

# Botanical Illustration

Grade 5 – Lesson 6

(This lesson relates to *Point of View and Direct Observation*, *Art Connections: Level 5*, pgs. 156-159)

## Big Idea

*Careful observation and multiple points of view can describe and categorize the natural world.*

## Learning Targets and Assessment Criteria

**Target 1:** Creates a contour line drawing from observation. (Arts EALR 1.2 *Skills and techniques: Observational drawing, contour line drawing*)

**Criteria 1:** Uses a continuous line to record the inside and outside edges of a form.

**Target 2:** Demonstrates multiple points of view. (Arts EALR 1.1.2 *Principles of organization: Points of view*)

**Criteria 2:** Renders a plant from at least two different perspectives to illustrate its structure and form.

**Target 3:** Uses values to imply 3-D form. (Arts EALR 1.2 *Skills and techniques: Value drawing*)

**Criteria 3:** Uses stippling to imply shadows on the plant.

**Target 4:** Identifies, describes and categorizes plant parts. (Science EALR 1.1 *Properties used to identify, describe and categorize*)

**Criteria 4:** Labels the visible external parts of a plant, including: buds, leaves, stems, roots, flowers, fruits and seeds.

## National Art References



**Cottendorfia arachnoidea** (Bromeliaceae), 1982

*Alice R. Tangerini*

Smithsonian Institution, Department of Botany, National Museum of Natural History

<http://botany.si.edu/botart/showImage.cfm?myimage=images/1341.GIF&mynumber=134>

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**Ferocactus latispinus** (Cactaceae), 1913

*Mary Emily Eaton*

Smithsonian Institution, Department of Botany, National Museum of Natural History

<http://botany.si.edu/botart/showImage.cfm?myimage=images/1803.JPG&mynumber=1803>

## Local Art References



**Insect**, 1953

*Kenneth Callahan*

54.128

Seattle Art Museum



**Studies of a Lioness**, 19<sup>th</sup> century

*Ferdinand Victor Eugene Delacroix*

51.109

Seattle Art Museum

(NOTE to Teacher: Unfortunately, the Seattle Art Museum does not have any botanical illustrations in its collection; however, these two works of art illustrate careful observation of the natural world and from multiple perspectives.)

## Looking at Art Questions

1. A scientific illustration of a plant is called **botanical illustration** (the science of Botany is the study of plants). How did the artist of the pen and ink botanical illustration make it look so realistic? (Carefully observed, includes all the parts of the plant, uses values to suggest the illusion of a 3-D form).
2. How did Alice Tangerini, the artist of the pen and ink botanical illustration, render the shadows she observed on the plant? **Stippling** is a technique of

creating values with accumulations of tiny dots. Where do you see stippling on this work of art?

3. Why do you think the artist showed the plant from so many different **points of view**? (To show all of the plants external parts, and in different stages of growth). The *Study of a Lioness* by Eugene Delacroix at the Seattle Art Museum also shows the lioness from multiple perspectives. How are the issues that Delacroix and Alice Tangerini, the artist of the botanical illustration similar? (Trying to capture a 3-D form which is moving and changing).
4. Which of the two botanical illustrations looks more realistic? Why do you think so? Is color the only difference between them?
5. A recent article on botanical illustration online stated that “hand-drawn illustrations are often preferable to a photograph.” <http://www.jstor.org/pss/2419230>. Why might this be true for a scientist? (Shows the plant from multiple perspectives, in different stages of growth, etc.)
6. Today we are going to use everything we know about observational drawing. We are going to create a carefully-observed, naturalistic, **contour line drawings** of a plant (The Kenneth Callahan drawing of an insect from SAM is a good reminder of a contour drawing). We are going to show it from at least two different points of view to illustrate the external parts and structure of the plant. We are going to suggest the plant’s 3-D form, by showing the shapes of the shadows on the form with stippling. Finally, we are going to add a light wash of watercolor to indicate the **naturalistic** colors of the plant. Then, we will label our botanical illustrations with the scientific name of our plants, and label each of its external parts.

## Art Making Activity

### Make a Botanical Illustration

*How can you render a scientifically accurate image of a plant?*

#### Each Student Needs

- A cut flower or plant to observe
- Sketchbook
- 2H-4H drawing pencils
- Extra-fine line black markers
- One 11x17 piece of watercolor paper
- Blue tape to tape down all four sides
- Masonite board
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#### Each Pair of Students Needs

- Set of watercolors or watercolor pencils
- Water container
- Detail water media brushes

#### Vocabulary

Botanical illustration	
Value	Contour Line
Stippling	Naturalistic
Points of view	

#### Tips for Teachers

##### *Before Class*

- Either ask each student to bring in a plant, or buy a diverse bouquet of live flowers, enough to give each student one stem each.

##### *During Class*

- Demonstrate stippling, illustrating that it is a gradual process of building up values with tiny dots.
- Remind students as they begin to work that this lesson brings together everything that they already know and have practiced many times about observational drawing – the “tricks” of contour line drawing (looking at the object you are drawing much more than at your drawing, drawing as slowly as your eye travels around the form), adding values to create the illusion of 3-D form.

## Self-Assessment

After you finish your botanical illustration, answer the following question in your sketchbook:

*Which part of your drawing looks the most realistic and 3-D? What did you do to create that illusion?*

## Reflecting on Our Art (from *Art Connections*, Level 5, pg. 27)

- **Describe:** How does the shape of your plant change from each point of view?
- **Analyze:** How does stippling compare to other techniques you know for rendering shadows?
- **Interpret:** How do you feel you have captured the essence of your plant?
- **Decide:** Which parts of your drawing do you feel are the most naturalistic? Why do you think so?

## Art Background

The Botany Department of the National Museum of Natural History at the Smithsonian has been building a database of botanical illustrations curated by the department's scientific illustrator, Alice Tangerini. This project has been on-going for over twenty years, and is an attempt to make this rich collection of scientific and artistic knowledge available to staff and visitors to the museum, as well as the international audience through the internet. The illustrations are cataloged by their plant taxonomy, both genus and family.

See: <http://botany.si.edu/botart/>

## Cross-Curricular Connections

Science – Scientific observation and botanical illustration

## Assessment Checklist

Student	Uses a continuous line to record the inside and outside edges of a form	Renders a plant from at least two different perspectives to illustrate its structure and form	Uses stippling to imply shadows on the plant	Labels the visible external parts of a plant, including: buds, leaves, stems, roots, flowers, fruits and seeds	TOTAL 4
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*Teacher Notes:*

## Letter Home

*Dear Family,*

*Today we learned that an artist can make a drawing look more **realistic** and **3-dimensional** by adding **shadows and highlights**. We learned that the darkness or lightness of a tone or color is called **value**. We looked at a self-portrait (by Morris Graves), a portrait (by Wendy Faye Dixon) and a drawing of two hands (by M.C. Escher) in which the artists made the images look realistic and 3-D with shadows and highlights.*

*We made our own **value scales** in which we tried to make five even tones from white to grey to black. Then we drew an object from two different **perspectives** and added three values of shadows and highlights on it to make it look more realistic and 3-D.*

*Learning to draw realistically with implied light and shadow takes practice. At home you could set up a simple still life, such as a piece of fruit or driftwood, and encourage your child to draw “the shapes of the shadows.” Placing a desk lamp to one side of the object will make strong shadows. A soft lead pencil (Ebony pencil or 4-6B drawing pencil available at Michael’s or NW Art and Frame in the West Seattle Junction) on paper with a little texture will give your child the best results, and build his/her confidence in being able to draw what s/he sees.*