



Marine Debris Masks (Cardboard)

Objectives:

Students will connect their personal consumer choices with the effects of marine debris on the marine environment. They will understand that plastics break into smaller pieces through photodegradation. They will create an aesthetically powerful personal mask from collected debris with the purpose of informing and connecting others to the issue of marine debris.

Concept:

Plastic in the marine environment is photo-degraded by exposure to the sun. These small pieces of plastic can have serious effects on marine and coastal ecosystems. This activity removes plastics, and other marine debris, from the beaches and transforms them into powerful art pieces that help to illuminate the story of marine debris, highlighting how everyday products used in our personal lives and industries can become marine debris if not disposed of properly.

Materials:

- ⊙ Handout: ICC Data Sheets
- ⊙ Bags or collecting buckets
- ⊙ Gloves, ideally re-usable
- ⊙ Pencils
- ⊙ Clipboards
- ⊙ Science Notebooks
- ⊙ Small pieces of marine debris
- ⊙ Photos of marine debris on beaches
- ⊙ Photos of masks from local area, worldwide
- ⊙ Elmer's Squeeze-n-Caulk or hot glue guns*
- ⊙ Toothpicks
- ⊙ Paper plates
- ⊙ Thick Cardboard
- ⊙ Exacto Knife
- ⊙ Sand
- ⊙ Food coloring
- ⊙ Paint brushes
- ⊙ Wire, yarn, string to hang masks

*The Squeeze-n-Caulk Glue will take 24 hours to set, but is the only glue that should be used with younger students. Regular Elmer's glue will not adhere to plastics. Older students can use hot glue guns.

Preparation:

Ideally, you will be able to take your class to a nearby beach, lakefront, riverbank, or wetland to collect debris. You can also marine debris collected at an earlier time or you can contact the Center for Alaskan Coastal Studies if you need help acquiring marine debris pieces.

It is critical that students remain safe during this activity, so be sure to explain that they should leave potentially dangerous marine debris (such as needles or broken glass) behind. It is recommended that at least one person in each group have rubber gloves, preferably reusable, to handle rusty and otherwise 'iffy' marine debris.

If you have younger students and few adults available, you can prepare cardboard mask templates beforehand by cutting eye and mouth holes.

Introduction:

Before you begin the clean up, brainstorm as a class the possible effects of marine debris on the ecosystem. Then explain that you are going to be stewards of a local beach and the global ocean by collecting marine debris so it cannot affect this or other ecosystems.

Procedures & Activities:

Split students into small groups and provide them with bags or collecting buckets, ICC data





Marine Debris Masks (Cardboard) *Continued*

sheets with clipboards, and gloves.

Use the ICC Data Sheet to record what you find. Set aside small (less than 4 inches), flat clean pieces of marine and coastal debris. Photo-degraded pieces are great to use, and you should discuss how plastic breaks into smaller pieces when it is exposed to sunlight.

Analyze what type of marine debris is being found (usually plastics and polystyrene foam) and discuss how they came to be on the beach.

Have each student identify a piece of marine debris that could be connected to a product they personally use (for example, bottle caps, polystyrene foam take out containers, straws, etc.).

Record the list of products, and discuss which of these products can be recycled and reused, and which can be replaced with reusable products.

Explain that students will be using some of the marine debris they collected to create personal masks that will help others better understand and connect with the issue of marine debris.

Inform students that they must use at least type of marine debris in their mask that could be connected, directly or indirectly, to their personal consumer choices (such as plastic bottle cap if they drink bottled water, soda, juice or tea; fishing net if they fish themselves or consume fish; polystyrene coffee or tea cups).

Cut out oval shaped scrap cardboard pieces the size of a head. Holes for eyes and mouth can be cut out by adults or older students with an exacto knife. Use the exacto knife or a sharp object to carefully work a hole into the sides of the mask by hand.

Have students string wire, yarn, or elastic through the holes for hanging or wearing the mask and then try out different designs for their mask by placing, but not gluing, plastic onto the mask. Display photos or examples of cultural masks and masks by other people to get ideas.

Explain that creating a line of objects around the eyes, mouth or nose can be very effective. Forehead and chin decorations with interesting shapes and lines can also be visually appealing.

Students should try to arrange the objects around the holes and edges and attempt to have a somewhat symmetrical arrangement to the plastic pieces.

Students should select a color scheme of 4 – 6 colors that will be repeated on the mask.

These recommendations, of course, are only that. If a student tries several designs and is excited to make an asymmetrical mask with only two colors, by all means encourage the creativity!

Once students have decided on their design, they should gently lift one piece at a time and place a dot of squeeze-n-caulk glue under the piece with a toothpick by squeezing a small amount of glue onto a paper plate and transfer it onto the mask with a toothpick.

