

Countershading Sculpture



VIRGINIA
AQUARIUM
& MARINE SCIENCE CENTER

Students will create a 3D sculpture of a marine animal with countershading by using multiple layers of cut cardboard and paint.

Duration

Preparation: 30 minutes

Activity: 2 to 3 days depending on size and dry time

Supplies

- Paper
- Pencil
- Cardboard
- Box cutter or craft knife
- Self-healing mat or other cut proof surface
- Glue
- Acrylic paint (white and colors of chosen animal)
- Paintbrushes
- Container of water
- Paper towels

Background

Countershading is a type of coloration where an animals' top (dorsal) is dark and their underside (ventral) is light. Animals can use this to help with camouflage to hide from predators, or to help hunt for prey. Using a smartphone, you can see this effect in person. Open the Google Chrome app on your phone and search for shark. Under the animal image and description there will be an option to view the animal in 3D. Find a space large enough for a shark and select the AR option. Notice how the shark is dark blue on top and white on the bottom. To see the shark in better detail, switch to object mode to move the shark around and resize.

Instructions

1. Research other marine animals that utilize countershading. Do test sketches of the animal from the top and bottom showing how many layers of cardboard you will need and any layers that extra pieces would be attached to. Decide how big you want your final piece to be. Base this off how much cardboard you have access to.
2. Collect your materials. Any type of stiff cardboard will work for this project. Corrugated cardboard will provide more height but can compress if pushed too hard. Smooth cardboard will not provide as much height and more layers may need to be used. Don't be afraid to mix and match cardboard types.
3. Sketch the largest layer, the middle section, onto your cardboard and cut out. This will establish the length of your animal. If using a box cutter or craft knife, make sure to do this on a self-healing mat or a larger piece of cardboard to protect the surface underneath.

***When cutting, make sure to have your non-dominant hand away from the cutting area. Move the cardboard or your body around the piece to get better cutting angles, do not try to twist your arm around. This will reduce the chance of slipping and accidentally cutting yourself. ***

4. Trace this first layer onto a new section of cardboard. Sketch the next layer on top. Doing this ensures your new layers will always fit into the previous layer. Cut out.
5. Continue this process until you have all your layers cut, top and bottom. Make sure to keep track of any smaller layers or extra pieces like fins. Labeling pieces as you cut them can help keep everything in order.
6. Glue the layers together starting with the largest layer as a base and work up. Take the next largest bottom layer and work your way down. Then attach the two sections together. Make sure to add any extra detail pieces. **If your animal has sections that stick off and prevent your pieces from lying flat, you can paint them before you make the final connection.**
7. Once the glue is dry, paint the entire piece with a layer of white acrylic paint or gesso. This provides a solid base for your detail colors later and helps prevent the main layers of paint from soaking into the cardboard.
8. Once your base white layer is dry, begin to apply the countershading layers specific to your animal. Don't be afraid to mix paint colors to achieve the effect you need.
9. Once the paint is dry your piece is complete!

