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| **Excerpted from:** | The Math Learning Center  
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This resource may be available in other Quantile utilities. For full access to these free utilities, visit www.quantiles.com/tools.aspx.

The Quantile® Framework for Mathematics, developed by educational measurement and research organization MetaMetrics®, comprises more than 500 skills and concepts (called QTaxons) taught from kindergarten through high school. The Quantile Framework depicts the developmental nature of mathematics and the connections between mathematics content across the strands. By matching a student’s Quantile measure with the Quantile measure of a mathematical skill or concept, you can determine if the student is ready to learn that skill, needs to learn supporting concepts first, or has already learned it. For more information and to use free Quantile utilities, visit www.Quantiles.com.
Set C2 ★ Activity 3

Little Frog’s Playground

Overview
Students share observations about the names and locations of 5 shapes on Little Frog’s Playground. Then they each color a sheet and move a small plastic frog around the playground in response to directions from you and classmates.

Skills & Concepts
★ use the directional words left and right to describe movement
★ describe the location of one object relative to another object using words such as in, out, over, under, above, below, beside, between, next to, across from, behind, in front of, near, and far

You’ll need
★ Little Frog’s Playground (page C2.11, run a class set plus a few extra)
★ a plastic frog for each student from your bucket of frogs
★ crayons
★ helper jar

Instructions for Little Frog’s Playground
1. Post a copy of Little Frog’s Playground on an easel or the whiteboard near your discussion area.
Activity 3  Little Frog’s Playground (cont.)

2. Then gather the students and seat them so they can all see the sheet. Show them one of the plastic frogs and explain that today, they’re each going to color in a playground for a little frog. Once they’ve done that, they’ll hear and tell some stories about Little Frog’s adventures on the playground.

3. Ask students to pair-share observations about the sheet. Then call on volunteers to share their ideas with the class.

   Students  There’s a big circle in the middle.
   Maybe that’s like a pond for the frog.
   I see a square.
   There’s a triangle at the top.
   There are things like roads on that paper.

4. Name the five different shapes on the sheet with the class: rhombus, rectangle, square, triangle, and circle. Then ask students to name the shape as you point to each of the following locations on the sheet:
   • top right hand corner (rhombus)
   • bottom right hand corner (rectangle)
   • bottom left hand corner (square)
   • top left hand corner (triangle)
   • middle (circle)

5. Next, pull a name from your helper jar, and have that student to come up and point to one of the 5 shapes on the sheet. Ask the rest of the children to name the shape and identify its location (i.e., rhombus, top right-hand corner). Call on a different student to point to a second shape while the class identifies it by name and location. Repeat until the class has identified all 5 shapes by name and location.

6. Then read the color names on each shape, and explain that in a minute, you’re going to give students each their own sheet to color according to the labels. What colors will they use for the two shapes on the right-hand side of the sheet? (red and orange) What colors will they use for the two shapes on the left-hand side of the sheet? (yellow and purple) What about the shape in the middle? (blue). Let them know that they can color the paths between the shapes any color they want. When students understand what to do, hand out the sheets and let them go to work.

7. When most students have finished coloring their sheets, ask them to return to the discussion area. Have them bring their sheets along, and give them each a plastic frog. When everyone is seated, tell a story similar to the one below as students move their frog around the sheet in response to your directions.

   One day, Little Frog went to the playground. None of her friends was there, so she decided to stay and play by herself. First, she sat on the shape below the pond to the left. Which shape is that? You're right. It’s the purple square.

   Then she ran up the path between the purple and the yellow shape, and stopped on the yellow shape. Which shape is that? Right, it’s the triangle.

   Then she took a big hop and landed right in the middle of the blue circle. When she landed, she found out it was actually a pond! The water was freezing cold, so she jumped back out as fast as she could.

   She sat beside the pond to dry off for a minute.
Activity 3  Little Frog’s Playground (cont.)

Then she took another giant hop and flew right over the red rhombus. She landed in the top right hand corner of the playground, above the rhombus.

She was still a little cold, so she crawled under the paper for a minute to get warm. Then she got back onto the paper and sat on the shape at the top of the sheet across from the triangle. Which shape is that? Yep, it’s the red rhombus.

8. Finish your story by asking the students to pair-share ideas about how Little Frog might get from one location to another on the sheet without going near the pond. Let students know that Frog has to stay on the paths. After they’ve had a minute to talk, call on volunteers to share their ideas with the group.

Now Little Frog wants to get back to the purple square, but she doesn’t want to get near the pond. How can she get from the red rhombus to the purple square without going through the pond and still stay on the paths?

As students share their ideas, encourage them to use directional language. After each idea is shared, have the children test it.

Johnny  She can go to the triangle, and then go down to the square.

Teacher  What direction will she have to go to get from the rhombus to the triangle?

Students  Straight.
Across!
That way!

Teacher  Will she have to go right or left across the sheet?

Shanti  She has to go left to get to the triangle. Then she has to go down to get to the square.

Teacher  Let’s all try that out with our frogs. Did it work? Okay, let’s put Little Frog back on the red rhombus. Can someone tell us a different way she can get from the rhombus to the square without going across the pond?

9. If student interest holds and time allows, pull a few names from your helper jar and have those students continue your story as their classmates move their plastic frogs in response. If not, collect the sheets for use again another day.

Extensions

• During another session, display your copy of Little Frog's playground. Work with students to list some of the words they might use to place the frog in various locations or help Little Frog move from one location to another: in, out, over, under, below, above, beside, between, next to, across from, behind, in front of, near, far, left, and right. Give students their playground sheets and plastic frogs. Pull names from your helper jar and have those students tell their classmates where to place their frogs on the sheet and how to move them from one location to another.

• Send the sheets home with students, along with a note about the activity. Ask families to continue telling Little Frog stories at home with their children.

• If you have a computer in your classroom with Internet access, some of your kindergartners may enjoy two of the applets found on the Utah State National Library of Virtual Manipulatives web site:
Activity 3  Little Frog’s Playground (cont.)

Ladybug Leaf and Ladybug Mazes. The web site is free to all, and can be accessed at http://nlvm.usu.edu/. Follow the links to the Pre-K through 2 geometry section, where you’ll find a variety of applets including Ladybug Leaf and Ladybug Mazes. Both of these activities involve programming a ladybug around the screen to either hide behind a leaf (easier) or move through a maze (more challenging). Both provide good spatial problem-solving challenges, as well as practice with directional language and skills (forward, backward, right, left). Instructions are included with each applet on the web site, along with suggestions for parents and teachers.
Little Frog’s Playground

- yellow
- red
- blue
- purple
- orange