

Linear Perspective

Grade 5 – Lesson 5

(*Art Connections*, Level 5, pgs. 152-153)

Big Idea

Artists can imply depth – create the illusion of 3-D depth on a 2-D surface – by using linear perspective.

Learning Targets and Assessment Criteria

Target 1: Creates the illusion of depth in a work of art. (Arts EARL 1.1.2 *Principles of Organization: Perspective, implied depth*)

Criteria 1: Uses linear (one-point) perspective (orthogonal lines oriented to a vanishing point) to imply deep space.

Criteria 2: Uses overlapping to imply deep space.

Criteria 3: Uses diminishing scale (smaller objects suggest objects in distance) to imply deep space.

Local Art References



The Doge's Palace and the Grand Canal, Venice, ca. 1710

Luca Carlevariis

50.70

(NOTE to Teacher: See **Art Background** section at end of lesson for more information about this work of art.)

Looking at Art Questions

(Note to Teacher: Show the two images from *Art Connections*, Level 5, pgs. 152-153 and the painting above when facilitating the following discussion.)

1. Which of these three images seems to **imply** the greatest **depth**? What did the artist do to trick your eyes into believing you are seeing great depth in the paintings? (Overlapping, atmospheric perspective, diminishing scale, one-point perspective. NOTE: Students may use other words to describe these techniques. You can insert the correct term when you paraphrase back the student's observation.)
2. Today we are going to use three of those different ways to suggest depth: **overlapping**, **diminishing scale** (things getting smaller when they are further in the distance), and **one-point perspective** to suggest depth in a landscape.

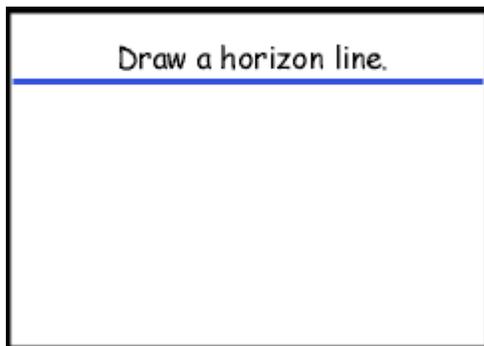
Art Making Activities

One-Point Perspective

How can you imply depth with lines that converge at a single point on a horizon?

One-Point Perspective Activity

1. One of the ways artists can imply depth is by using **one-point** or **linear perspective** (drawing the lines of geometric forms so that they meet at a single vanishing point).
2. We'll practice one-point linear perspective, step-by-step before you do it on your own in your imaginary cityscape.



Explain that every line they make in one-point perspective will be vertical, horizontal or an orthogonal line (irregular shapes and lines can be dealt with later).

Demonstrate how to make the end of the ruler (or side of the triangle) flush with the edge of the paper. This is one of the most important and most challenging skills! If lines are not exactly horizontal and vertical, your students' drawings will be skewed and they will get frustrated! THIS WILL BE THE MAJOR CHALLENGE YOUR STUDENTS WILL FACE IN THIS ACTIVITY!



Correct



Incorrect

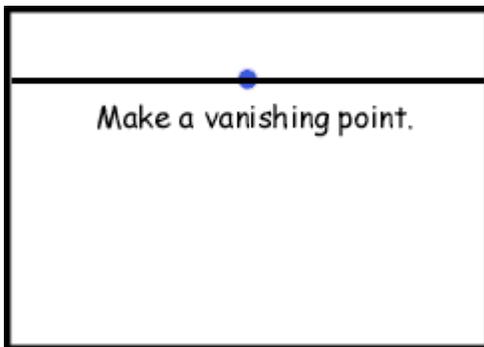


Correct

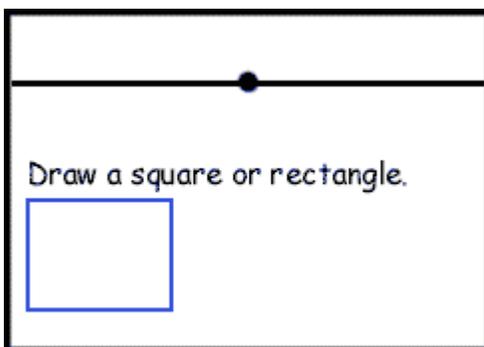


Incorrect

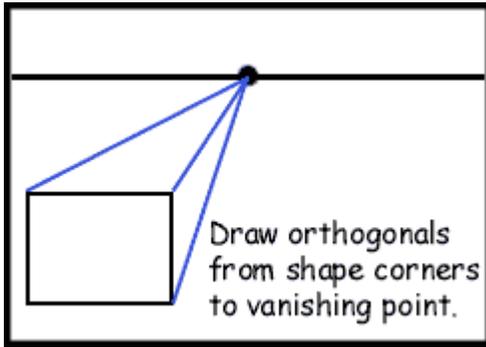
Draw the vanishing point in the center of the horizon line and label it.



