

WORK OF THE HAND THROUGH THE CURRICULUM AND ACROSS THE PLANES OF DEVELOPMENT: A COMPILATION OF CREATIVE IDEAS

by the Teachers and Students of
Mountain Laurel Montessori School

These next two articles emerge from Mountain Laurel Montessori School and provide examples of the intrinsic links between the hand and academic lessons. We thank Greg MacDonald for his review of the Mountain laurel excerpt from their elementary handbook, which he affirmed as excellent follow-up extensions to the Montessori key presentations. Monica Nixon provides the descriptive essay on quilting and discusses the social and physical qualities that emerge in children as they participate in tradition and develop intelligence through the hand.

ARTFUL RECIPES FOR YOUNG CHILDREN

Soap Sculpting Clay

Materials: 1 1/2 cups soap flakes (such as Ivory laundry flakes), 4 tablespoons hot water, food coloring (optional), hand mixer, large bowl

Directions: Add water and mix together the hot water and food coloring. Using mixer beat together the soap flakes and water until thick. Let your child shape the soap clay into a fun creation.

Founded in 1989, Mountain Laurel Montessori School educates families and children from infancy through 9th grade. The mission of the school is to provide ideal learning environments for each stage of a child's development, adhering to the highest standards of Montessori education. All teachers are accredited by the Association Montessori Internationale, and the school is fully licensed by the Commonwealth of Virginia Department of Social Services. Above all, teachers and staff are deeply committed to education that guides children to become joyful, life-long scholars and engaged, responsible citizens of the world.

Easy Flour Paste

Materials: 1/2 cup cold water (add more if the paste is too thick), 1 cup flour

Directions: Mix the flour and water with a fork until smooth. This is a great activity to do with your child. Store in a covered jar and refrigerate.

Face Paint

Materials: 1 teaspoon corn starch, 1/2 teaspoon water, 1/2 to 1 teaspoon cold cream, 2 to 3 drops of food color

Directions: Stir together starch and cold cream until well blended. Add water and stir, then add food coloring. Use a small paintbrush or disposable cotton swabs to paint designs on face. Remove with soap and water. Store in airtight container.

Homemade Sidewalk Chalk

Materials: 1/2 cup plaster of Paris, 1/4 cup water, liquid tempera paint (your favorite color), disposable mixing bowl, stick or disposable spoon, mold made from small paper waxed cup or empty paper towel roll lined with wax paper with the bottom taped shut

Directions: Pour 3/4 of the water into the bowl, gradually stir in plaster of Paris. Add 2 or 3 tablespoons of liquid tempera, mixing well, and scraping the bottom. Add the rest of the water and stir well until the mixture thickens. Pour into an upright mold. Gently tap the sides to remove air bubbles. After the chalk is completely dry (2 or 3 days) remove the molds.

Note: This makes one big piece of chalk. Increase the recipe to make more. Also, you can make several batches of different colors. You may want to use a pollen mask or a hankie over your nose and mouth to prevent breathing the fine dust from the plaster.

Great Fun Dough

Materials: 2 1/4 cups all-purpose flour, 1 cup salt, 2 tablespoons cream of tartar, 1/4 cup vegetable oil

Directions: Mix materials together in a large bowl. Stir and quickly beat 1 1/2 cups boiling water. Divide into several sections and add

a few drops of food coloring or natural dye to each section. (If you want just one color, add the color to the boiling water.) Your child can help you knead the colors into the dough. If the dough is too dry or wet, add water or flour.

GETTING CRAFTY—PRIMARY STYLE

Sponge/Potato Printing

Materials: Small paint roller or medium size paint brush, paint, sponge and/or potatoes, container to hold paint, tray to hold paint roller/brush

Directions: Using scissors or a razor blade cut sponge to desired shape or cut potato in half and on the flesh side of the potato carve desired design. Using paint roller or paint brush apply paint in an even manner covering the entire surface of sponge or potato carving. Press painted side of sponge/potato face down on paper and press evenly. Repeat as desired.

Felted Bead Necklace

Materials: Roving, bowl, warm water, dish washing liquid, embroidery needle, string

Directions: Using two hands spread roving thin and pull off from the roving the desired amount. Fold the edges of roving into itself and submerge roving in warm, soapy water. Ball the roving between two flat palms until shape is desired for bead. Allow to dry. Thread embroidery needle with string and string bead as desired.

Multi Medium Collage

Materials: Feathers, variety of fabric scraps, tissue paper, cotton balls, leaves, twigs, construction paper, dried beans of various size and shape, tin foil, wax paper, etc. Small bowls or containers to place each individual type of material, glue, paint brush, card stock or cardboard

Directions: Use paint brush to apply small amounts of glue to materials and press onto card stock or cardboard as desired.

Coffee Filter Flowers

Materials: Coffee filters, paint brush, container for water, markers, pipe cleaners

Directions: Have child decorate coffee filter as desired with markers. Using paint brush “paint” the colored coffee filters with water. Allow colors to run as desired. Allow coffee filters to dry on flat surface. When dry, press finger in the middle of colored coffee filter and gently twist the gathered center of the colored coffee filter. Twist end of pipe cleaner around the gathered section of the coffee filter to serve as a stem. Make several to make a bouquet.

SEW AND SEW FORTH—PRIMARY STYLE

Preliminary Sewing Lessons

The younger children need experience with plastic canvas sewing (running stitch or overcast on the edges). Plastic canvas is available in any sewing or craft store. Use larger, blunt needles and various colors of yarn. We use scissors to cut the sheets of plastic canvas into various size rectangles (smaller or larger depending on the child’s focus) and pre-thread the needles, knotting the ends together so yarn stays on needle.

The next lesson is learning how to do the running stitch. We use cross-stitch fabric in an elliptical hoop. We pre-thread the needles and knot both ends together. The child sews a straight line across the hoop. We encourage small, even stitches.

Greeting Card Lacing (for youngest children)

Take the fronts of old greeting cards and put lacing holes near the edges with a hole puncher. Use stiff, narrow ribbon to lace around and frame the edges.

Plastic Canvas Decorations (for older children)

Cut seasonal shapes from plastic canvas. Pre-thread needle with yarn and knot both ends together. Encourage children to use a variety of colors. Leave enough yarn at the end to knot a hanging loop.

Felt Projects

Using a whip stitch, sew around edges of pre-cut felt shapes with an embroidery needle and braided floss or thin yarn. Sew on a hanging loop. Another option: make pockets or pouches for small gifts by whip stitching two pieces of felt together with needle and yarn. Glue or sew on decorations as desired.

ELEMENTARY HANDS AT WORK

Work Pouches

At the beginning of the year, each elementary student sews a work pouch to help with organization, specifically to hold their work journal and pencil. The pouch needs to be small enough that children cannot store too many things in it. The size of our work journals are 5 1/2 inches x 8 1/2 inches, so our pouches are 6 1/2 inches x 7 inches.

Materials: Cotton fabric (at least ten different colors and designs for a class of 30), thread (various colors), needles, pins—the quilting pins with yellow heads are preferable), yarn for crocheted handles

Adult Preparation: Cut a template from tag board 7 1/2 inches x 15 inches. Cut at least 80 rectangles from the cotton fabric using the template. This cutting work can also be given to the child with assistance from the guide.

Work for Students: Select two different colors of rectangles. Under the guidance of an adult, the student marks in pencil seam line 1/2 inch inside edges. Put right sides together. Place pins every three inches around perimeter of rectangle. Using a running stitch, stitch on marked seam line, leaving a 3 inch opening. Turn fabric right side out. Whip stitch edge closed. Push one end of sewn rectangles through so that pouch is formed. Attach handle securely.



Note: As your class becomes more sophisticated in their sewing skills, they can start making pieced designs on their pouches. Those who like to knit can go through the same process with knitting one of the rectangles and lining with cotton fabric.

Prepositional Phrases

Prerequisite: Prepositional grammar box

Supplies: 12 inch x 18 inch white paper, colored pencils, writing pencil

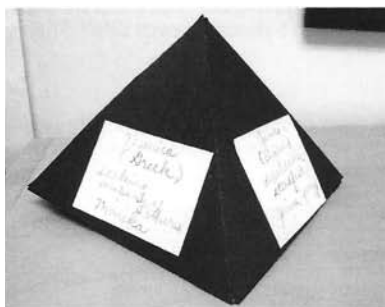
Directions: In the center of white paper write “the dog” in large cursive letters. Give a few examples: the dog in the house (and draw a dog in the house), the dog beside the road (and draw a dog beside the road). Students will immediately want to do their own drawings, but keep working together a while on the group drawing to keep the conversation going in the right direction before allowing them to draw their own.

Pyramid with Name Research

This is follow-up work that mixes geometry and language and can be used as an introduction to making solids and constructing equilateral triangles.

Supplies: Pyramid from noun lesson, 12 inch x 18 inch black construction paper, white paper, scissors, protractors, ruler, sharp pencil, tape, book of names with information on name origin and meaning

Directions: Retell story of Dr. Montessori’s choice of the pyramid for nouns. Place the black paper in front of you horizontally. Draw 5 inch base at bottom of left side. With the protractor mark 60 degrees from vertex and draw second 5 inch side. Complete the triangle by connecting the two sides with the third 5 inch side. From this triangle construct your next triangle. Continue until you have four equal triangles. Before you tape the pyramid together, research four names and make a label on a small piece of white paper for each name with its place of origin, meaning, and other spellings.



Glue each label to one of the triangles. Fold pyramid together. Tape from the inside.

Bilateral Symmetry and Names of Triangles

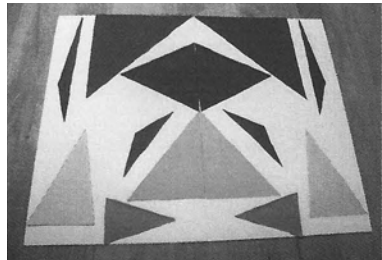
First Day

Supplies: Construction paper, pencils, scissors, protractors, envelopes

Directions: Name the kind of triangles together and write them down:

- Scalene right
- Scalene acute
- Scalene obtuse
- Equilateral
- Isosceles right
- Isosceles acute
- Isosceles obtuse

Teacher works with children to construct a variety of small triangles with the available supplies. Have them discover with you how to create the equilateral triangle. Review the lesson on sum of angles in a triangle. How many degrees do the angles of triangles add up to? Have the children examine the angles. The



children can be asked what they notice about the angles in the different triangles. Work closely with them. Make sure they make at least three more after you have helped on the first one.

Second Day

Supplies: Tag board/card stock (10 inch x 12 inch or larger), ruler, scissors, glue stick

Directions: Talk about symmetry with children.

- Sym—together
- Metry—measure

Symmetry is about balance. Have a child stand and hold arms out. Ask if they could draw a line down the middle of the child and pretty much have balance on each side. That is called *bilateral symmetry*.

- Bi—two
- Lateral—side

Lightly draw a line down the middle of the tag board. Demonstrate bilateral symmetry with the triangles made the day before. Students lay out their own designs. Have them show you their work before they glue it on the tag board.

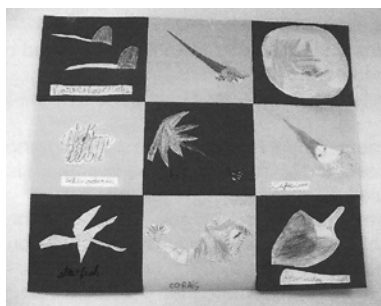
Paper Quilts from Timeline of Life

Prerequisite: Timeline of Life presentation

Supplies: Nine sheets of 9 inch x 12 inch construction paper in two different colors, drawing paper, colored pencils, glue sticks

Preparation: Under the guidance of an adult, the students can cut two colors of construction paper into nine inch squares (four of one color and five of another color). Cut drawing paper into nine inch squares. Tape together construction paper on back in alternating colors.

