



MathStart®

Jack the Builder

Counting On

Level 1 Ages 3+

Activity Ideas

Counting on is a strategy to help young children understand how to solve addition problems.

Jack has the best blocks ever. They come in all shapes (square, rectangle, cylinders, cones) and colors. In Jack's imagination, an arrangement of just two blocks is a robot. Add one more block and presto! It's a hot dog stand at the circus. Add two more blocks for a total of five for a ferryboat. And so it goes, counting on more and more blocks, all the way to the super-duper, ready-for-lift-off rocket ship. Blast off! All the blocks fall down and it's time for Jack to start over again. Illustrated by Michael Rex.

DC Standard 4.1, Number Concepts: Children will demonstrate a beginning understanding of number and operations and how they relate to one another: **(4.1.3)** Using numbers to tell how many; **(4.1.4)** Using numbers and counting as a means to solve problems.

- Create your own *Jack the Builder* fun as you play together with your students. Start with three blocks. What does it look like? Ask one of the children to add on two more blocks to make a new shape. What does it look like? Count on together as a group: "3 blocks, plus 1 block, plus 1 block = 5 blocks." Now add three more blocks for a total of 8 blocks. Continue until the blocks fall down!
- Draw a number line from 1 to 20 on the board so everyone can see. Say a number and have one of the children put his finger on that number. For example, "5." Then count on 2 more together and have him put his finger on "7." Continue up to 20, adding 2, 3, 4 or 5 by counting on. You can also say the number and point to it yourself on the number line, and have the kids count on out loud together.
- Start with 25 small objects. For example, pennies or buttons. Put 1 object in a jar or small plastic container. Roll a die. Add on whatever number comes up, 1 through 6, until all the objects are in the jar. If, on your last roll, you do not have enough objects, note how many more you would need (for example, if you roll a "5" but only have 3 objects, you would need 2 more). Also, after each round, note the sum (4 buttons + 1 button + 1 button = 7 buttons). As a variation, put a piece of yarn or string on a table to create two columns. Put one object on one side and all the rest on the other. Roll the die and play the game by having the children count on and move objects from one column to the other.

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Missing Mittens

Odd and Even Numbers

Level 1 Ages 3+

Activity Ideas

Identifying the difference between odd and even numbers is essential to understanding our number system.

B'rrrr. It's a cold snowy day and Farmer Bill is missing one of his mittens. The cow, three chickens and two horses are in the same pickle. Instead of having an even 2, 4, 6 or 8 mittens for their hands, hooves and feet, they've got 1, 3, 5 and 7. How odd! Can you guess who the barnyard mitten thief is? Illustrated by G. Brian Karas.

DC Standard 4.1, Number Concepts: Children demonstrate a beginning understanding of number and operations and how they relate to one another.

- Draw a line down the center of a piece of paper. On one side represent some even numbers by drawing pairs of small objects. On the other, show odd numbers by drawing pairs of objects, plus one more. Have your child or students tell you how the even numbers are alike and how the odd numbers are alike.
- Reread the story together and count the number of mittens in each picture. Point out that the animals all need one more mitten than they each have. Talk about why the animals need an even number of mittens, and why they always have an odd number.
- Place a small pile of buttons on a table. Is there an even or an odd number of buttons in the pile? Place a second pile on the table. Is there an even or an odd number of buttons in that pile? Add them together. Is that number even or odd? Make new piles and try the activity many times. Do you get an even or an odd number when you add the two evens together? Two odds? And odd and an even?

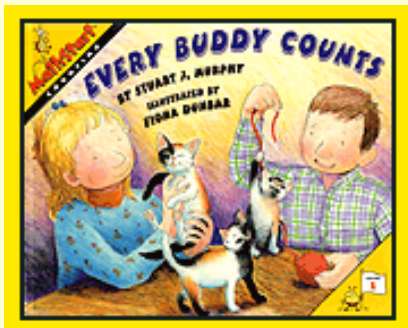
- **TEACHER IDEA!** I use Stuart's books all the time. So many of the newer teachers feel very bottled down into the textbook, so I always bring in some MathStart books to show them other ways of introducing concepts. For example, I use "Missing Mittens" with first graders to introduce the concept of odd and even numbers. I have them create different scenarios of mittens. The book is so comically illustrated — they came up with all kinds of scenarios of animals and where mittens could be on them. They loved the cow and the cow's udders and the mittens. That really inspired them to do peacocks with mittens on the feathers. And they had to identify what happened, whether it was an odd number of mittens or an even number. When one mitten is missing, what happens? It was wonderful. They created their own books. And it was very exciting to see the different things the students learned to do. Thank you Debbie Abrams, Sayville School District, Sayville, NY!

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Every Buddy Counts

Counting

Level 1 Ages 3+

Activity Ideas

Not only can counting make you feel better, it is an essential math skill.

When a little girl wakes up one morning feeling "crummy, yucky, very sad," she cheers herself up by counting all her friends—which include pets, playmates, neighbors and even older sisters. Illustrated by Fiona Dunbar.

