Mosaic Stepping Stones

Activity We're going to beautify our garden by creating unique mosaic stepping stones. Each class will make two stepping stones. One will be placed in the pathway of our garden, and one will be sold at our school Farmers Market held this spring.

Goal To teach students that they can contribute to the beauty around them, and help raise money for their school. They'll achieve a sense of accomplishment and pride.

Supplies The following items are ready in the Garden Wagon stored in Room E-3. If the door to E-3 is locked, please ask Cheryl or Gloria in the front office for a key.

- Two plain concrete stepping stones per class
- Two flat pieces of cardboard
- Colored tile
- Zip-loc baggies (used when breaking the tile)
- Hammer and towel to break the tile
- Tile adhesive (mastic)
- Butter knives
- Sample photos of completed mosaics
- Paper towels and rags for clean up
- Sharpie marker (to write your teacher's name on the bottom of the stone)

Things you need to know

- We'll use a simple technique for creating mosaics from broken pieces of tile glued onto a pre-cast concrete stepping stone. This may seem like a challenge, but it can be done with small groups of students at a time. It's really easy!
- First the tile pieces are glued in place with tile adhesive. At a later date when the design is completely dried, it will be grouted by adult volunteers.
- This activity should be done with small groups of students. We want our stones to turn out nicely, so we need to take our time.
- Before you begin, use the Sharpie marker to write your teacher's name on the underside (bottom) of each stone.

Class Activity

1. Get set up: Weather permitting, work at the picnic tables outside the classroom. (The activity can be done indoors, just be careful to keep the area clean.) Lay out cardboard to cover the table. Use the Sharpie marker to write your teacher's name on the bottom (underside) of both stepping stones. Place stones on top of cardboard in the center of the table. Lay out containers of tile for students to choose from. Have tile adhesive and butter knives ready. Have moist paper towels and/or rags ready to wipe up extra adhesive.

2. Decide on design and colors: Explain the project to the class and lead a **short** (approx. 5 min) classroom brainstorming session to help the students decide on the designs for their tiles. Ask the teacher to put the example photos on the overhead projector. The class can choose 2 designs, one for each tile, and all students will have a chance to work on them. Have students brainstorm maybe 5 or 6 nature-related designs, then do a quick vote to decide the 2 winning designs.

3. Rotating students: Work in small groups: about 5-6 students at a time for Grades K-3, and no more than 8 students at a time for Grades 4-5. Each student should place 5 pieces of tile, then rotate the next group. We want all students to have an opportunity to work on the designs. If the first group places many pieces, then the last group of students will have only a few "fill in "

pieces to put in. You may end up rotating the groups through more than once to finish the project. The students will be doing other class work at their desks while waiting to for their group's turn.

4. It works well to have 2 adults, one at each end of the table, with adhesive knife ready to help spread adhesive on the students' piece of broken tile (like buttering a roll). Students can sit or kneel on benches, 3 or 4 students on each side of the table.

5. Use plain-colored tile for the background of the design.

6. Breaking the tile: You may have some broken tile pieces left over from other classes. Break only as many tiles as you can glue in place. Let the students have a carefully supervised turn at breaking the tile. Place tile in Zip-loc baggie (this protects you and the students from any small flying shards). Zip the baggie closed. Wrap a towel around the baggie and lay on concrete outside, with the color side of the tile face down to prevent chipping. Break the tile by striking it carefully with the pointed end of the hammer. Refer to the mosaic sample photos to determine how small your broken pieces need to be (most will be approx. 1 inch).

7. Make your mosaic, working from the center out to the edges, or by first creating the outline of the main shape. Have the students experiment to find pieces of tile that fit into the design. This is like putting together a puzzle.

8. When they have chosen the right shapes and where those tile pieces will go, have them spread a small amount of tile adhesive on the back of each piece using a butter knife – like frosting a cupcake. Kids should take their time and exercise some caution with the sharp tile pieces. Try not to get adhesive on the top (colored side) of the tile. Wipe off any extra adhesive from the top of the tile while adhesive is still damp – it is very hard to get off when the adhesive is dry. Large lumps of adhesive will make it difficult to grout the stepping stone later.

9. Have each student, in turn, place their tiles where the last person left off, filling in the design. Don't leave big spaces between pieces (1/8 to ¼ inch is best). Show the students the sample photo for proper spacing. Have them push the glued tile down in place, so that the adhesive bonds well with the stone. Use the butter knife to remove any excess adhesive that seeps out around the edges before it dries. Try to keep a uniform amount of adhesive under the tile so that the mosaic surface is fairly level.

10. Clean up: When you're done working, wipe off any excess adhesive from the top (colored part) of the tiles. It is very hard to clean off adhesive once it is dry. Clean tools and hands with water.

11. Leave stepping stones to dry on a countertop in the classroom. Place a piece of cardboard under the stepping stones to prevent scratching the countertop. Let the class know that the stones need to dry for a few weeks. Later a team of volunteers will go around to each class and grout the stones. In the spring, the students will place one stepping stone in the garden. The other stepping stone will be for sale at the school's Farmers Market in spring to raise money for the Life Lab program.

12. Re-pack the supplies in the garden cart, in ready condition for the next class, and return the cart to Room E-3.