

# Math Throughout the Year

*These are practices that can be repeated daily and weekly throughout the year to reinforce concepts consistently. They can be launched one at a time, focused on for a while, then revisited regularly to make sure children do not lose the ability to engage with key concepts. Page numbers refer to the Building Blocks Teaching Guide and number refer to the week that the concept is focused on in the teachers guide.*

**Counting Wand** – Can be made from a regular pointer, a decorated ruler or wrapping paper tube, or a baton (feel free to change to correspond with class themes). Use the counting wand for counting things at every opportunity. (1, 2, 4)

**Find the Math** – Observe children’s play to “find the math” in their actions. For example, comparing: Who has more crayons? Whose building is taller?; shapes: What happens when clay is rolled out? How do pieces fit in this puzzle?; number: How old are you? Who is older, you or me?; classification: Put all red blocks here and the rest over there; and spatial position: Where did you put the truck? (1,2)

**I See Numbers** – Help children see groups of one, two and three everywhere, every chance you get, such as three trees, not just a group of trees. Encouraging children to see the amount of something as opposed to only seeing the “something” helps them for the habit of quantifying small groups or collections. This habit will give them lots of experience recognizing groups and numbers. (1, 2)

**Counting Jar** – A counting jar holds a specific number of items for children to count without touching the items. The jar should be a clean, empty, plastic container, such as a peanut butter jar. Initially place a small number of relatively large items in the jar, and have the children spill the items out to count them. Use the same jar all year, changing the amount of items weekly. Later in the year, this can become an Estimating jar. (2, 8, 9, 10, 11, 14, 15, 18, 23)

**Counting Wand (Count All)** - Use the wand to count each child, making sure all children count aloud with you. Emphasize that the last number word tells how many children are in the class today. If children are ready to take turns tapping one another, use a very soft wand. (3)

**Simon Says Numbers** – Play traditional Simon Says using only number commands, such as “jump two times” and “Pat your head six times.” (3, 6)

**Snack Time** – Children take a specified amount of a snack, as well as anything they might need to eat the snack. Demonstrate counting out the items and saying afterward how many there are. You may choose to place a Counting Card on the snack table. For

example, use a five card to indicate that children take that many pretzels. (3, 6, 24, 25, 26)

**Dough Shapes** – Children make dough shapes using plastic cookie cutters and other objects. Using the space from which a shape was cut, another child may replace the shape in its “hole” like a puzzle. When circles are introduced and studied, provide only various-sized circle cutters for children to use at those times. (4, 12)

**Foam Puzzles** – Children complete puzzles, observing how pieces have to be the same shape and size to fit. You may use other shape puzzles in addition to foam ones. Ideal puzzles, whether made or purchased, should include a variety of geometric shapes. (4)

**Name Faces of Blocks** – During circle or free time, children name the faces (sides) of different building blocks. Tell or ask children which classroom items are the same shape. (5, 9)

**Shape Walk** – Go for a walk outside of the classroom to search for a specific shape. Consider taking with you some shapes from the Shape Sets to provide a quick and easy reference for children. (5, 9, 10, 14, 15, 18)

**Numerals Every Day** – Numerals are all around us. Help children notice and read numerals on common items throughout the day, such as clocks, food containers, street signs, room numbers, and so on. (7, 8, 9, 10, 11, 12, 13, 18)

**Set the Table** – Children set a table for dolls/toy animals, possibly in the dramatic play area, using a real or pretend table. Children should set out just enough paper (or toy) plates, cloth napkins, and plastic (or toy) silverware for the dolls/toys animals. Work with children to establish the idea that one-to-one matching creates equal groups; when you know the number in one of the groups, then you know the number in the other. (7)

**Cleanup (Pick a Number)** – Say a number during cleanup, and each child picks up that many items. (11, 13)

**Count Motions (Transitioning)** – While waiting during transitions, have children count how many times you put up your hand, turn around, or perform some other motion. Then have them do the motion a specified number of times, such as “jump 5 times” or “clap 6 times.” (11)

