MAINE MUSEUM OF INNOVATION LEARNING + LABOR

Textile Printing

Teacher's Guide and Worksheets

Textile Printing

Grades 9-12

Time: 2 - 50-60 min. class periods

***This lesson is for older students and it does require the use of a sharp cutting tool. Adult supervision and proper instruction on how to use materials safely is highly suggested.**

Learning Objectives:

- Students will become familiar with various methods of applying pattern to cloth
- Students will create their own pattern design using stencil (layered) printing

Materials Needed

1. Copies of "Textile Printing" worksheet
2. Pencils and/or permanent marker for tracing
3. 10in X 12in pieces of canvas or cotton cloth, alternately you can use paper
4. Craft knife for cutting stencil material
5. Stencil material - 8 ½ in X11 in mylar sheets similar to these or freezer paper work well
6. Water soluble paint
7. Paint brushes
8. Paper plates/small cups/palates for paint

Pre-reading/Preparation

While it is recommended that students be familiar with the Design and Textile portions of our website it is not necessary for the completion of this lesson.

Prior to this lesson, teachers are encouraged to explore how stencils are used to create clothing and art today. Samples of silkscreened clothing or other fabric would be helpful to share with students at the beginning of the lesson.

Set Up

Each student should have the following:

1. "Textile Printing" worksheet
2. Pencil/permanent marker
3. 2 pieces of canvas, cotton cloth or paper
4. Craft knife or similar cutting tool
5. 3-4 sheets of mylar or freezer paper
6. Paint, brushes and palette/paper plate

Instruction, Teacher Modeling, Guided Practice

1. Distribute copies of the "Textile Printing" worksheet and read the introductory page on silk screening/stencil printing together.
2. Ask students to identify where they may have seen silk screen or stencil printing before, and show them fabric samples.
3. Have students choose a Bates pattern to create a stencil for; full-page images are available at the end of the lesson for tracing.
4. Explain that each color will need a new stencil. Students should lay the mylar/freezer paper over the image and trace an outline for each color (e.g., for the roller skate, trace all black areas, then use a new sheet to trace all red areas, then another for all brown areas). Ensure the image is lined up exactly the same way each time.
5. After tracing each color, students should cut out these mylar sections using a craft knife or similar tool. CAUTION: The tool is sharp and can cut both fingers and the table. Students should use a cutting mat or cardboard to protect the table.
6. Students then choose their paint colors, either following Bates' colors or choosing their own.
7. To apply the design, lay one stencil on the fabric and carefully paint the open areas with a SMALL AMOUNT OF PAINT. Let it dry for a few minutes, then lay the next stencil on top, carefully aligning it with the image underneath. Paint the open areas with the next color. Repeat with additional colors if needed.
8. Allow the paint to dry completely before displaying.

Name:

Textile Printing

Silk screening, also known as screen printing, is a printing technique that uses a mesh screen to transfer ink onto a surface. A stencil (or design) is applied to the screen, and ink is forced through the open areas of the mesh onto the material below using a squeegee. Silk screen printing is a versatile printing technique with a history that spans over a thousand years. Its origins can be traced back to ancient Asia, where early methods of stenciling were used to transfer designs onto fabrics. The earliest known form of screen printing emerged in China during the Song Dynasty (960–1279 CE). Artisans used stenciling techniques with woven meshes—often made from silk—to print intricate designs on fabrics. This allowed for repetitive patterns and multi-colored effects by using multiple screens. The technique soon spread to Japan, where artists refined it further. Early Japanese screen printing (katazome) initially employed stencils cut from paper and mesh woven from human hair, laying the groundwork for what would later be known as silkscreen printing.

Silk screen printing reached Western Europe in the 18th century. European merchants, trading along the Silk Road, brought back both the method and the required materials. Initially, the process was used to print decorative patterns on textiles and wallpapers. The modern screen printing process began to take shape when Samuel Simon patented a method in 1907 in England. His innovation involved stretching silk mesh over a frame and using stencils to control where ink would pass through—laying the foundation for today's technique. In America, John Pilsworth further developed the process around 1914 for multicolor textile printing.

Screen printing reached new heights of popularity in the 1960s when artists such as Andy Warhol, Roy Lichtenstein, and Robert Rauschenberg used the medium to create iconic works. Warhol's "Marilyn Diptych" is a prime example, where his use of multiple screens and bold colors encapsulated the essence of pop culture.

Bates Manufacturing, known for its production of bedspreads and other textiles, used silk screen printing as a way to apply decorative patterns onto fabric. This method allowed them to efficiently and consistently create intricate and colorful designs on their products, which helped set their textiles apart in terms of visual appeal. Silk screening gave Bates Manufacturing the ability to mass-produce bedspreads with vibrant, detailed patterns that remained consistent across large runs, which was a big draw for consumers in mid-century America.

