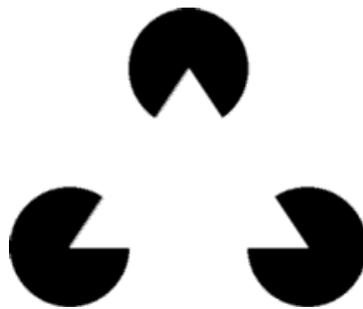


Optical Illusions



Joann Hartmann

Optical Illusions

Third Grade

SSS: SC.H.1.2.2, SC.H.1.2.3

Goal: To become aware of optical illusions and how they work.

Objectives: The student will learn how optical illusions work.

The student will learn how to make simple optical illusions.

Materials: Triangle Illusion, Muller-Lyer Illusion, or any other optical illusions that will serve the same purpose.

1. Triangle Illusion. Show the illusion to the class. Ask them what they see. Ask them why they see a triangle. Cover over two of the “pies” and ask them what they see now. BIG QUESTION—When the pies are arranged in such a fashion, why do most people see a triangle? Write down the different explanations.

Explanation for the instructor: When we look at any image our brains try to make sense of it. When the pies are placed in this way, the cut out sections form angles that our “schema” (the brain’s file cabinet) interprets as a triangle. If a person has *never* seen a triangle, all that person will see are three circles with a part missing from each.

2. Muller-Lyer Illusion. Show the illusion to the class. Ask them which line is longer. Ask a number of students to measure both of the lines and to report their finding to the class. Both lines are the same length. BIG QUESTION—Why does one line appear longer than the other? Write down different explanations.

Explanation for the instructor: The smaller lines at the end of each of the bigger lines can be called “gates”. The gates are closed ($\leftarrow\rightarrow$) or the gates are opened ($\rangle\text{---}\langle$). The closed gates “prevent” the line from extending. The open gates allows the line to “continue” outward---in the “mind’s eye.”

3. Discussion. Ask the questions, “From what you have seen so far, how do optical illusions work?”

Note: Any illusion can be used for this lesson as long as the instructor understands how the illusion works.

Resources

Cognitive Psychology. Wadsworth CogLab Online Laboratory.
<http://coglab.wadsworth.com/experiments/MullerLyer/>

Jennings, Terry. *101 Amazing Optical Illusions*. 1996. Barnes & Noble Books. New York.