Directions: Tell the children you are going to make a paper quilt from creatures of the Cambrian Period. Show them your paper 9-patch. Look at all the animals together, sharing a few exciting bits of information. Select one to draw. Model drawing to fit the paper. Add color with colored pencils and write its name. Cut out your animal, getting rid of the white paper as much as possible. Using a glue stick place your drawing and the animal's name on one square.



Model drawing with care to fill the paper, as well as the cutting and gluing steps.

The lesson usually inspires children to make more paper quilts and larger ones. Wonderful work for your six- and seven-year-olds or children new to class!

WORK OF THE HAND IN THE MONTESSORI ADOLESCENT COMMUNITY

Big, physical, creative work is essential for young adolescents. Work of the hand is so integrated throughout our curriculum that it is difficult to think about it as distinct from any other element of the work. However, here are a few examples to feed your imagination.

General suggestions:

- Provide clear guidelines and parameters for projects
- Within those parameters, leave room for individual creativity
- Provide guidance by asking many clarifying questions, but don't get in the way with your own solutions

EXAMPLES OF ADOLESCENT PROJECTS

Timeline of Humanities Projects

We have created a world history timeline that we add to with each humanities project. It has been growing and changing for three years.

The challenge: Create a timeline that shows a comparison of world cultures throughout time, represents the area of land impacted by each culture, and represents the population of each culture.

The process:

- The students discussed at length how to represent population *and* land area *and* different parts of the world *and* passage of time.
- The students chose the years they would represent as the first agricultural civilizations through the current year (we have since had to add on to the beginning for the study of early humans).
- Once the years were chosen, they measured the length of the wall in the hallway where the timeline would go.
- After many calculations and much discussion, they decided on the number of years per inch and marked the dates.
- The continents are noted separately by dividing the timeline into horizontal sections.

- Each culture is represented by a horizontal line at the appropriate place in time.
- The land area is represented by the width of the line (there is a key—this piece also took many calculations and much discussion).
- The population is represented by a color gradient (also in the key). For example, small population might be light pink, slightly larger population red, etc., through very large populations represented by deep purple or black. Students found the range of populations to be represented, then created a color gradient with colored pencils, and marked the ranges of populations on the different colors in the key.
- Each culture is represented by a hand drawn symbol glued to the timeline near the line for that culture. Part of the fun of doing the research for a particular culture is deciding what symbol best represents the culture.
- Individuals are represented by a paper heart with the name on the front. The heart opens to reveal something about that individual. The hearts are placed on the appropriate continent at the appropriate time of their life.

The outcome: Note that the lines here are examples and don't actually represent any particular culture.

	10,000 BCE	8,000 BCE	6,000 BCE	
North America	_____		
South America	_____		
Africa	_____		
Europe	_____		
Asia	_____		
Australia	_____		

Tree—World Religions Humanities Project

This project was truly a whole-class collaboration in a humanities world religions project.

The challenge: Create a group visual representation of religion using photos.

The process: The assignment was for each student to take photos for objects in their lives that represent religion. They shared their photos and the significance of each with the class, then laid them out together on a table.

The outcome: A tree made of paper that is mounted on our wall in the hallway. The roots are made of brown paper with the fundamental questions of religions written on them (which we had already discussed). The leaves are cut out of green paper. Each leaf has one of the students' photos on it. The trunk is made out of brown paper. We decided to put photos of influential spiritual leaders on it (Mother Theresa, Buddha, etc.).

Inventions—Simple Machines Occupation Project

The students studied the six simple machines (lever, pulley, inclined plane, wedge, screw, wheel and axle).

The challenge: Make a machine using all six simple machines. The machine must do something (ring a bell, fill a chicken feeder with grain, pour water into a bucket, throw a ball, etc.).

The process: The students spend days scouring the school and farm for the perfect materials. There is much trial and error, modification, and more trial and error.

The outcome: Students present their inventions to the whole school.

Note: It is handy to have scrap wood, various wires and ropes, cardboard, and round objects. If using wood and metal, you will probably need to use power tools. Be sure to have clear safety guidelines and tool use policies in place.

