

### Objectives

Students will:

- Demonstrate an understanding of space and distance using core mathematical standards
- Students will use measurements and three techniques to create a one point perspective work of art.

### Introduction

Show: *Village of Carversville* by Edward Willis Redfield

- Identify the objects in the image.
- Why did the artist make the second house on the right smaller than the first house?
- What does two dimensional mean?
- What has the artist done to create the illusion of space on this two dimensional surface?
- Discuss the size changes of the houses, the trees, the road and the images on the road.

Show: *Troop Train on the Great Salt Lake* by Emmett Watson

- Discuss the techniques this artist has done to create the illusion of space.

Compare & contrast the similarities and differences of the two paintings, pointing out the different positions of the horizon line and the effect that it creates.



Edward Willis Redfield, *Village of Carversville*, 1946



Emmett Watson, *Troop Train on the Great Salt Lake*, 1944

### Materials

- 12 x 18 drawing paper
- 2 copy size sheets of paper (8 1/2 x 11)
- Pencils
- Erasers
- Rulers
- Scissors
- Glue
- Color medium of choice. (colored pencils not recommended)

### Images from the Museum

- Edward Willis Redfield, *Village of Carversville*, 1946
- Emmett Watson, *Troop Train on the Great Salt Lake*, 1944

### Utah Core Standards

#### Visual Art Standard: 3.v.cr.4:

Individual or collaboratively construct representations, diagrams, or maps of places that are part of everyday life.

#### Visual Art Standard: 3.v.cr.2:

Create a personally satisfying artwork using a variety of artistic processes and materials.

#### Math Standard: 3.mp.2:

Reason abstractly and quantitatively, make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories.

#### Math Standard: 3.mp.4:

Identify the mathematical elements of a situation and create a mathematical model that shows the relationships among them. Identify important quantities in and contextual situation, use mathematical models to show the relationships of those quantities, analyze the relationships and draw conclusions. Models may be verbal, contextual, visual, symbolic or physical.

### Project

Explain to students they are going to create a one point perspective drawing similar to the artwork they have just discussed. Demonstrate how to do this by having students work along with each of the following steps.

#### Technique One: Diminishing Size

Step 1: On one of the copy papers, with the 8 1/2 inch side of the paper toward them, students will draw and color a tree that takes the whole paper. (11 inches tall) (this is a must)

Step 2: The next copy paper is folded and cut in half (hamburger style). Another tree is drawn and colored on one of these sheets with the 8 1/2 side of the paper toward them. (This tree should be 5 1/2 inches tall.)

Step 3: Fold the remaining half of the copy paper in half (hot dog style) and draw and color a 2 3/4 inch tree.

Step 4: Cut out and set aside the three trees.

#### Technique Two: The One Point Perspective Road and House

Step 5: Position the 12 x 18 drawing paper in the landscape direction (18 inch side at the top and bottom). Measure 4 inches down from the top and mark that distance.

Step 6: Draw lightly a horizontal line across the paper at that 4 inch point. The line does not need to be drawn using a ruler, but emphasis that it needs to be drawn lightly.

Step 7: Lightly draw lines on top of this line to represent mountains.

*Before starting these next few steps explain that all the lines should be drawn lightly. Some will be erased and others darkened later.*

Step 8: From the left side of the paper measure in from the edge (on the horizon line) 3 1/2 inches and put a dot on the horizon line. This dot is the vanishing point.

Step 9: From the left side along the bottom measure in 11 inches and put a dot at that measurement. Measure in 6 inches and mark that measurement.

Step 10: Create a road by drawing two lines from the dot on the horizon line one to each of the marks at the bottom of the paper. (Emphasize the importance of the ruler touching each dot as the lines are drawn.) Lines can be darkened if drawn correctly.

Step 11: On the right side of the "road", from the bottom of the paper measure up 3 inches make a dot. Place the end of the ruler on the right edge of the paper and line it up with the dot they just made, make a dot 3 1/4 in from the left edge. Align the dots from the bottom measurement and the side measure so there is one dot 3 inches from the bottom and 3 1/4 from the side.

Step 12: From this dot draw a 2 1/2 inch horizontal line to the left and a vertical line 3 inches high. (Make sure the students draw these line as accurately as possible by using the edges of the paper as a guide, or

have them make two marks for each measurement and use those to align their rulers.) i.e. another dot 3 inches from the bottom close to the other one and another dot 3 1/4 inches from the side.

Step 13: Draw two more lines to create a rectangle, using the same measurements.

Step 14: Divide the top line of this rectangle in half by putting a dot 1 1/4 inch from either corner.

Step 15: From this dot measure up vertically 2 1/2 inches, mark with a dot.

Step 16: Create a house type image by adding lines from this dot to each of the top corners of the rectangle to form a triangle.

Step 17: Draw light lines to the vanishing point from the bottom left corner of the rectangle; the top left corner of the rectangle, and the top point of the triangle, (These are the guidelines that will be used to create the other side of the house and will eventually be erased.)

Step 18: From the bottom corner of the rectangle measure along the guideline 3 inches and mark with a dot. From the top corner of the rectangle along the guideline measure 3 inches and mark with a dot. Draw a vertical line between the guidelines connecting these two dots.

Step 19: (The hardest step.) Place the ruler along the angle on the left side of the triangle and slide it along the paper until it touches the vertical line they just drew. Draw a line at that angle from this point up to the top guideline.

(Suggestion: demonstrate this step first to show how they are creating the angle of the roof. Then work along with them again.)

Step 20: Darken all the house lines.

Step 21: Draw two guidelines any where between the left side of the house to the vanishing point. Use these to create a window or windows by drawing vertical lines between them. (Students struggle with this because they slant their vertical lines. Show them how to use the sides of the house as guides for keeping the lines vertical.)

Step 22: Darken house lines and erase all guidelines. Add details to house.

Color the image.

#### Technique Three: Overlapping

Step 23: Glue the 11 inch tree on right side of paper with the bottom of the tree about 1/2 inch from the bottom. It should cover some of the house image. (options: If the tree extends past the edges of the paper it can be left that way or it can be cut off to match the edges of the paper. [artist choice])

Glue the 5 1/2 inch tree on the left side of the paper so it covers the vanishing point on the horizon line It should be about 3 1/2 inches from the bottom. Glue the 2 3/4 inch tree any where between the house and the tree on the left. (Have students experiment with the placement and decide where it looks best in terms of maintaining the illusion of perspective.)

## Assessment

Does the artwork reflect that the student followed instructions?

Does the artwork demonstrate the three techniques of Perspective?

Does the size of the road diminish to the vanishing point?

Do the dimensions and details of the house correctly adhere to the look of a one point perspective house?

Are the trees placed on the drawing in the proper places to create the illusion of space?

How accurate are the measurements?

## Variations

Have the students draw the trees directly on the drawing paper. This will save time, but may eliminate the technique of overlapping.

Include a discussion of adding a sun image - how big should it be and where could it be placed?

## Extensions

Discuss other images that could be added to the drawing ( additional trees, fences, cars, etc.) and how these images should be drawn to maintain the perspective and illusion of space. Let students know they can and should use guidelines for anything they add to the drawing.

## Student Example





Edward Willis Redfield, *Village of Carversville*, 1946



Emmett Watson, *Troop Train on the Great Salt Lake*, 1944