Give students the option of using sand to decorate between the plastic pieces once the plastic pieces have dried. Provide groups of students with plates of sand and bottles of food coloring. Demonstrate how they can color the sand by carefully mixing 1 small drops of food coloring with the dry sand. Instruct students to work together in their groups to choose and create 1-3





Marine Debris Masks (Cardboard) *Continued*

colors they would like to use.

Then have students carefully brush the glue between the pieces and sprinkle sand over the top.

Wrap-Up:

Have each student brainstorm in his or her science notebook some of the potential origins and paths the marine debris pieces followed to arrive at the beach, and ultimately in the mask.

Then students should record one plausible idea each for at least 4 pieces of marine debris on their masks, and post these origin/path theories around the mask in a bulletin board display.

Ask students to pay special attention to the type of marine debris that could be connected directly or indirectly to their consumer choices.

Extensions & Lesson Connections:

Ask students to write in their science notebooks a piece of creative fiction, which features the character illustrated by the mask in a tale of marine debris. Or, have each student write an artist's statement that includes details about the problem of marine debris, how and where the marine debris was collected, how they feel about marine debris, and why he or she decorated the mask in that way. One final possibility is to have students write a Haiku about the form and meaning of the mask.

You can have students post their stories or statements to accompany their masks in a bulletin board display, or share them with the class while presenting their masks, or display them during an "Art Exhibition" or "Celebrate the Sea Party" as described later in Unit 6.

Evaluation:

Review the origin/path theories that students recorded in their science notebooks to evaluate student understanding of the origin and ecosystem effects of marine debris. Observe their effort and craftsmanship during the creation of the masks, and their communication of important concepts during the presentation of masks. If you would like to evaluate students on artistic criteria, post the following before beginning the lesson:

ARTISTIC CRITERIA TO POST

1. Create a face shaped base with cardboard or plaster tape that has clean edges
2. Select interesting flat on one side plastic marine debris.
3. Stay within a color scheme of 4 – 6 colors that are repeated in a pattern or at random.
4. Use symmetrical placement of the marine debris emphasizing the eyes, mouth and nose.
5. Consider forehead and chin decorations.
6. Use implied lines of touching shapes to create unity to the design.
7. Use good craftsmanship by not having overlapping glue and ragged edges.
8. If sand is used to create a finished effect make sure it is spread evenly without globs of glue.





Marine Debris Masks (Plaster)



Objectives:

Students will connect their personal consumer choices with the effects of marine debris on the marine environment. They will understand that plastics break into smaller pieces through photodegradation. They will create an aesthetically powerful personal mask from collected debris with the purpose of informing and connecting others to the issue of marine debris.

Concept:

Plastic in the marine environment is photo-degraded by exposure to the sun. These small pieces of plastic can have serious effects on marine and coastal ecosystems. This activity removes plastics, and other marine debris, from the beaches and transforms them into powerful art pieces that help to illuminate the story of marine debris, highlighting how everyday products used in our personal lives and industries can become marine debris if not disposed of properly.

Materials:

- ⊙ Handout: ICC Data Sheets
- ⊙ Bags or collecting buckets
- ⊙ Gloves, ideally re-usable
- ⊙ Pencils
- ⊙ Clipboards
- ⊙ Science Notebooks
- ⊙ Small pieces of marine debris
- ⊙ Photos of marine debris on beaches
- ⊙ Photos of masks from local area, worldwide

- ⊙ Elmer's Squeeze-n-Caulk or hot glue guns*
- ⊙ Toothpicks
- ⊙ Paper plates
- ⊙ Exacto Knife
- ⊙ Sand
- ⊙ Food coloring
- ⊙ Paint brushes
- ⊙ Wire, yarn, string to hang masks
- ⊙ Plaster tape
- ⊙ Old scissors
- ⊙ Dishes or small containers
- ⊙ Water
- ⊙ Modeling clay
- ⊙ Petroleum jelly
- ⊙ Awl or screw with screwdriver

*The Squeeze-n-Caulk Glue will take 24 hours to set, but is the only glue that should be used with younger students. Regular Elmer's glue will not adhere to plastics. Older students can use hot glue guns.

Preparation:

Ideally, you will be able to take your class to a nearby beach, lakefront, riverbank, or wetland to collect debris. You can also marine debris collected at an earlier time or you can contact the Center for Alaskan Coastal Studies if you need help acquiring marine debris pieces.



Marine Debris Masks (Plaster) *Continued*

It is critical that students remain safe during this activity, so be sure to explain that they should leave potentially dangerous marine debris (such as needles or broken glass) behind. It is recommended that at least one person in each group have rubber gloves, preferably reusable, to handle rusty and otherwise 'iffy' marine debris.

If you have younger students and few adults available, you can prepare cardboard mask templates beforehand by cutting eye and mouth holes.

Introduction:

Before you begin the clean up, brainstorm as a class the possible effects of marine debris on the ecosystem. Then explain that you are going to be stewards of a local beach and the global ocean by collecting marine debris so it cannot affect this or other ecosystems.