DC Standard 4.1, Number Concepts: Children demonstrate a beginning understanding of number and operations and how they relate to one another.

- Ask questions throughout the story, such as: "How many older sisters does the girl have?" and "Can you count the number of teddy bears snuggling in her bed?"
- Help your child or students to make their own "buddy" count. Write the names of some of each child's special buddies on note cards. Ask the child to draw pictures of these close friends on the cards. Gather the cards in groups: for example, parents, grandparents, playmates, pets, stuffed animals. Then encourage the children to count the different groups.
- Gather all the things you need to bake a treat, for example chocolate chip cookies. How many mixing bowls, measuring cups, and spoons do you have? How many eggs, sticks of butter, cups of sugar or flour are needed? Most important of all—how many cookies did you bake? And how many did you eat?

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It's About Time

Time

Level 1 Ages 3+

Activity Ideas

Being able to read both analog (traditional) and digital clock faces is an important part of everyday life.

The little boy's day starts at 7:00 A.M. with a great big stretch. Puppy stretches, too. By 8:00 A.M., it's off to school — "Good-bye Mom!" At 9:00 A.M., it's time to learn, and by 10:00 A.M., it's time to play with friends. The story follows the little boy throughout all 24 hours of his busy day, noting the time with an analog clock face and digital display that shows A.M and P.M. Lunch time! Dinner time! Bath time! Bedtime! When the boy is all tucked in for the night, friendly monsters come out to play. And then, before you know it, it's 7:00 A.M., and time to start another day. Illustrated by John Speirs.

DC Standard 4.3, Measurement: Children use a variety of non-standard and standard tools to measure and use appropriate language terms to describe size, length, weight, and volume.

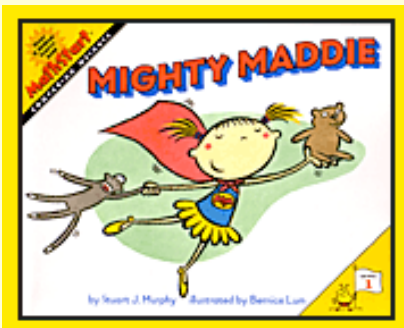
- Explain to your child or students that a day has 24 hours. The hours from 12:00 midnight to 12:00 noon are called A.M. hours. The hours from 12:00 noon to 12:00 midnight are called P.M. hours.
- Before rereading the story, show your child or class an analog and a digital clock and explain that analog clocks have hands on the clock face, while digital clocks show time using just numbers. Then look for different types of clocks around the house or classroom.
- Have your child or students draw pictures of themselves doing various activities at different times of the day. Help them write the time on each picture.

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Mighty Maddie
Comparing Weights
Level 1 Ages 3+

Activity Ideas

Understanding that the weight of an object is not always dependent on size—mass—is an important measurement.

Maddie's birthday party and the house is a mess! Toys are everywhere, even in the bathroom. Dad helps carry heavy things up to her room, while Maddie gathers the rest. But it's up to Maddie to put everything away. As Jumbo the cat and Teenie the dog watch, she turns into "Mighty Maddie," a caped super-hero able to sort toys in a flash by how much they weigh. The fire truck is heavy, but the ballerina tutu is light, and the feather tiara is even lighter. Sometimes things that are big, such as pillows, are lighter than things that are small, such as books. Will Maddie manage to get everything stashed away neatly in time for the party? And why is Jumbo smiling and Teenie's tail wagging? Illustrated by Bernice Lum.

DC Standard 4.3, Measurement: Children use a variety of non-standard and standard tools to measure and use appropriate language terms to describe size, length, weight, and volume.

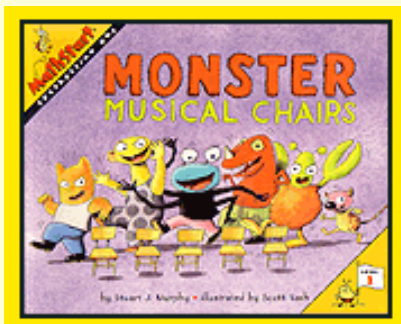
- Before reading the story, discuss weights. Point out that a large object can weigh less than a small object. Have your child or each of your students hold a pillow in one hand and a can of soup in the other and compare the different weights.
- Show your child or class two objects (for example, a stuffed animal and a block) and ask them to guess which of the two is heavier. Ask them to explain the answer, then have each child pick up the objects to find out whether the guess was right.
- Help your child make a cape with his or her name on the back, then act out the part of "Mighty Maddie," cape and all, and together clean the child's bedroom. While picking up toys and clothes, talk about which ones are heavy and which are light.

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Monster Musical Chairs

Subtracting One

Level 1 Ages 3+

Activity Ideas

Knowing how many objects are left when one is taken away from a group is a first step in understanding the concept of subtraction.

When six monsters get together to play musical chairs, you'd better watch out! "Stomp, stomp, SNORT. Shake, shimmy, SHOUT! When the music stops, one monster is OUT!," sings the leader of the monster band. One by one the players are tagged out until there's only one left: The winner! Illustrated by Scott Nash.