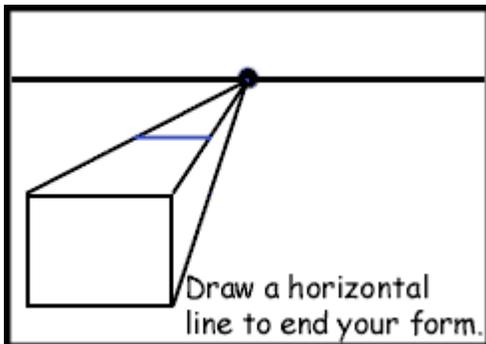
Now draw a square or rectangle and label it "front face". Draw it in one of the lower corners so you have plenty of room to add more forms. You can continue to relate the drawing to the physical box model as you work.



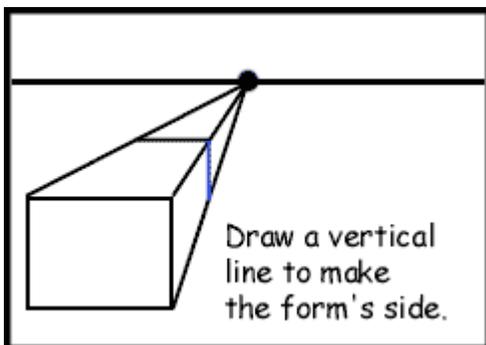
Now connect three corners of your rectangle or square to the vanishing point. These are orthogonals. Draw lightly so you can erase!



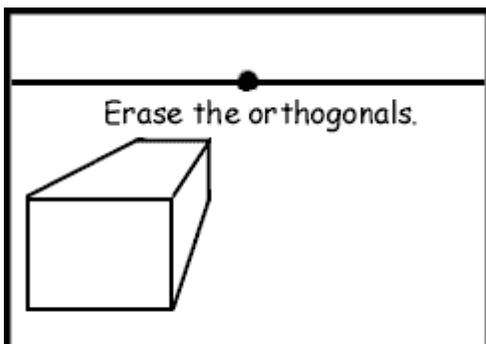
Draw a horizontal line to end your form.



Draw a vertical line down from the horizontal line to complete the side.



Erase the remaining orthogonals.



Now you're done!

Excerpted from: <http://www.alifetimeofcolor.com/main.taf?p=1,29>

3. Steps for Teacher:

Day One

- a. Demonstrate one-point linear perspective and then guide students step-by-step in practicing it in their sketchbooks.
- b. Facilitate verbal and visual brainstorming about what the buildings of the future might look like.
- c. Guide students in beginning to draw their imagined futuristic buildings in linear perspective. Encourage them to add architectural details like windows, doors, balconies, towers, etc.

Day Two

- a. Remind students that they need to show implied depth in three ways: linear perspective, overlapping, and diminishing scale.
- b. Ask students first to check with a peer and then with you that they have achieved all three ways to imply depth before proceeding with watercolor pencils.
- c. Guide students in painting their futuristic landscape with watercolor pencils.

One-Point Perspective Activity

Each Student Needs

- Sketchbook
- Ruler
- Pencil
- Eraser
- Geometric shape templates

Deep Space Landscape Activity

Each Student Needs

- 9 x 12" piece of watercolor paper
- Blue tape to tape down four edges to art mat or drawing board
- Art mat or drawing board
- Ruler
- Geometric shape templates
- Pencil
- Watercolor pencils
- Water
- Water media brushes

Tips for Teachers

Before Class

- Gather images of modern architecture for inspiration.

During Class

- To help students brainstorm the forms of futuristic buildings, you might have them decide what function the buildings will serve first, then what shapes suggest themselves.
- Since linear perspective can be confusing when it is a new skill, walk the students step-by-step through the process of rendering a geometric form in one-point perspective. Remind students that they cannot do one-point perspective without a horizon line and a vanishing point.

Vocabulary

Implied depth	Horizon line
Linear perspective	Overlapping
Orthogonal lines	Diminishing scale
Vanishing point	

Self-Assessment

Name _____

After you finish your deep space landscape, briefly describe the function(s) of the buildings you created in your composition. How do their forms reveal their function (how do the shapes of the buildings suggest what goes on inside of them)? Create a title for your work.