Procedures & Activities:

Split students into small groups and provide them with bags or collecting buckets, ICC data sheets with clipboards, and gloves.

Use the ICC Data Sheet to record what you find. Set aside small (less than 4 inches), flat clean pieces of marine and coastal debris. Photo-degraded pieces are great to use, and you should discuss how plastic breaks into smaller pieces when it is exposed to sunlight.

Analyze what type of marine debris is being found (usually plastics and polystyrene foam) and discuss how they came to be on the beach.

Have each student identify a piece of marine debris that could be connected to a product they

personally use (for example, bottle caps, polystyrene foam take out containers, straws, etc.).

Record the list of products, and discuss which of these products can be recycled and reused, and which can be replaced with reusable products.

Explain that students will be using some of the marine debris they collected to create personal masks that will help others better understand and connect with the issue of marine debris.

Inform students that they must use at least type of marine debris in their mask that could be connected, directly or indirectly, to their personal consumer choices (such as bottle caps if they drink bottled beverages; fishing net if they fish themselves or consume fish; foam coffee cups). Begin by splitting students into partners. Together, they should prepare the work area by laying down newspapers or a drop cloth to protect the workspace and floor and then cut bandage plaster into strips.

Have students make 10 strips that are about 2-3 inches wide by 3 inches long for each mask and cut two base layer strips, 1 inch wide and 3 inches long. These will form your base layer.

Have one partner lay down flat on the floor, face up. Have the other partner rub petroleum jelly all over the subject's face, especially at the hair-line, on the eyebrows, and around the sides of the nose.

Warning: If you skip the petroleum jelly, your subject will experience serious pain when the mask is removed!

Have students begin the first layer of the mask by dampening one of the 1-inch (2.5 cm) strips





Marine Debris Masks (Plaster) *Continued*

and lay it diagonally along the nose, starting above the left eyebrow and ending next to the right nostril (\).

They should continue layering, dampening the other 1-inch strip and placing it diagonally in the opposite direction (/), forming an "X" across the bridge of the nose. Then have them place the forehead strip, by dampening and laying a larger strip across the forehead, overlapping the tops of the "X", smoothing the plaster as they go.

Have students add the remaining strips, cutting any strip to size as needed. Instruct them to avoid the triangle from the tip of the nose to the midpoint of the upper lip.

Examine the base layer for weak areas. Check to see if any skin shows through. Check to see that the pieces are overlapping properly and are not too spread out.

Once the mask has been checked, students should start the second layer, focusing first on any weak areas. This time use 2 inch x 3 inch strips as much as possible to create a uniform layer.

Then have students take a break and let the mask set. You want the mask to set, but not start drying, so have students cut strips or clean up a bit before applying the third layer.

Then it is time for students to commence the third layer. For the third layer, explain that students should begin at the edges, and fold the tails of the strips down around the edges of the mask to smooth them out. This gets rid of the sharp corners left by the initial layers.

Also encourage students to begin to build any

prominent features. For example, a bigger nose, eyebrow ridges etc. can be created by adding narrowing pieces in layers and smoothing them down.

Next, have students allow the mask to dry until it begins to feel itchy. At this point, the subject should begin to gently move his or her face by lifting eyebrows, crinkling the nose, wiggling the lips.

Have the partner carefully remove the mask. When the subject no longer feels "stuck" to the mask, the partner should gently slide fingers along the edges to lift it away, moving fingers inward toward the center of the mask as it is lifted.

Place the mask on a rack to dry. Let it dry completely (overnight is best) before adding more features.

Explain that students can attach additional large elements with more strips, using the same overlapping techniques used for the base. Things that they may wish to attach include such appendages as a beak (fold a paper plate in half) or horns (create a cone out of cardstock), or big bumps (scrunched up newspaper).

For more detailed changes, such as higher cheekbones, a bulbous nose, or a ridged forehead, paper-based modeling clay is the medium of choice. Instruct students to spread a base layer of the clay onto the mask, then add pieces strategically until the mask feels and looks right. Allow the mask to dry overnight again before painting, sanding, decoupage, or drilling.

Use an awl or screw with screwdriver to carefully make holes on either side of the mask. String wire, yarn, or elastic through the holes for hanging or wearing the mask.





Marine Debris Masks (Plaster) *Continued*

Have students try out different designs for their mask by placing, but not gluing, plastic onto the mask. Display photos or examples of cultural masks and masks by other people to get ideas.

Explain that creating a line of objects around the eyes, mouth or nose can be very effective. Forehead and chin decorations with interesting shapes and lines can also be visually appealing.

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Give students the option of using sand to decorate between the plastic pieces once the plastic pieces have dried (preferably overnight).

Provide groups of students with plates of sand as well as bottles of food coloring. Demonstrate how they can color the sand by carefully mixing 1 small drops of food coloring with the dry sand.

Instruct students to work together in their

groups to choose and create 1-3 colors they would like to use.

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