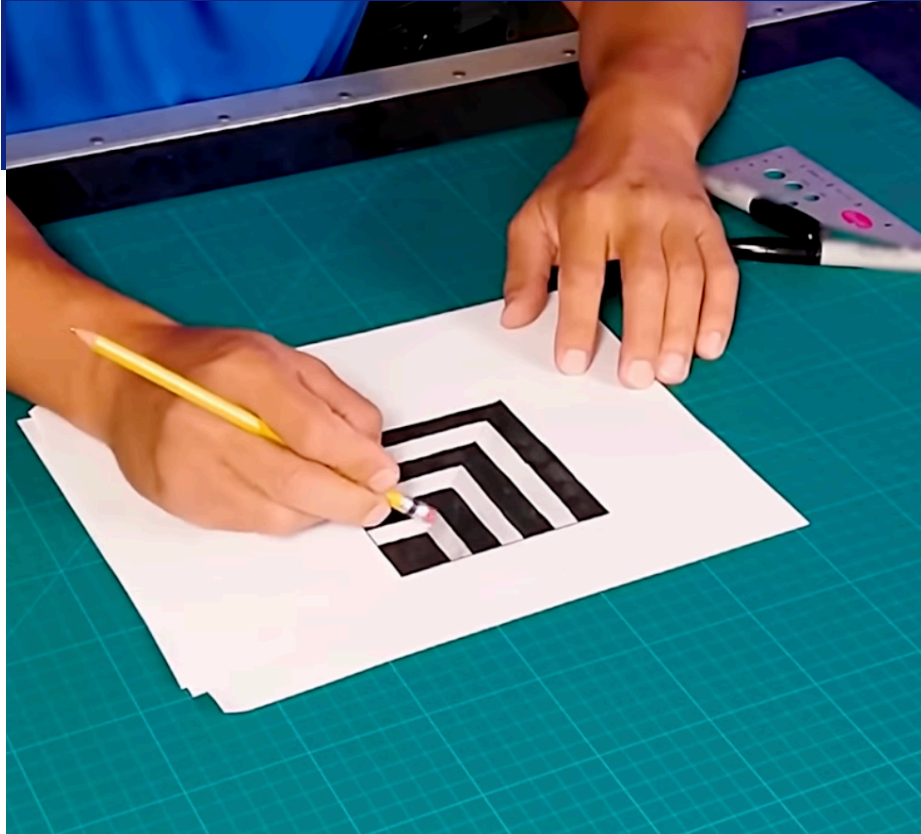


Anamorphic Art



**IMPOSSIBLE
SCIENCE**

Objectives: 1. Students will build knowledge of anamorphic art in street art and Renaissance art. 2. Students will refine photoshop skills when distorting an image to create an illusion or students will refine line drawing, math, and measuring skills to create an anamorphic drawing.



Materials:

- Tripod
- An object to use for the illusion (globe, cup, lamp, ball)
- Camera or Smartphone
- Foamcore
- Computer with Photoshop
- OR
- Pencil, drawing paper
- Regular and fine tip markers
- Magic rub erasers
- Straight edge

Vocabulary

Anamorphic art -Art that uses a distorted projection or 2D drawing that appears undistorted and three dimensional when viewed only from a certain angle.

Distortion- to twist or pull out of shape.

Hook

Explain to students that artists have been using techniques to distort perspective and make 2D art appear 3D for centuries. Define and students examples of both renaissance anamorphic art, such as Hans Holbein's The Ambassadors, as well as modern day street art examples such as these.

Explain that artists use grids to alter perspective to create optical illusions of 3D images such as those seen in the examples. Tell students that although it is common today, it has only been around since the Italian Renaissance in the late 1400s.

Procedure

1. Set up the camera on tripod, and place the object on the table.
2. Take the picture. ***If you have access to Photoshop continue steps. If not, skip to drawing by hand section below.*
3. Watch [Impossible Science Video to 5:24](#), pausing to follow steps below.
4. Create a new project in Photoshop and match the size to the size of the page you will print.
5. Create a new layer and draw a grid made of perfect square boxes.
6. Import your image, and scale the image to fit the warped grid.
7. Convert it into a smart object.
8. Duplicate the grid layer and recolor lines.
9. Warp and duplicate the grid using the distort perspective tool. It should look as if the grid is going into the distance, like railroad tracks.
10. Line up the two grids at the bottom of the page.
11. Select the warped grid in your image. Use the "distort and perspective" tool to unwarped the grid so that it lines up with the original grid.
12. Turn off the grid layers, and print at a local print shop.
13. Cut the image out.
14. 15. Mount the back half (side that will be farthest from the viewer) of the image on foamcore.
16. Place the mounted image onto the table, and find the position where it looks 3D.
17. Invite classmates to view the image, and take a photo of it from the angle that works best.

If you are drawing by hand

1. Watch [Impossible Science Video from 5:27](#), pausing to follow along with the steps below.
1. Draw a 4"x4" square
2. Draw L shapes along the inside corner, about a half inch apart, getting smaller as they move toward the opposite corner.
3. Draw a straight diagonal line from one corner to the other, connecting the corners of the Ls.
4. Use the fine tip marker to trace over two sides of the square.
5. Use a regular tip marker like a Sharpie to go over the L lines, leaving the diagonal.
6. Fill in the smallest square, and then every other L shape.
7. Lightly shade one side of each of the remaining white L shapes, with the shading getting lighter as the Ls get bigger.
8. Move to different positions until you find the angle where the shape looks 3D.

Assessment:

Students

Students should set up their drawings and invite students or teachers from another class to view them, revealing that they are two dimensional at the end.

Challenge Option:

1. Students can create their own anamorphic street art using chalk by drawing their image onto a piece of glass or plexiglass, using the same perspective as the rest of the scene, then projecting the image onto the street, surface, hallway, lot, or sidewalk, and drawing over the projection.
2. Students can choose a piece of anamorphic art either from the Renaissance or today, research the piece, and attempt to create their own version of the piece to present to the class.

Safety Note:

Adult Supervision Recommended



Lesson Plan by Whitney Gallagher based on the "Impossible Science" series.

Find more at impossiblescience.com

