

## Objectives

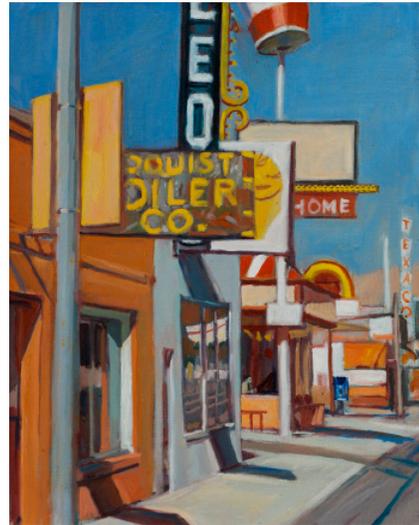
- Students will understand how to measure angles.
- Students will understand that light is an important element of classical art.
- Students will create a simple sculpture from a figure sketch, measure the angle of light from a light source, and capture and trace the cast shadow from their sculpture that is created by the light.

## Introduction

Classical artists, and most artists today, use light and shadow as an important tool in their art. The contrast that is achieved with light and shadow is a big factor of the composition of the artwork, for establishing the mood of the piece, and to unify the objects or people wherever they are placed in the artwork because of the perspective. The effectiveness of a work of art or design is largely based on the use of light and shadow. When the source of light is blocked by an object it casts a shadow. The length and shape of the cast shadow depends on the placement of the light source. Long shadows are cast from a side light source (as from the sun in late afternoon or early evening), and short cast shadows are cast from over head (as from a noonday sun). The shape a shadow casts depends on the shape of the object casting it and how close the source is to the object.



Mahonri M. Young, *Da Winnah!*, 1928



Paul Howard Davis, *State Street*, 1986

## Materials

- 1/2 sheets of cardstock (5.5" x 8.5")
- Tin foil cut in 12" sheets from roll and marked with pattern
- Sketch paper
- Scissors
- Pencils
- Black Markers (Sharpies)
- Hot glue gun
- Large protractor or angle tool
- Shop light or table lamp (minimum of 1, can use more for different angles and distances)

## Images from the Museum

- Deon Duncan, *The Contortionist*, 2011
- Mahonri M. Young, *Da Winnah!*, 1928
- C.C.A. Christensen, *Handcart Pioneers' First View of the Salt Lake Valley*, 1982
- Richard J. Van Wagoner, *White Volkswagon*, 1983
- Paul Howard Davis, *State Street*, 1986
- Danquart Anthon Weggeland, *Fisherman Netting*, 1994

## Utah Core Standards

### Mathematics

Strand: MEASUREMENT AND DATA (4.MD) Standard 4.MD.5  
Recognize angles as geometric figures that are formed wherever two rays share a common endpoint, and understand concepts of angle measurement.

Strand: GEOMETRY (4.G.)

Draw and identify lines and angles, as well as classify shapes by properties of their lines and angles

### Visual Arts

Strand: CREATE (4.V.CR.)

Students will generate artistic work by conceptualizing, organizing, and completing their artistic ideas. They will refine original work through persistence, reflection, and evaluation

## Activity

Show students the images of sculptures from the Springville Museum of Art, *The Contortionist* by Deon Duncon and *Da Winnah* by Mahonri M. Young. Using a pencil and sketch paper, have the students choose one of the sculptures and sketch a rough outline of the figure. Have them try a few different times, it will help them to point out the proportions of the figures. These sketches aren't meant to have detail but rather focus on the shape of the pose. You could also ask for a couple of student volunteers to stand up pose while the other students sketch their outline. Once the students have a few sketches have them choose one that they like the best.

Each student should have:

1/2 sheet of cardstock

Scissors

Pencil/Marker

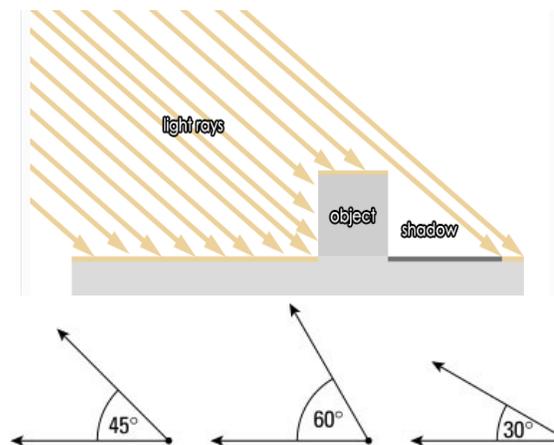
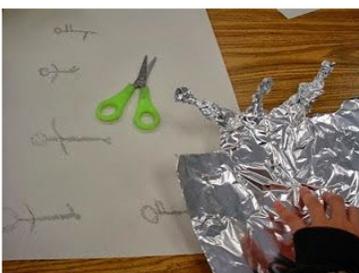
12 inch piece of foil (mark the foil as seen in **Image 1** prior to the lesson to save time). These will be the guidelines where to cut the foil.