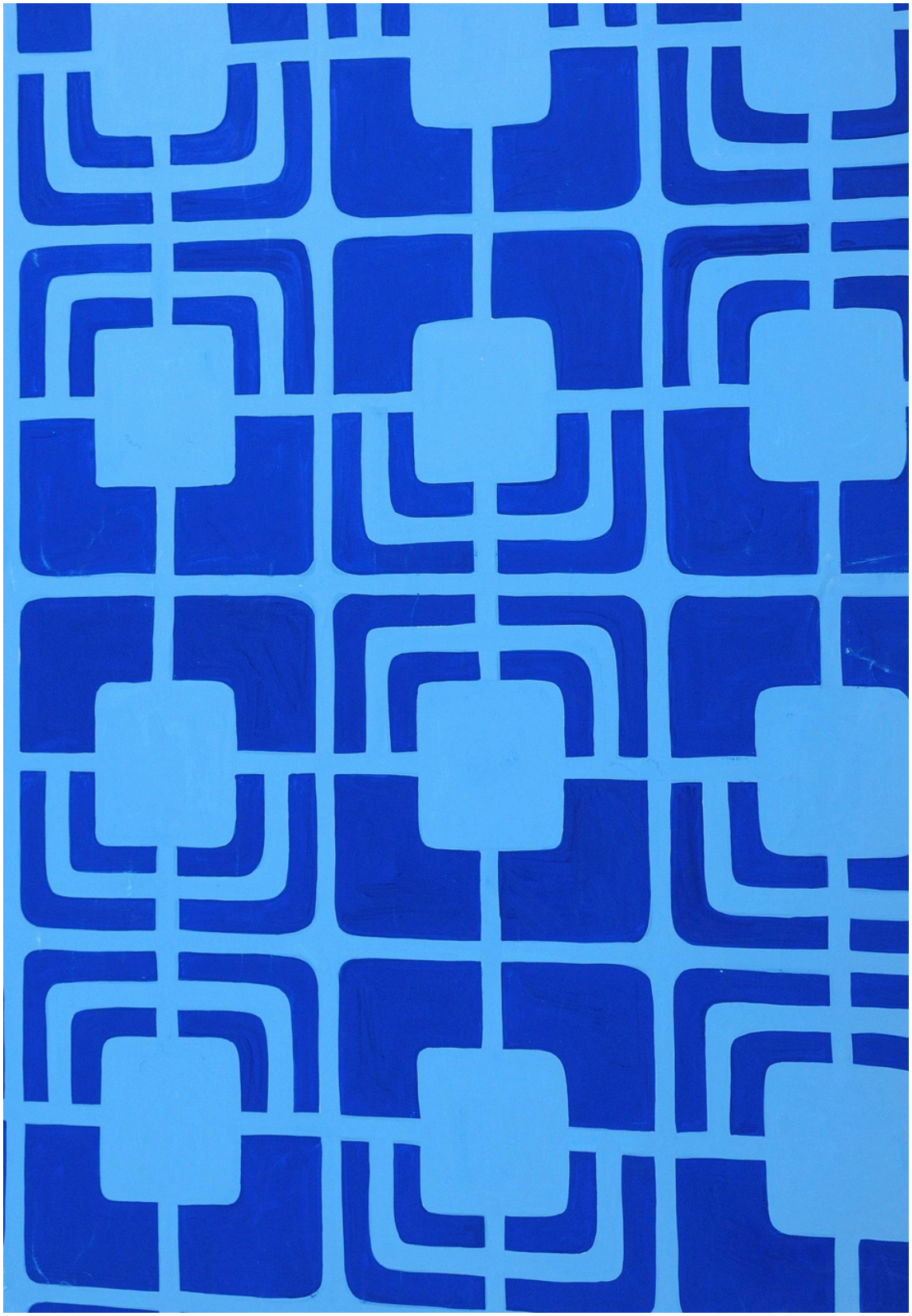
Over the decades, the process has evolved from hand-cut stencils and manual squeegee application to sophisticated systems using photo emulsion and digital technology. Today, while traditional methods are still celebrated for their artisanal quality, modern screen printing often employs synthetic polyester meshes and automated presses for greater efficiency and consistency.

Directions

1. **Select a Bates pattern and colors:**
    - Choose a Bates pattern for your stencil.
    - Decide on your color scheme. You can use the original Bates colors or create your own. Remember that each color will require a separate stencil.
2. **Trace and create stencils:**
    - Place mylar or freezer paper over the chosen image.
    - Carefully trace the outline of each color onto a separate sheet of mylar/freezer paper. Ensure accurate alignment for each tracing.
    - Use a craft knife or similar tool to cut out the traced sections of each mylar/freezer paper stencil. **Exercise caution as the tool is sharp and can cause injury.**
3. **Apply the paint:**
    - Lay the first stencil onto the fabric or canvas.
    - Start with a small amount of paint and carefully fill in the open areas of the stencil.
    - Allow the paint to dry for a few minutes.
    - Position the next stencil, aligning it with the image underneath.
    - Apply the next color, using a small amount of paint and gradually adding more if needed.
    - Repeat with the remaining stencils and colors, allowing each layer to dry slightly before adding the next.
4. **Dry and display:**
    - Let the paint dry completely before displaying your finished artwork.

3 Color Stencil

2 Color Stencil



3 Color Stencil