

Flowerpot Counters

MATERIALS

FOR STUDENT:
(one per student unless otherwise noted)

- FloraCraft® Make It: Fun® Foam Balls, two 2" diameter
- Flowerpot, plastic or clay, 2 ¼" tall x 2 ½" diameter
- Ten assorted color plastic-coated paper clips (ideally two of each of five colors)
- Paper straw, green and white stripe
- Paper crimps, green, small handful
- White tacky craft glue (one bottle per two - three students)
- Washable black fine line felt tip marker
- Small plastic cup
- Paper plate



FOR TEACHER:

- Glue gun (for teacher only)
- Wood dowel, 3/16" diameter x about 6" - 12" (to make starter hole)
- Ruler

MATH

GRADE LEVEL

KINDERGARTEN – FIRST

COMPLETION TIME

- 30 minutes

OBJECTIVES

Students learn:

- The concept of grouping to count
- Skip-counting by tens
- Listening and following step by step instructions
- Use of fine motor skills

STANDARDS

Number and Operations in Base Ten:

- Extend the counting sequence
- Understand place value
- Use place value understanding and properties of operations to add and subtract
- Count within 1000; Skip-count by 5s, 10s and 100s.

TEACHER PREPARATION

Note: Read through all instructions first and check out the TIPS! Have a glue gun plugged in and ready to use (ideally set on low temperature) but out of student reach. This can give you immediate adhesion when you're in a hurry to help students. Be sure that the glue has cooled before returning the projects to students (takes a minute or so.) It is recommended that you make one flowerpot before preparing the others, since knowing how the parts fit, might affect how you prepare the rest of them. Also, suggest that you show your finished project sample only when you want to explain something, or students tend to work ahead by seeing and copying.

[1] Use the glue gun to glue one foam ball into a flowerpot. Repeat for other students.

[2] To make a starter hole, insert the wood dowel straight down into the ball in the flowerpot, going in about 1". (This also helps the student guide the straw so that it is straight.) Similarly, make a 1" deep starter hole in the other ball (that will be the flower). Repeat for other students.

[3] Sort the paper clips. Place two of each of five colors into a plastic cup and set a small handful of paper crimps on top, for each student.

[4] On a paper plate, set a flowerpot, second ball, plastic cup of paper clips and crimps, paper straw and a marker. Set the plate at each student's place and have glue bottles ready.



LESSON INTRODUCTION

- Explain that students have been learning to combine groups of numbers for adding and subtracting and now there's a fast way of counting by tens - this project can show you how. For example, each flowerpot will have ten paper clips that look like petals on the flowers. Discuss that by combining two flowerpots, they would have 20 petals. Then quiz them on how many petals there would be if more students added their flowerpots.
- Explain that they should follow along, one step at a time and that each student will be making a flowerpot with a flower consisting of ten paper clip petals, but that they will all be doing it together.



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INSTRUCTIONS

[1] Ask students to keep all the parts and pieces on their plates, reminding them that you'll all be making this at the same time. Demonstrate and have them insert the straw into the starter hole in the other foam ball (not the one in the flowerpot.) Have them gently push until they feel the straw stop. Then have them remove the straw, insert a little glue into the foam hole and re-insert the straw. (Ask them to wait to put it into the flowerpot.)



[2] Instruct students to put their paper crimps on their plate and move the plastic cup of paper clips near the ball on the straw. Demonstrate how to select two of the same color paper clips and insert them into the foam ball top and ball bottom (right in front of the straw).

Then show them how to put four paper clips of different colors into the right side of the ball, radiating out. Last, have them insert the remaining paper clips into the left side of the ball.

Decide if you're going to have them glue in the paperclips. If you want them to be able to count the paper clips by removing them, then don't. If you think that the possibility of loss outweighs that option, then demonstrate and have students remove the paperclips, one at a time, squeeze a dot of glue into the foam, and replace the paper clip.



[3] Ask students to count their flower petals. Then demonstrate and have them use the black marker to write a 10 on the front of the flowerpot to show the number of petals on the flower. Also, ask them to put their name or initials on the bottom.



[4] Demonstrate and have students grasp the straw flower close to the bottom of the straw and gently press it straight down into the foam ball in the flower pot until they feel it stop, as they did before. Have them remove the straw, squeeze glue into the hole, and replace the straw flower.

[5] Demonstrate and have students apply glue to the top of the foam inside their flowerpot. Then show them how to set the paper crimps into the glue, without moving them around too much. (You don't want the crimps to turn and get glue on their hands.)



[6] Depending on time, students can get together and start counting by tens with their flowerpot counters.

MODIFICATIONS

To simplify project:

- Have the foam balls already on the straws and/or glued into the pots. Students can insert the paper clips.
- Just make the flower part by cutting the foam ball in half and gluing it to cardstock. Students can insert the paper clips.

To expand project:

- Make interchangeable flowers with various numbers of paper clips, to be able to skip count. (Leave the number off the pots.)
- Make larger and smaller flowerpots with different items for flower petals, such as: 2" straw lengths, teardrop wood shapes colored with marker, chenille stem loops or cardstock paper.

For multiple ages:

- Younger and older students can work side-by-side with older students being encouraged to design their own style flowers, such as making 100 permanent marker dots on a painted foam ball so that they can count by 100s.
- Have older students use a large foam ball in a basket or container with paper clip petal flowers inserted into it in order to be able to count farther. A younger student can add their flower to the bouquet.

ADDITIONAL IDEAS

- If you are teaching counting by a different number (example, counting by 5s) remove 5 paper clip petals from the flower. Then use masking tape to cover up the 10 on the pot and write a 5 on the tape.
- Note that the different colors of the paper clip petals, allow students to count by 2s as well.
- Create a poster of half flowers (see "To simplify project") on dry erase board that allows students to practice counting and solving problems on the board.



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TIPS

- To glue a foam ball into a flowerpot, first, put the foam ball into the pot to see where the sides of the pot touch the ball. Then, apply glue to that area of the foam ball and return the ball into the pot. Hold it in place for a moment to be sure that it doesn't pop back up.
- If the flowerpots have holes in the bottom and if any of the students' straws go through them, just put a small piece of masking tape over the hole.
- When students are inserting their paper clips, you might want to point out that by inserting the "single-loop" end, it allows them to have a "double-loop" petal.
- Have extras of all parts, especially paper clips.
- Check the nozzles of the tacky glue bottles to be sure that they are clear. If not, bend open a paper clip. Remove the bottle cap and insert the paper clip wire into the nozzle (from the inside), forcing any dried glue out of the nozzle (not down into the glue bottle). Test it to be sure that it's clear.
- When using and storing tacky glue bottles, make sure that the caps are on and set them on their sides. This keeps glue in the nozzles so that there is minimal squeezing when using.

REFERENCES

Toasty Toes: Counting By Tens (Know Your Numbers) by Michael Dahl
Eggs and Legs: Counting By Twos (Know Your Numbers) by Michael Dahl
Lots Of Ladybugs!: Counting By Fives (Know Your Numbers) by Michael Dahl
Skip Counting with Meerkats (Animal Math) by Tracey Steffora