**Dough Numerals** – Children practice forming numerals out of dough or clay. (12)

**Guessing Bag** – Engage children in this integrated science, math, and language activity before the week’s Feely Box activities. With a mystery item already hidden in a paper bag, challenge children to feel it over the next few days to guess what it is by shape, weight, and so on. Children secretly tell classmates their guesses after everyone has felt the item. Start with easily identifiable items, such as a comb or block. It is beneficial to do this activity once every week, using a new object each Monday and revealing it Friday. (14)

**Counting Jar II** – Continue the counting jar as stated previously, but encourage children to record their counts. They can be recorded on sticky notes, paper or in journals. Encourage them (assist as needed) to make marks that represent the amount and to write the numerals. (15, 18)

**Shape Books** – Have kids make shape books – class shape book. Discuss how shapes are all around us. Have kids cut out shapes from magazines and glue onto their own page of the book. (15)

**Clothes Patterns** – Work with children to find repeating patterns on their clothes. Have children describe the patterns, and encourage them to wear clothes with patterns all week. When applicable, be sure to distinguish between striped clothes with no repeating pattern and those with a core unit that repeats. (16, 17)

**Creative Patterns** – Supply the area of your classroom that is the art center with many art supplies. Have children make patterns to take home to share. (16)

**People Patterns** – Patterns are all around us. Help children make such connections by using patterning when you line up. For example, boy/girl/boy/girl, short sleeves/long sleeves, shoes that tie/shoes that do not tie, and so on. If there are not enough children to complete the pattern, ask what would come next. (16, 17)

**Pattern walk** – Take children on a walk in the school’s neighborhood to find patterns “in the world.” Help them find a pattern’s core unit, such as, in an ABB pattern, ABB is the core. If possible, read the book, I See Patterns, by Linda Benton before taking a pattern walk. (17)

**Counting Wand (Counting Up)** – This version of Counting Wand is not for counting people or objects – it is to practice verbal counting skills, and only the child tapped by the wand counts. Gently rest the wand on a child’s shoulder. That child counts from 1, counting until you lift the wand from his or her shoulder, which is the signal to stop. Repeat with another child, explaining that he or she picks up from where the first child left off. (19)

**Compare Lengths** – Extending the comparisons of heights, encourage children to compare lengths when possible. For example, the length or height of cube or block towers (or the cubes or blocks themselves), the length of roads children build, the height of furniture and so on. (20)

**Compare Weights** – Provide a balance scale and items of various weights. Show an empty balance scale, ask the children what will happen when you put an item on one side and do so. Repeat with a heavier item on the other side. Encourage children to predict which will be heavier and which will be lighter before comparing them (20)

**Line Up by Height** – As an adult coordinates, have children line up by height during class or room transitions. Be sure not to dwell on tallness or shortness. When done in groups of 5, the activity also provides a visual representation of ordering length. (21)

**Sense of Time** – Routines help children organize their days and know what to expect. Routines also help develop ideas about time and sequencing. Create daily or weekly picture schedules – visuals which can help children, especially non-English speakers, understand scheduled activities. Label each picture with key words or a sentence to link them to language. Explain the order of classroom events, and discuss what will happen tomorrow or what happened yesterday, mention what time important events take place. (21)

**Weigh Blocks** – Provide a scale along with square and triangular blocks. Ask children how they would figure out which single block weighs the same as four triangular blocks, assuming your triangular blocks are smaller. Children may use the scale to weigh various block groupings to compare and check. (22)

**Measure Capacities** – (page 339 week 22, 23)

**Line Up** – When lining up, call children by who is first, second, third, etc. (23, 25, 27)

**How Many Seconds?** Use opportunities when waiting to count seconds. (22)

**Estimating Jar** – Use Counting Jar. Fill with a few large items and tell the children it will now be an estimating jar. They will estimate or guess how many items are in the jar, recording their guess on sticky notes. At the end of the week, they children spill the items to count them and discuss their guesses. (24, 25, 26, 27, 28, 29, 30)

**I Spy (using properties)** – I spy something with four equal sides. I spy something with four right angles. I spy something perfectly round. (27, 28)

**I'm Thinking of A Number** – Give clues – it's smaller than, or bigger than. For more advanced give clues like it's 2 less than your number or add 3 to your number. (29)

**Tape Shapes** – Using existing shapes, help children make their exact shapes outlines out of masking tape. (27, 28)