DC Standard 4.1, Number Concepts: Children demonstrate a beginning understanding of number and operations and how they relate to one another.

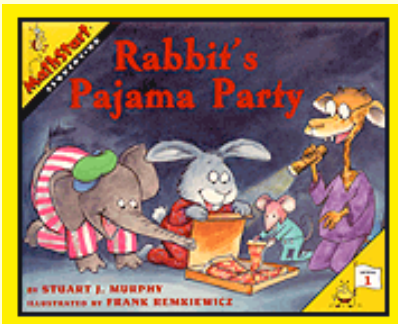
- Ask questions throughout the story, such as: "How many monsters are left?" "How many chairs are left?" "Why are there more monsters than chairs?"
- Give your child or each of your students 15 small treats, such as raisins or mini-marshmallows. Have the children eat one and then count and say how many are left. Continue until all the treats are gone.
- Before you check out at the grocery store, together count the number of items in your cart. As you place the items on the check-out counter one by one, ask your child how many are now left in the cart.

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Rabbit's Pajama Party

Sequencing

Level 1 Ages 3+

Activity Ideas

Sequencing is a key concept in math as well as story comprehension.

Rabbit throws the best sleep over parties! There's pizza, hot fudge sundaes, sleeping bags, scary stories and more. Can you remember what happened first? Then next? And after that? Illustrated by Frank Remkiewicz.

DC Standard 4.1, Number Concepts: Children demonstrate a beginning understanding of number and operations and how they relate to one another.

- While reading the story, point out the sequence of events in the pictures. Encourage your child or students to tell the story using the words "first," "next," "then," and "last."
- Make a timeline for the story. For example, at 5:00 the friends arrive, at 6:00 they eat pizza, and so on.
- Clip out a favorite comic strip from the newspaper. Cut the comic strip into separate frames and ask your child or students to place the pieces in the right sequence.

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3 Little Firefighters

Sorting

Level 1 Ages 3+

Activity Ideas

Sorting by attributes lays the groundwork for understanding number patterns and identifying geometric shapes.

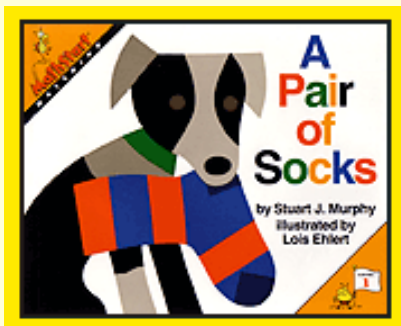
It's parade day for the 3 little firefighters and they have to look their best. But their coats are missing buttons and their belly buttons show! Time to get out the button box. Each coat will need 4 buttons. They try to sort them by color, and then by shape, but they can't make enough sets. What if they try sorting by size instead? Ink Spot the dog wants to help! Illustrated by Bernice Lum.

DC Standard 4.4, Geometry and Spatial Sense: Children begin to demonstrate an understanding of shape, size, position, direction, and movement, and they describe and classify by shape.

- Read the story with your child or students and point out the buttons on each of the firefighter's coats. Ask the children how the buttons on each coat are alike and how they are different.
- Write down the first name of family members or classmates on separate cards. together with your child or class, sort the names. Ask what rule is used sorting. For example, the length of the name, or the gender of the name.
- Button Game: Gather a collection of buttons of different sizes, shapes, and colors, and a piece of paper with a circle drawn on it. The first player creates a set of buttons (for example, all round or all red) and places them inside the circle. The second player must then guess the rule by which they were sorted.
- TEACHER IDEA: I presented *3 Little Firefighters* in a workshop. I created oaktag buttons for everyone in the workshop and magnetized them with a Xyron machine. As I read the story, everyone sorted their buttons the way the firefighters were sorting theirs. Thanks Carol Hartrey, bookseller, The Learning Tree Store, Stoneham, NH!

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A Pair of Socks

Matching

Level 1 Ages 3+

Activity Ideas

Matching helps children recognize attributes that are the same, note those that are different, and provides an introduction to pattern recognition.

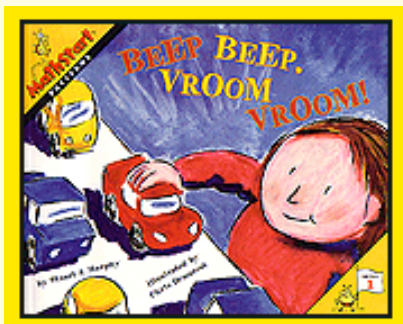
Oh no! The blue-and-red striped sock can't find its mate. It's not in the dirty laundry, or in the washing machine, or even in the clean clothes basket. But maybe with a little help from Pup the mystery can be solved. Illustrated by Lois Ehlert.

DC Standard 4.2, Patterns: Children demonstrate a beginning understanding of patterns and use mathematical representations to describe patterns.

- