



## *AMC Montessori Fall 2009 Hands-On Creative Lesson Planning Newsletter*

### *The AMC Montessori Newsletter*

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*Heidi Anne Spietz, Editor*

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*<http://www.amonco.org>*

The AMC resource participants have generously shared hands-on activities that you will want to use in coming months. You'll be impressed with the ingenuity and creativity expressed in the recipes and crafts they have chosen to share with you. Use their ideas to foster interest in science, social studies, art, mathematics, and other academic hands-on learning activities. Integrate the recipes and crafts into your multicultural lesson planning as well.

Hopefully, you will let the participants know how much you have enjoyed their recipe(s) and craft(s). Visit the websites listed throughout the newsletter. You'll find additional helpful lesson information at these sites.

American Montessori Consulting is not responsible for any of the crafts or recipes posted here. All of the crafts and recipes are copyrighted and are the property of the participating AMC resource organizations listed in this newsletter. For questions concerning their individual copyrighted material, you need to visit the website listed in association with the craft(s) and recipe(s) that interest you and obtain the telephone number and/or e-mail address of the contact person(s).

If you would like friends on special listservs to know of this newsletter, please request that they download the newsletter directly from

**[http://www.amonco.org/montessori\\_fall\\_handson.html](http://www.amonco.org/montessori_fall_handson.html)**

Use special precautions when involving children in any craft or recipe where there is a potential for harm. Some children have special food allergies and/or other medical conditions like diabetes. Small children need supervision. Scissors, hot glue, hot stoves and ovens, and other elements in making some of these recipes and crafts need to be considered. Please consider carefully the age and maturity level of the child before allowing him or her to participate.

Be sure to visit each resource participant's site to see the marvelous selection of educational offerings you can use in your school and home classrooms. You'll also find creative, unique educational gift items that are sure to be enjoyed by the special young people in your life.

The following creative ideas are from the AMC Montessori Resource Center <http://www.amonco.org/directory.html> participants. Visit their websites for additional innovative ways to reach your students throughout the school year.



## **Contents of Part V of the AMC Montessori Fall 2009 Hands-On Creative Lesson Planning Newsletter**

Math Activity ~ Which of the Following Curves are Transversable?  
More Challenging Math Exercises for Upper Elementary and Middle School  
Students  
Making Apple Cinnamon Muffins  
Sewing a Friendship Quilt  
Apple Wreaths

*MTE, Ltd.*

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**Website:** <http://www.actionmathematics.com>

The MTE textbooks incorporate several unique features to build understanding and enhance critical thinking. The materials include exercises that support the understanding of math vocabulary and facilitate the reading of mathematics texts as well as open ended questions to promote discussions of math concepts. The series also includes the traditional sets of drill and practice exercises and problem sets when appropriate. MTE Test Kits allow a student to pre-test and identify concepts they already understand (and can "skip") or those that will require careful study in order to achieve mastery.

The MTE text series creates a stairway to Calculus. Step one is Competency Arithmetic (a reexamination of arithmetic) ; step two is Geometric and Measurement Topics (a pre-algebra - geometry text); step three is Beginning Algebra (Algebra-I); followed by Intermediate Algebra (Algebra-II); ending with Pre-Calculus (advanced algebra & trigonometry). The MTE text presentation is clean, attractive, and readable. Explanation of concepts is complete and helps students tackle and master the material. Graphics are used to help explain concepts.

## **Learn About Transverable Curves**

Visit [http://www.amonco.org/images/mte\\_montessori.jpg](http://www.amonco.org/images/mte_montessori.jpg) to see a free math problem solving sample.

### **THINKING APPROACH TO MATHEMATICS**

Materials and Technology for Education Limited (MTE Ltd.) is a publishing company attempting to ensure student success by changing the way mathematics is being presented. MTE publishes a series of mathematical texts with accompanying Instructor's Manuals and Test Kits which emphasize understanding math concepts and utilize a critical thinking approach to

problem solving to promote success, as opposed to memorizing math. CRITICAL THINKING APPROACH TO TEACHING MATHEMATICS texts of MTE were particularly designed to improve student motivation and student attitude by increasing the amount of student success in understanding mathematical concepts. These texts have been written especially for using the principles of active learning in discussion groups that involve critical thinking skills.

## WHAT IS CRITICAL THINKING?

Based on the thoughts of Piaget and Montessori; Educational Critical Thinking is logical and productive thinking that is capable of extending ideas, creating new ideas, and synthesizing patterns of thought. Educational Critical Thinking is a type of disciplined reasoning. Educational Critical Thinking must be self-directed, self-disciplined, self-monitored, and self-corrective.

The definition used for CRITICAL THINKING in the MTE texts was "The ability to ask questions and to seek answers toward the positive solution of a problem or situation."

And the definition used for PROBLEM SOLVING was "Problem solving is applied critical thinking."

**BELOW IS A CHALLENGE FOR STUDENTS WHO HAVE FINISHED BEGINNING ALGEBRA OR FOR UPPER ELEMENTARY STUDENTS WHO LIKE PUZZLES**

Given 7 equations involving 10 variables, where each variable represents a unique digit between 0 and 9, find the value of all 10 variables. (Every variable represents a different digit.)

Determine the value of each variable. (Hint: the basic rules of Algebra will be useful, but not necessary.)

### **The Equations:**

1.  $g + g + g = d$
2.  $j + e = j$

3.  $g^2 = d$
4.  $b + g = d$
5.  $f - b = c$
6.  $i \div h = a$  and  $(h > a)$
7.  $a * c = a$

MTE Ltd. 3095 So. Trenton St. Denver, Colorado 80231 - 4164 Visit  
<http://www.actionmathematics.com>



## *Creative Care*

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**Website:** <http://CreativeCare.netfirms.com/>

## *Craft Submitted by Jaye*

### **Apple Wreath**

Creative Care has created some new fall crafts and this one is fun for 2-5 year olds. It is an apple wreath which is created with a paper plate. Cut out the middle of a large paper plate so that you create a wreath shape. Cut out apple shapes in red, yellow and green. Glue the paper apples around the wreath (back side of the paper plate ) Draw and cut out green leafs from fun foam and glue these to the tops of the apples. Cut out a big red circle of construction paper to glue to the underside of the wreath to fill in the middle. Then glue a printed fingerplay or song which talks about apples to the middle. I used a song and the words are as follows:

(Sung to the tune of I'm a little teapot)  
I'm a little apple, short and round  
I make a crunchy, munchy sound  
If you bite into me you will see-  
I'm delicious as can be!



## *About Creative Care*

**Visit <http://CreativeCare.netfirms.com> to see some of the products available.**  
Many daycare educators find the Creative Care product line to be a lifesaver.  
With the holidays upcoming, the Creative Care packs can make this season both  
fun for you and your students.

The craft packs teach simple concepts to the children while they are having fun as well as building self-esteem and pride in their accomplishments. Twelve new ideas are offered each month and they revolve around the holidays, seasons, and preschool learning activities. There is a color, letter and number introduced monthly. The crafts are a business booster for the day care home showing concrete evidence of the quality care provided.



# *North American Montessori Center*

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**Website:** <http://www.montessoritraining.net>

## *Activity Submitted by Dale*

### **Making Apple-Cinnamon Muffins**

#### **Material**

Placemat; muffin pan (for 12 muffins); mixing spoon; mixing bowl; measuring cups; ladle; measuring spoons; whisk; five small bowls; oven mitts; oven; timer; potholder; individual serving plates (enough for each student).

#### **Ingredients**

Wax paper; small amount of butter (for greasing the muffin cups) on a plate; 1 egg; 2 cups (500 mL) biscuit mix; 3/4 cup (175 mL) applesauce; 1/3 cup (75 mL) sugar; 2/3 cup (150 mL) milk; 2 Tbsp (30 mL) oil; 2 tsp (10 mL) cinnamon.

#### **Presentation**

##### **PART 1: GETTING READY**

- Announce that students will have an opportunity to bake delicious muffins flavored with apple and cinnamon.
- Remind students to always carefully wash their hands with soap and warm water before preparing food. If needed, go with students to the sink and demonstrate good hand washing, then be sure all students wash their hands in this manner.
- Explain the activity: The students will follow instructions and mix ingredients together to make a batter for apple cinnamon muffins, then bake the muffins in the oven.

## **PART 2: MAKING THE MUFFINS**

- Pre-heat the oven on the “bake” setting at 400 degrees F (200 degrees C).
- At the worktable, demonstrate how to grease the muffin pan. Dip the wax paper into the butter on the plate, then rub the buttered wax paper around and inside one indentation in the muffin pan. Wash hands after greasing the pan.
- Grease the remainder of the muffin cups. Remind student to wash their hands to avoid getting grease on their skin and clothes. Set the muffin pan aside for now.
- Place the mixing bowl on the placemat, then carefully pick up the egg and demonstrate how to gently tap an egg on the edge of the mixing bowl to crack the eggshell and empty it into the mixing bowl, then place the eggshell back in the empty small bowl. Note: eggshells can be kept for the Making Grass Eggshell People activity.
- Pick up the whisk and demonstrate how to gently beat the egg.
- Pick up the measuring cup and the small bowl of biscuit mix, and demonstrate how to measure one cup of biscuit mix into the cup. To reduce spillage, use regular tablespoons to help scoop this and other ingredients into the measuring cups, then empty the measuring cup of biscuit mix into the mixing bowl with the beaten egg.
- Measure the second cup of biscuit mix, and empty it into the mixing bowl.
- Pick up the 1/4-cup (50-mL) measuring cup, and use a tablespoon to fill this cup with applesauce, then empty the applesauce into the mixing bowl. Fill the 1/4-cup (50 mL) measuring cup with applesauce and empty it into the mixing bowl twice more, for a total of 3/4 cup (175 mL) of applesauce.
- Pick up the measuring cup labeled 1/3 cup (75 mL), and use a tablespoon to measure 1/3 cup (75 mL) of sugar into the measuring cup, then place the sugar in the mixing bowl.
- Pick up the measuring cup labeled 1/3 cup (75 mL), and carefully pour 1/3 (75 mL) cup of milk from the bowl into the measuring cup, then pour the milk into the mixing bowl. Repeat, for a total of 2/3 cup (150 mL) of milk.
- Pick up the measuring spoon labeled 1 Tbsp (15 mL), and measure this amount of oil, then pour the oil into the mixing bowl. Repeat, so that 2 Tbsp (30 mL) of oil are added to the mixing bowl.

- Pick up the measuring spoon labeled 1 tsp (5 mL), and measure this amount of cinnamon, then pour the cinnamon into the mixing bowl. Repeat, so that 2 tsp (10 mL) of cinnamon are added to the mixing bowl.
- Now that all ingredients are in the mixing bowl, demonstrate how to mix the batter with the mixing spoon until the ingredients are barely moistened. Explain that over-beating will remove air from the batter and make the muffins flatten and become dense as they bake.
- Set the muffin pan near the mixing bowl. Demonstrate how to scoop a ladleful of batter and pour it into one muffin cup, so that the cup is about two-thirds full.
- Invite students to take turns using the ladle to divide the batter evenly among the 12 muffin cups.
- Put on the oven mitts and place the muffin pan into the center rack of the preheated oven.
- Set a timer for 15 minutes. With the students, check the muffins after 15 minutes. If not yet browned, let the muffins bake another few minutes.

### **PART 3: TIDYING UP AND TASTING**

- While the muffins are baking, ask the students to wash the dishes, clean the work area, and place all ingredients and material back in their proper places.
- When the muffins are ready, turn off the oven, put on the oven mitts, carefully remove the pan from the oven, and place the pan on a potholder out of harm's way. Let the muffins cool for 30 minutes or so.
- After the muffins have cooled, demonstrate how to remove them from the pan. First try tipping the pan over onto a clean surface. If the muffins do not fall easily out of the pan, run a dull knife along the edge of each muffin to loosen it, then tip the pan or lift the muffins out individually. Ask students to take turns with this task.
- Place the muffins on individual serving plates, then sit together and sample them at snack tables. Store any uneaten muffins in a suitable container.
- Remind the students to once again clean the material and work area when they are finished eating their muffins.

## Extensions

- For applesauce, substitute mashed bananas or other crushed or finely chopped fruit.
- Before baking, sprinkle the top of each muffin with a few rolled oats or sesame seeds or pumpkin seeds.
- Write out a recipe for muffins, decorate it, and give it as a gift.



## *Activity Submitted by Dale*

### Sewing a Friendship Quilt

#### Material

Tray containing: darning needle and several straight pins in a pincushion; embroidery thread in assorted colors; fabric scissors; fabric paint; tacky craft glue; pencil or chalk. Basket containing: Pre-cut felt rectangles 9 x 12 inches (23 x 30 cm) in different colors, two per student; pre-cut fabric squares 3 x 3 inches (7.5 x 7.5 cm), four per student.

#### Presentation

- Most Montessori teachers present this activity in Years 1 and 2. This activity can take place over several days. • In advance, send a note home asking parents to donate scraps of colorful fabric such as cotton to be used for the friendship quilt.
  - In advance, cut the donated fabric scraps with pinking shears (zigzag scissors) into 3-inch (7.5-cm) squares, enough for four per student.
- In advance, place items on the tray and place the tray on a shelf. Place the felt rectangles and the fabric squares in a basket on the shelf next to the tray.

## **PART 1: GETTING READY**

- Announce that students will have an opportunity to make something beautiful using cloth and a needle and thread.
- Go to the shelf and choose two felt rectangles and four fabric squares from the basket, place them on the tray, then bring the tray to the worktable or mat.
- Explain the activity: The students will sew a colorful quilt, which is called a friendship quilt because a group of friends make it together.

## **PART 2: SEWING THE FRIENDSHIP QUILT**

- Take the felt rectangle from the tray and place it on the worktable, then choose one of the fabric squares and place it on one of the corners of the felt rectangle.
- Remove two straight pins from the pincushion and hand them to you.
- Demonstrate how to pin two sides of the fabric square securely to the felt rectangle, by placing the pins approximately 1/2 inch (1.25 cm) from the edges of the fabric square. Remove two more pins, then pin the other two sides of the fabric square to the felt.
- Choose one color of embroidery thread, and with the scissors, cut off a piece of thread that is about 16 inches (40 cm) long.
- Demonstrate how to tie a knot at the end of the thread, and thread the other end through the eye of the darning needle.
- Demonstrate how to begin sewing around the edge of the small square, about 1/3 inch (.8 cm) from the edge. Pull the needle through one corner of the felt rectangle and fabric square, being sure the knot is on the underside of the felt.
- Demonstrate how to make a running stitch by pulling the needle and thread up and down through the fabric in a straight line (the same stitch used for the hand puppet).
- Demonstrate how to tie a knot on the underside of the felt once the fabric square is sewn on, then cut the thread and stick the needle back into the pincushion.
- Remove the straight pins from the fabric and stick them back into the pincushion.

- Pin and sew on the remaining three fabric squares on the other three corners of the felt rectangle, and tie knots on the underside of the felt after each square is sewn on. Use different colored thread for each square, thus giving students more practice threading the needle and tying knots.
- Explain that this rectangle with four fabric squares sewn on it will be just one piece of the friendship quilt.
- Bring a new felt rectangle from the shelf, this time choosing a different color.
- Trace your hand on this felt rectangle, using a pencil or chalk, then using the scissors cut out the hand pattern.
- Glue it in the center of the piece of the friendship quilt with tacky craft glue.
- Write your name in fabric paint on the piece of the friendship quilt (see following image).
- Place the friendship quilt piece in a safe place to allow the fabric paint to dry.
- Encourage the students to make their own personal piece of the friendship quilt, as demonstrated.
- Agree on a day by which everyone will have their pieces completed, so that the students can move to the next step in sewing a friendship quilt.
- Remind the students to place all material back neatly on the tray when they are finished, and then to put the tray in its proper place on the shelf. Designate a storage area for all the completed pieces, and ask the students to place their pieces in this area.

### **PART 3: FINISHING THE FRIENDSHIP QUILT**

- Once the fabric paint is dry, invite the students to bring their pieces to the work area. Explain that all the completed pieces will be sewn together to make the friendship quilt.
- Invite the students to lay their completed felt rectangles on the work area, so that they join like a patchwork quilt.
- Demonstrate how to pin the rectangles together, then sew the rectangles together using an overcast or a zigzag stitch. Sew small sections of the quilt

together at a time, or the quilt may become hard to manage. (It is recommended that the teacher pin and sew the quilt pieces together.)

- Remind the students to clean the work area, place the material back on the tray, and return the tray to its proper place on the shelf when they are finished the activity.
- When the quilt is finished, invite the students to display the quilt in a special place in the classroom for everyone to see.



**Read the other parts of this creative hands-on lesson planning newsletter by visiting**

**[http://www.amonco.org/montessori\\_fall\\_handson.html](http://www.amonco.org/montessori_fall_handson.html)**

*End of Part 5*  
A decorative flourish consisting of three stylized, overlapping swirls in a golden-brown color, positioned below the text.