Reflecting on Our Art

- **Describe:** Describe your futuristic buildings.
- **Analyze:** How do the forms of your buildings reflect what goes on inside of them? What affect does your analogous color scheme have on your composition?
- **Interpret:** What kind of a future does your landscape suggest?
- **Decide:** Would you want to live in the future you describe?

Art Background (for *The Doge's Palace and the Grand Canal, Venice*, ca. 1710, by Luca Carlevariis)

This painting offers a window onto life in Venice along the Molo, the wharf near the Piazza San Marco. It is both a topographical rendering of the city's unique setting and a sensuous evocation of its atmosphere, variety of human activity and color. Paintings like this were made for northern European visitors to Venice who wanted to take a memento of their visit back home.

During the eighteenth century, extended travel in Europe formed an important part of an English gentleman's education, exposing him both to monuments of history and European aristocratic society. In Italy, the Grand Tour usually encompassed stops in Florence, Rome, Venice and Naples, with its ancient sites nearby. During these voyages, which could last several years, travelers collected artifacts, books, works of art and other collectibles to display in their homes. *Veduta*, or view paintings, became popular as souvenirs of this important period in one's life. Living with *vedute*, the traveler might find that his specific memories of Venice would gradually merge with the painting's sunny image of vivacious city life and perpetually rosy summer.

Luca Carlevariis

Italian, Venice, 1663-1729

Luca Carlevariis was born in the provincial town of Udine, where his father, who died

when Luca was small, was a painter and designer. His early training is unknown, and he is often considered to be self-taught. He moved to Venice in 1679 and in 1698 may have traveled to Rome, where he could have seen Roman view paintings by the Flemish painter Gaspar van Wittel. His first major project was a book of 104 etched views of Venice, published in 1703. His aim, stated on the title page, was to spread awareness of the splendors of Venice. His large view paintings (*vedute*), collected by diplomats and wealthy visitors to Venice, similarly functioned as both souvenirs and advertisements for the city. Their frothy clouds and pastel colors disguise the fact that Venice was suffering political and economic decline.

Carlevariis' painted repertoire of views was largely restricted to the picturesque and open area around the Piazza San Marco. He slightly shifted viewpoints and varied the gatherings of colorful people, many of which were based on sketchbook studies that still survive in the British Museum and the Victoria and Albert Museum. Because of the small range of subjects, his work is difficult to date. As one scholar wrote, "Having worked out a method of painting, he stuck to it." (W.G. Constable, *Canaletto*, Oxford: The Clarendon Press, 1976, v. 1, 70) A firm knowledge of perspective was essential to Carlevariis' work, and he considered himself a mathematician. When his portrait was painted late in life, he was shown holding a compass, and other mathematical instruments are shown nearby. Carlevariis never achieved great fame, and he was eclipsed in popularity by his prolific younger rival, Canaletto (Giovanni Antonio Canal, 1697-1768), and his crisp, brightly hued compositions.

Excerpted from Seattle Art Museum's *Close-Ups* online at:

<http://www.seattleartmuseum.org/SAMcollection/code/emuseum.asp?style=browse¤trecord=82&page=collection&profile=objects&searchdesc=WEB:CloseUps&newvalues=1&newstyle=single&newcurrentrecord=85>

Cross-Curricular Connections

Math – Geometric skills, measuring angles

Online Resources on Linear Perspective

http://www.artsconnected.org/toolkit/watch_space_perspective.cfm

Assessment Checklist

Student	Uses linear (one-point) perspective (orthogonal lines oriented to a vanishing point) to imply deep space	Uses overlapping to imply deep space	Uses diminishing scale (smaller objects suggest objects in distance) to imply deep space	TOTAL 3
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31.				
Total Points				
Percent Comprehension				

Teacher Notes:

Letter Home

Dear Family,

*Today we learned how to **imply depth** using **linear**, or **one-point perspective**, **overlapping**, and **diminishing scale** (when objects in the background are smaller than objects in the foreground) We looked at paintings by the 18th century Italian painter, Giovanni Paolo Pannini, 19th century American painter, Edward Hicks and the Venetian landscape painter, Luca Carlevariis. All of these painters used linear perspective, overlapping, and diminishing scale to imply seemingly infinite depth.*

We created our own imagined cityscapes of the future in which we implied depth through linear perspective, overlapping and diminishing scale.