



WEEK 1 Day 3

Math Center: Math Tools

Children freely explore math tools.

Big Ideas	Children will communicate mathematically through multiple forms of expression. Children will persevere in solving questions with a growth mindset. Children will solve mathematical problems using a variety of strategies. Children will make sense of the world around them through mathematics. Children will connect math to other learning and real-world examples. A strong, interdependent math community has qualities, such as: shared responsibility, collaboration and support for each other.
Guiding Questions	What does it mean to be a member of a math community? How do you use math tools? How do you most effectively communicate your mathematical thoughts and ideas? Why is collaboration and listening to the ideas of others important?
Vocabulary	tool: an item that you use to help you do something Illustration: a picture or sketch
Materials and Preparation	<i>Abiyoyo</i>, Pete Seeger - connecting cubes - pattern blocks - geoblocks & solid shapes - two-color counters - containers (e.g., baskets, bowls, etc.) Sort math tools into containers to offer at the Math Center. 5-frames, several copies Children will continue to use these throughout the year. Consider copying them on cardstock or laminating them and keeping them organized to be used repeatedly. Week 1 Math Card, several copies

	• blank paper • writing and drawing tools Bring a few math tools and an <i>Abiyoyo</i> book to the whole group meeting area for the Intro to Centers.
Intro to Centers	<i>Today, I have a new Center to introduce, the Math Center! At the math center we will use tools to help you explore and learn. A tool is an item you can use to help you do something. The tools we have at the Math Center this week are pattern blocks, connecting cubes, geoblocks, two-colored counters and 5-frames.</i> Hold up each math tool. <i>We also have paper and pencils for you to write down your ideas. These are tools that can help you make a plan before you start using your math tools or to write down your finished ideas.</i> <i>I wonder how we can use math tools to build and show parts of the book <i>Abiyoyo</i>.</i> Hold up the book, leaf through a few pages, and choose one illustration. Pick one that could elicit counting or recognition of shapes. <i>If I wanted to use my math tools while looking at this illustration, which ones might I pick to use?</i> Harvest several children's responses. Model writing how many of each tool you want to use and then counting out those math tools. Model using a 5-frame to help count math tools up to 5. For example, on a page where <i>Abiyoyo</i> is showing his teeth, first write down how many, and then count the number of triangle pattern blocks needed to represent his teeth. <i>What other ideas do you have for using the math tools?</i> Solicit a few ideas from the group. Invite a couple of children to use the math tools to demonstrate their ideas. Describe the expectations for cleaning up and leaving the area when finished. <i>When you are finished using the math tools, put them back into their container so they are ready for the next person to use. Organizing materials and cleaning up are important responsibilities in Kindergarten.</i> Show where the math tools belong when they are put away.
During Centers	Children freely explore the math tools and consider how different tools can be used to represent ideas. They might be inspired to make representations

	of the illustrations they notice in <i>Abiyoyo</i> or in the surrounding environment. Look through <i>Abiyoyo</i> and ask children what they are inspired to build. Encourage children to write/draw their ideas and then pick math tools as they begin to work. Encourage children to count and talk about the attributes of the different math tools. Help children contemplate which math tools might be most useful for different plans. Follow the children's lead and use precise mathematical vocabulary to narrate what they are doing. When children describe how each object represents an idea and make connections between the objects, they show their ability to reason abstractly and quantitatively. Notice how the children use the math tools and the language they are using to talk about their ideas. Invite children to work collaboratively. Consider offering other math tools to foster their ideas. Take observational notes about children's exploration and language. Document children's work by taking photographs or by offering children an iPad, camera, or other device to photograph their work. As children write out their thoughts and take photos of their work, save these for reflection and inspiration. As children work over the week, take photos of children's work and representations alongside the illustrations they used for inspiration. These will be shared during the Week 2, Day 3 new Center introduction.
Facilitation	● How did you decide what math tool(s) to use? Why did you pick this math tool? ● Can you describe each/this math tool? ● Do you notice any shapes? Do you notice anything you can count? ● Can you describe what your idea was and where you placed your math tools to complete your plan? ● Which tool did you use the most? Which tool was the most useful for your idea? ● How might using this math tool help you solve your problem? ● What do you notice your friend is doing with the math tools? Could that help you with yours? ● How could you collaborate to use the math tools together? ● Now that you are finished, what can you do to get the materials ready for other children to use?

	Reflection: Were you able to circulate and hear children’s thinking while children worked in centers? If so, what routines or structures helped children work independently? If not, what routines or structures can you establish to ensure that you are able to circulate and talk to children as they work? Upcoming daily extension opportunities: Week 1, Day 5 - Add the books: <i>Pictures From Our Vacation</i> by Lynne Rae Perkins; and <i>The Ugly Vegetables</i> by Grace Lin to the math center. Support children representing characters, settings, or objects from these books in addition to <i>Abiyoyo</i> by Pete Seeger. Week 2, Day 1 - Add <i>Abuela</i> by Arthur Dorros to the math center. Support children representing characters, settings, or objects from this book. Week 2, Day 2 - Continue Center 1 with the previous add-on books, any new ones used in the classroom, or others that show clear illustrations with groups of up to 4 items (see materials list for recommendations from math lessons). Week 2, Day 3 - New Center introduced
Standards	Building Towards: QR.C.2 Count to tell the number of objects. ● K.CC.B.4a; K.CC.B.5 GR.C.1 Identify, describe, analyze, compare, create, and compose shapes based on their attributes. ● K.G.A.1; K.G.B.4; K.G.B.5; K.G.B.6 SR.C.1 Describe and compare measurable attributes. ● K.MD.B.3 Standards for Mathematical Practice: 1-8

Notes
