

## Workshop 3: Papermaking Workshop

### Learning Objectives

- To experience the paper making process
- To understand the tools necessary for making paper
- To understand the challenges that preserving paper poses
- To understand the historical differences in paper making and the materials used
- To learn about different paper making traditions globally
- To learn about the historical significance of watermarking
- To learn how different sources of pulp affect the structural integrity of paper

### Curricular Tie-ins:

This paper making workshop is a useful tool to develop the fine skills of papermaking. Students will be introduced to the history of paper making and how different techniques and materials affect the structure of the final product.

- Students will be able to answer the following questions:
  - What are some of the different materials that can be used to make paper pulp?
  - Why is it important to investigate and understand the material choice and working process of an object?

### Supplies:

- Clean workspace
- Mylar, towels (to protect work surface, if necessary)
- Apron
- Paper making screen/mold and deckle
- Cotton paper pulp
- Water
- Plastic bin (large enough to dip screen in)
- Couching cloths or blue shop towels
- Rubbing alcohol or hand sanitizer
- Large and sandwich size zip-loc bags
- Cardboard
- Blender
- Strainer
- Magnetic sheets
- X-acto knives or scissors
- Permanent marker
- Heavy books
- Sunprint or cyanotype paper
- Acrylic or glass sheet (about the same size as sunprint paper)
- Lemon juice

### Pre-Class

1. Have students design and cut-out a watermark using magnetic sheets
2. Prepare a clean workspace

3. Prepare paper pulp:
  - Add a small amount pulp and water to a blender in batches, blend thoroughly
  - Drain the water out of the pulp using a strainer
  - Fill up the sandwich bags with drained paper pulp, each student or group should receive two bags
4. Lay down towels to protect workspace
5. Fill plastic bin with water, about 2 inches deep
6. Add a bag of paper pulp
7. If pulp has any brown spots or mold, remove them and add rubbing alcohol or hand sanitizer to the tub
8. Break up paper pulp with hands
9. Allow pulp to soak for at least 20 minutes

Steps:

Papermaking:

1. Fold a hand towel into thirds lengthwise
2. Lay down a couching cloth or blue shop towel
3. Agitate pulp mixture and break down any large clumps (pulp mixture should look like clouds)
4. Remove paper backing from magnet sheet and stick to the front (flat surface) of the screen
5. Dip screen into the tub and swipe the screen across the tub
6. Pull the screen back up to the surface parallel to the water
7. Allow the screen to drain
8. Turn the screen upside down and press the paper onto the couching cloth using a rocking motion from left to right
9. Paper should come off the screen, if not scoop the pulp off of the screen and try again
10. Add another couching cloth on top of the first sheet of paper
11. Dip the screen back into the tub and repeat
12. Continue making paper until you get close to running out of pulp
13. Put heavy books into 2 large zip-loc bags
14. Sandwich the finished papers between the two bags of books on the table or the ground
15. Stand or press down onto the book sandwich to squeeze out excess water (best if done outside)
16. Separate couching cloths and allow paper to dry slightly
17. Gently remove the damp paper from the cloths
18. Sit paper onto cardboard (without touching each other) and let dry
19. To dispose of paper pulp:
  - Pour left over pulp mixture over a strainer to remove pulp
  - Squeeze remove excess pulp
  - Strain the water again to ensure that all pulp has been removed
  - The pour the used water down the drain
  - Place unused pulp in a zip-loc bag and repurpose

Sun prints:

1. In a room without bright light open the surprints kit or get a sheet of cyanotype paper

2. Lay down a piece of homemade paper that best shows your watermark on top of the blue side of the paper
3. Lay the glass or acrylic sheet on top and set out in the sun
4. Let the paper sit outside for at least 5 minutes, the longer the better
5. Place paper into a plastic bin and pour water and lemon juice on top of the paper
6. Allow the print to develop, the watermark should be a dark blue color

Tips:

- Wear clothes that you do not mind getting dirty
- Keep extra water and paper pulp nearby to control pulp mixture consistency
- Lay down towels around your workspace (water will get everywhere)
- If possible, do the paper making workshop outside
- Be gentle when transporting wet paper from screens and couching cloths
- Choose a sunny day to do the sun print exercise