

Seeing Different Images in Optical Illusions! Is It a Boy or Girl Thing?

Research Questions

- What are optical illusions?
- What are physiological illusions?
- What are cognitive illusions?
- How do scientists explain these different illusions?
- How have they been used?
- Why do you think we see what we do?

Materials

- The following free samples of optical illusions obtained from <http://www.123opticalillusions.com>:
- Crazy Line Trick
- The Wacky Spiral
- Rabbit or Duck Illusion
- The Picture of Many Faces
- The Circle Illusion
- Graph paper for summarizing data.

Method

- State the problem you are going to investigate in this science fair project.
- State your hypothesis and provide the rationale for this prediction.
- Create the data sheets you will use to record your observations.
- Gather all your materials. Print a sufficient number of copies of the five illusions so that each subject has his or her own set of pictures. Provide a response sheet with five sections, so that the subjects may record their responses.
- Allocate the same amount of time for the viewing of each picture and for the written responses. Suggestion: 2 minutes for viewing and 3 minutes for recording observations for each picture.
- Gather and summarize the data for girls and boys. You may wish to graph the data. Compile your final report and make certain you include all the key components: a clear statement of your problem, what you are seeking to find out, your hypothesis, the rationale for your hypotheses, your experimental design, the dependent and independent variables, the procedure, the resultant data, the analysis of the data, the conclusion, the bibliography and as an added touch you may wish to include what you would do differently if you were to repeat this experiment. In addition, you may want to cite what further research you would do in the future based on what you have just learned.

