



Under the Sea in 3-D

Art that responds to 3-D glasses



Cross-Curricular – Art and Science Grades 1–12

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Description

3-D technology takes this art and science color theory lesson to amazing depths. Through manipulation and juxtaposition of color, a 2-D piece of artwork is transformed into sea creatures that seem to swim above the surface of the paper in another dimension, when viewed with 3-D glasses. This lesson correlates with science, not only in subject matter, but also in experiencing how the eye perceives and processes color wavelengths in this optical illusion. The process will only work with binocular vision, or both eyes, and will not work with red and blue lens 3-D glasses. For more complete explanations and instructions than what is able to be captured in this lesson plan, refer to the Sax® Color Power Holographic 3-D Color Theory Teaching Unit, which is recommended for upper grades.

Objectives

- Students will become aware of underwater life forms by studying and then drawing them in an underwater habitat.
- Students will learn very basic 3-D color theory to create artwork that will respond in 3-D when viewed through 3-D glasses.

Safety Tips

- Do not wear glasses for extended periods of time. Instead use them occasionally while working to avoid tiring eyes.
- Do not move around the room while wearing glasses, as they may distort depth perception.

Variations

This process will also work with different subject matter including abstract areas of color or other background colors. In theory, using a warm color of paper and cool colored objects should cause the objects to recede and the paper to appear forward. Always test your colors on a scrap of paper and then view with the 3-D glasses to confirm 3-D placement, because the rules don't always apply in every situation.

Special Education Student Adaptation Tips

- For children with lesser fine motor skills, Crayola® Model Magic® (9-391091-705, 4 oz.) can be used to create hand grips for the Color Sticks. If there is a need for an easier way to apply the product, try Crayola® Twistables® Slick Stix® (9-406861-705, 5-color set; or 9-1293657-705, 12 color set) as an alternative medium that requires less pressure to attain success.

- For students that have some drawing capability, a simple fish can be made by drawing a smile, inverting the paper and drawing another smile, with ends touching to form a “football” shape. A triangle is then drawn on one end, for the tail.
- During teacher preparation, a simple, reusable fish stencil may be cut from tagboard or a cereal box, to assist in student participation. The student may then color within the stencil using only reds, oranges and browns, then use greens for plant life on the blue paper.
- Consider allowing the student to create non-figurative artwork by drawing patches or areas of warm colors on the blue paper to minimize teacher assistance.

Directions

- 1 Explore underwater sea life by viewing an aquarium or pictures from the school library, periodicals, online sources, Gytaku Fish Print Models, etc.
- 2 To introduce 3-D imagery, try using 3-D glasses on the sea life scene in the above image to get a rough idea of what to expect.
- 3 Using a #2 pencil, lightly sketch a realistic or imaginary underwater scene.
- 4 Follow the basic rules for beginning 3-D color theory as it applies to this lesson. For older students, you may wish to study the Sax® Color Power Holographic 3-D Color Theory

Teaching Unit. Other subject matter or abstract art also works well using this process with Crayola® Color Sticks Woodless Pencils.

- 5 The Crayola® Color Sticks will roughly appear, closest to farthest when using 3-D glasses on blue paper, in this order: red, red-orange, magenta, orange, yellow-orange, pink, mahogany, brown, light brown, tan, golden-yellow, yellow, peach, white, gray, jade-green, yellow-green, green, aqua-green, violet, sky-blue, light-blue, blue and black. The Color Stick names are found on the side panel of the box. Generally, you will find that warm colors will advance and cool colors will recede. If the sea creatures are colored in warm colors, they should appear to float over the paper. If cool colors are used they will appear distant. Green seaweed should fall into the mid-ground and the blue of the paper should recede into the distance. Be careful when overlapping objects, because it will change the depth of the closer color, rather than floating over the blue paper. Also, the closer color must be on top of the farther color. Overlapping is not recommended at the elementary level.
- 6 Color each object using the colors that will allow the desired closeness or depth. Solid, intense areas of color work best. Vinyl erasers can be used for small mistakes with some of the colors. It is helpful to make a chart on a strip of blue paper, coloring a patch of each color in sequence of closest to farthest. Students could also test colors on a scrap of the blue paper and view with 3-D glasses to assist in depth prediction. It is also recommended to arrange the Color Sticks in their trays in a closest to farthest sequence.
- 7 View colors in adequate light for optimum effects.

Materials

[9-1290583-705](#) Crayola® Color Sticks, Woodless Pencils, 24-color Set

[9-402020-705](#) Sax® Colored Art Paper, Ultramarine Blue, 12"x18", 50-pk

[9-406322-705](#) Sax® 3-D Glasses, 10-pk

Optional Materials

[9-248510-705](#) Sax® Color Power Holographic 3-D Color Theory Teaching Unit
Sea life pictures from library books, magazines or online sources

Possible Drawing Models

[9-412081-705](#) Gytaku Fish Print Models, Original Set

[9-412083-705](#) Tropical Set

[9-412084-705](#) North American Set

[9-412082-705](#) Game Fish Set

National Standards

Content Standard #1: Understanding and applying media, techniques and processes.

Content Standard #6: Making connections between visual arts and other disciplines.