Have the students cut the foil on the designated lines. Once the foil is cut have them slowly start to crumple and mold each section into the pose they have chosen from their sketches as seen in **Image 2**. Work carefully not to tear the foil. If there happens to be a tear it can be repaired with a glue gun by a teacher or adult helper. Once the students have sculpted their tin foil figures, the teacher or adult helper can help secure their sculpture to one end of their cardstock base with the glue gun.

Image 1



Image 2



## Activity continued

Show the images from the Springville Museum of Art:

- C.C.A. Christensen, *Handcart Pioneers' First View of the Salt Lake Valley*, 1982
- Paul Howard Davis, *State Street*, 1986
- Richard J. Van Wagoner, *White Volkswagon*, 1983
- Danquart Anthon Weggeland, *Fisherman Netting*, 1994

Have the students find the shadows in each image and decide where the light source is. Then discuss how close or far away the light is and how that effects the shadow.

Introduce the large protractor and how to use it. Find the 45 degree angle on the protractor and then lock it. Sit the base of the protractor flat on the table. Move the light to the 45 degree angle and place the sculpture at the vertex of the angle. Notice the shadow that is cast onto the cardstock from the sculpture blocking the light.

Discuss the following questions:

- Does it have a soft edge or hard edge?
- What happens to the shadow when you keep the light at that angle and move it closer or farther away from the sculpture? (Refer back to the SMA artwork as needed)
- What happens when the light is at a different angle, 5 degrees, 30 degrees, 90 degrees, etc.?

Have the students put their sculptures under the light, once they get the shadow they like (it should all fit onto the cardstock) have them use the protractor to measure the angle of the light source and write it in the corner of the cardstock base. Then, using a pencil, outline the shadow of their sculpture. If they have a sharp shadow outline (light source was close) they can use a black marker to darken the outline and color it in, if they have a softer shadow (light source was farther away) they can use a pencil to shade in a softer edge and then color it in.

## Assessment

Students can present their sculptures in a gallery like setting by clearing their desks and displaying their sculptures with a label that includes their name and if they choose, a title of their piece. They can then quietly walk around the room and view the sculptures and shadows made by their classmates.

## Extensions

Students could write a story about their sculpture. Who is it? What are they doing?

## Sources

<https://www.bloglovin.com/blogs/mrs-knights-smartest-artists-3226646/foil-figure-sculpture-2279403653>

<http://www.artinstructionblog.com/drawing-lesson-a-theory-of-light-and-shade>

Student Examples:



Deon Duncan, *The Contortionist*, 2011



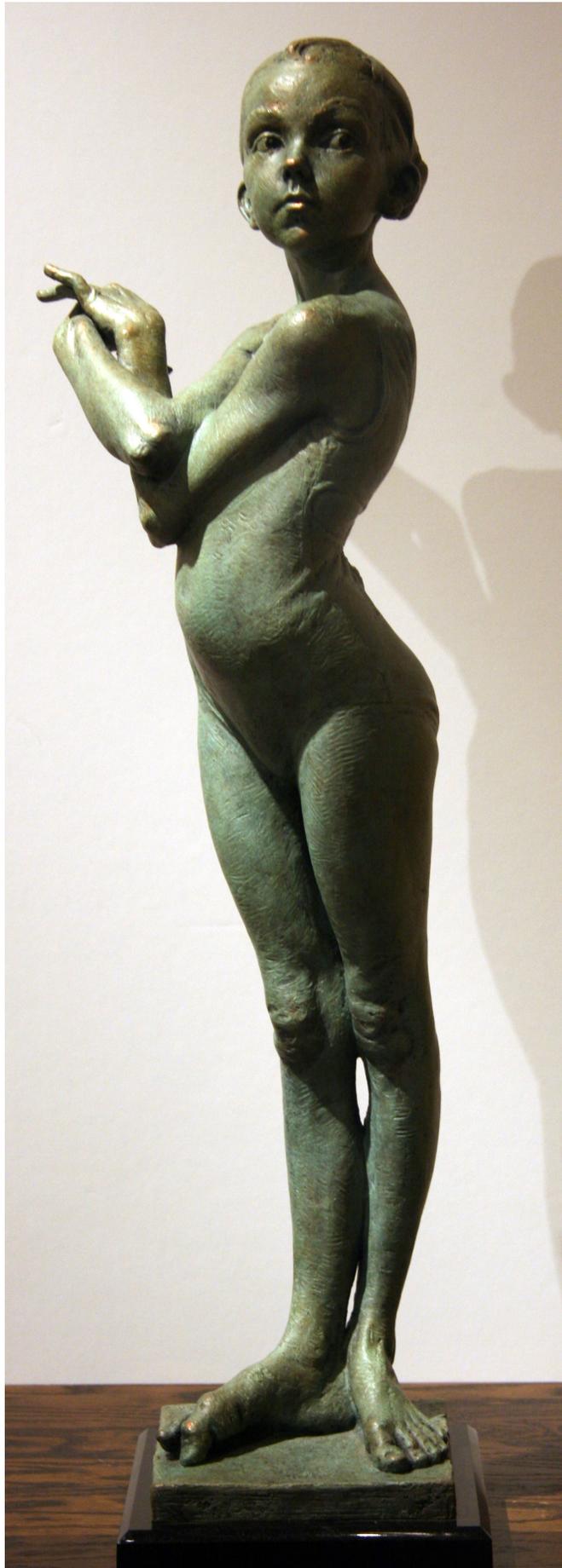
C.C.A. Christensen, *Handcart Pioneers' First View of the Salt Lake Valley*, 1982



