

Optical Illusion Art

Background:

People have been fascinated by optical illusions for centuries. Perhaps they enjoy being stumped!

According to the Ancient Roman author, Pliny the Elder, when the artist Zeuxis unveiled his painting of grapes, birds thought they were real and flew down to peck at them. This kind of illusion is called *trompe-l'œil*, a French expression that means “fool the eye.” While none of Zeuxis’ art survives, many other artists have tried to create art that fools the eye. One is Edward Collier, who liked to paint ruffled papers and household tools strapped to a board (below left).



Letter Rack by Edward Collier, c.1698.

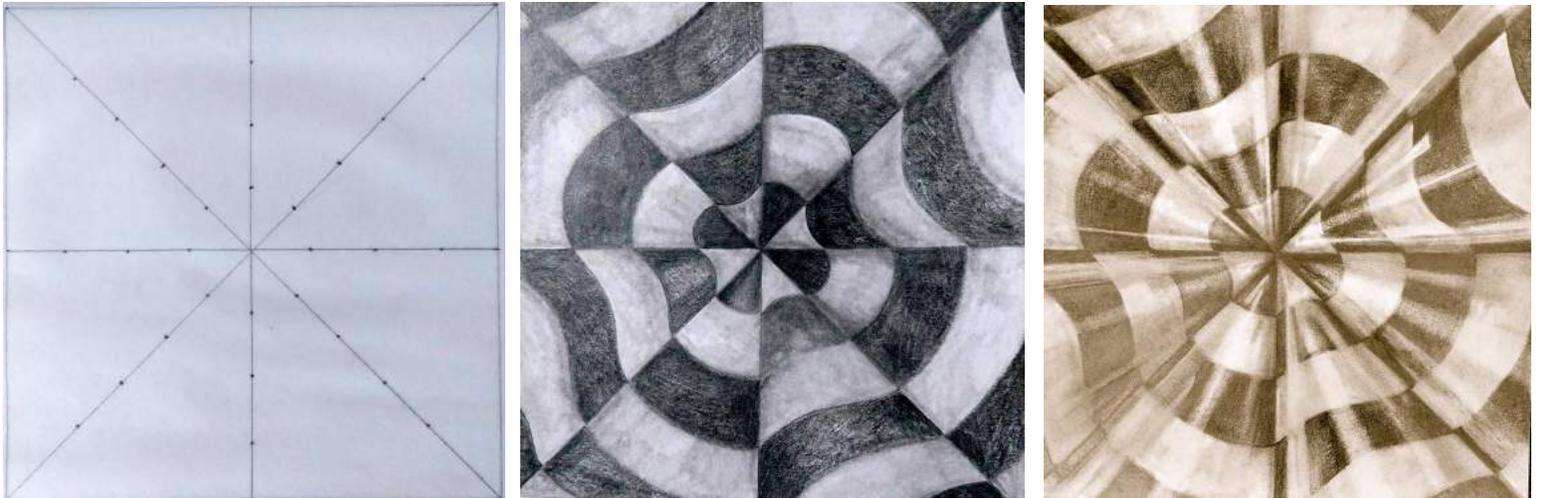


Old Lady or Young Woman?

The illustration above right shows a famous optical illusion. Look closely at it. You might see a young woman turning away from you, or a much older woman looking down. (If you have trouble, think of the young woman’s chin being the old lady’s nose.) Once you are able to see both images, you should be able to visually toggle back and forth from one to the other.

Other kinds of optical illusions involve geometric shapes that seem to either pop off the page or recede from you. These illusions may use color, light and/or patterns to create images that fool our brains. Our brains are always trying to interpret what we see to make sense of the world around us, but sometimes the eye gathers information that causes a mismatch in the brain.

Our project this week is a fun and easy optical illusion drawing.



Supplies: 8" x 8" piece of white drawing paper, ruler, pencil, 4B or 6B drawing pencil, blending stump (or cotton swab), kneaded eraser

Procedure:

Measure 4" on each side of the paper and make a small mark. Connect these, using a ruler to divide your paper into 4" squares. Then create a giant "X" that goes from one corner to the other. Be careful to measure accurately and line up your ruler carefully. Your criss-crossing lines should come to a single point at the center of your paper. You should end up with eight triangles, which we will call "cones."

Beginning from the center point of your paper, measure out 1" intervals along each of the 8 lines and make a small mark at each point. Starting at any of the dots closest to the center, draw a series of alternating concave and convex curves so that each cone is connected to the next.

Move out to the next series of dots and create a series of curving lines that parallel the first set. Continue with each series of dots, making sure to parallel the inner curving lines to the best of your ability. As you get to the edge of paper, you will be unable to create full lines. Just try to parallel the inner lines until you hit the edge of your paper.

You are now ready to shade. Use your 4B or 6B pencil if you have one. (Drawing pencils have different grades. The B scale creates soft, dark, easily blendable areas, and 4B and 6 B pencils are rather soft.) However, if you do not have a drawing pencil, you can still use a regular pencil for this project; it will just require

that you use a little more pressure. Tilt your pencil slightly to the side so that you are not using just the point. Begin on the tip of any cone. Try to shade the section evenly so that you don't get scratchy lines. This will help your cones "pop out" from each other. Shade your cones checkerboard style, meaning that a dark section in one cone will touch a lighter one on all sides. You can push a little harder—and get a little darker—as you reach the dividing lines that separate one cone from the next.

Note that you do not have to use your pencil to shade any of your lighter sections. Instead, use your blending stump or cotton swab to pull over or down some of the graphite from the darker sections. This does a great job of making the lighter sections a light gray without streaking.

When you have filled out all of the cones, you are ready to add highlights to your cones that will make them feel even more three-dimensional. Drag your eraser down the middle of each cone without stopping. You will be crossing light and dark sections with your eraser, but do not stop. You may need to clean your eraser after each drag. If you are using a kneaded eraser, knead it until the dark graphite is no longer visible. If you are using any other kind of eraser, rub it on a piece of clean paper in between each dragging. A dirty eraser might leave dark smudges that are hard to remove.

Step back and look at your drawing: Do you see the cones undulating?