect (graded later)

Video and PowerPoint Discussion of Eye and the Visual System: (20 min total):

Video link: <http://www.brainfacts.org/thinking-sensing-and-behaving/vision/2016/the-visual-system-how-your-eyes-work-021716>

Video is 2 minutes, 20 seconds

PowerPoint: Present and discuss an overview of the eye and visual system –

- discussion style presentation focusing on parts of eye and what they do (anatomy)
- may want to keep this short if the attention of the participants starts to wane; can stop after slides 5 or 7 if needed and cover these topics later in session 1 or move these topics to later sessions)

Game - (15 minutes):

Parts of the Eye Game: Each participant will have a tag with the name of a part of the eye placed on their back. The object of the game is for the students to walk around and ask each other questions to try to figure out which part of the eye they are.

Rules –

- Participants should ask questions based on the function of the part of the eye, so for example can't ask questions such as "do I start with the letter R" or "am I the retina".
- The person answering should not give clues but only yes/no answers.
- Ask one question per person then move on to the next person.
- Once the participants have figured out which part of the eye they are, they can line up for a photo in the order they would appear in the eye (using the diagram of the eye).

Q&A (10 minutes):

Option if there are too many questions: Bring a question box with index cards (or make a list on paper or the board). Write down any questions not directly related to Lesson 1 to be answered later.

Supplemental Activities (20 minutes):

To be used if there is extra time in the session.

1. Handouts (word scramble and word search, optical illusions, how the eyes work)
2. Mirror activity - if there's a mirror - test pupil size and how the iris functions

- Ask participants to stand in front of a mirror
- Ask them to keep their eyes closed for 30 seconds, which is approximately as long as it takes to sing “Happy Birthday” 3 times
- Ask them to open their eyes and look at their pupils. They should see their irises move to make their pupils smaller

3. Color vision slides if didn't cover earlier

4. Backup video (if have covered color vision):

<http://www.brainfacts.org/Sensing-Thinking-Behaving/Senses-and-Perception/Articles/2014/Paperzoo>

(This video describes rods and cones and explains that UV and IR light can be detected by other animals.)