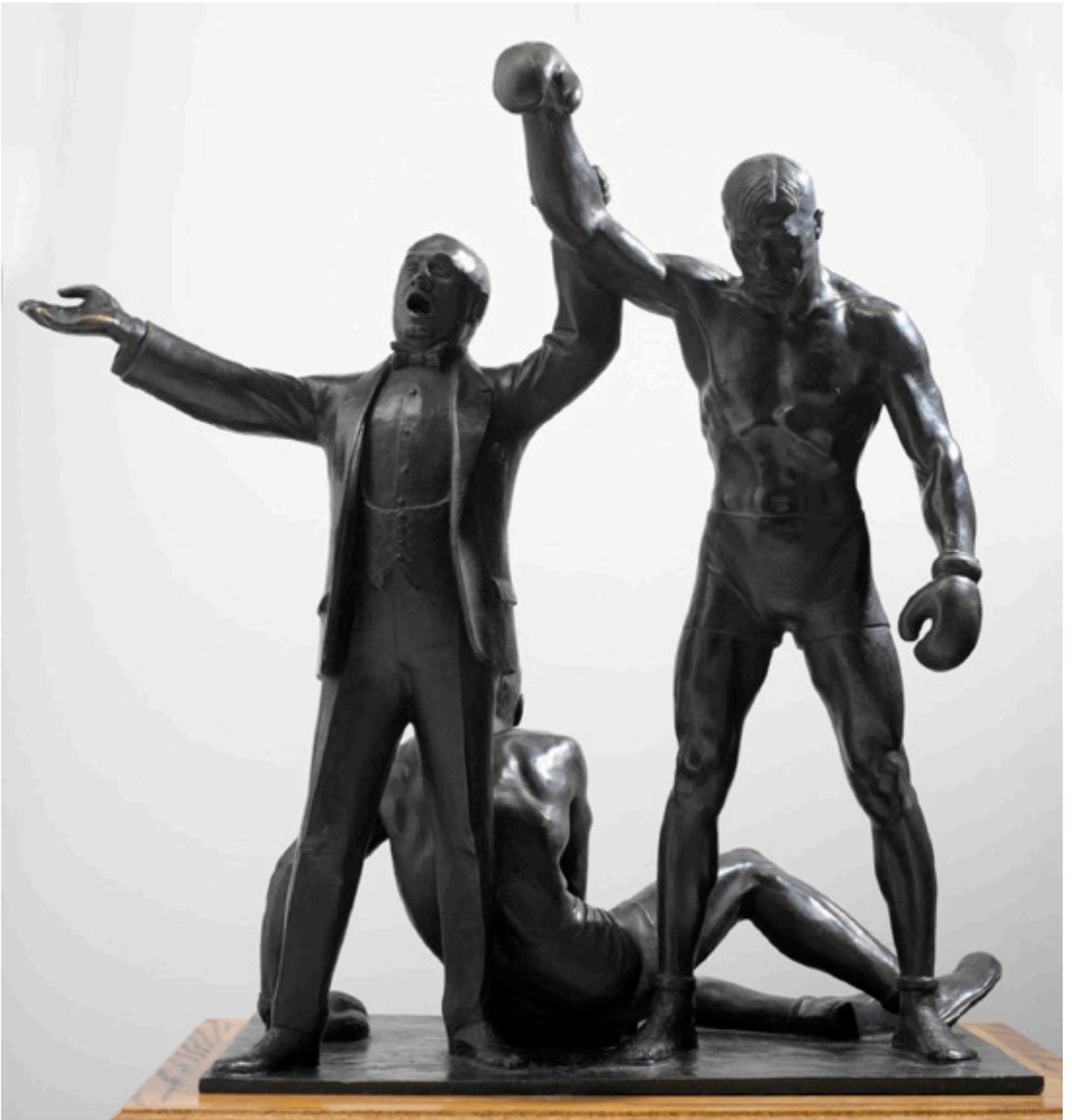
Richard J. Van Wagoner, *White Volkswagen*, 1983



Danquart Anthon Weggeland, *Fisherman Netting*, 1994



Deon Duncan, *The Contortionist*, 2011



Mahonri M. Young, *Da Winnah!*, 1928



C.C.A. Christensen, *Handcart Pioneers' First View of the Salt Lake Valley*, 1892



Richard J. Van Wagoner, *White Volkswagon*, 1983



Paul Howard Davis, *State Street*, 1986



Danquart Anthon Weggeland, *Fisherman Netting*, 1994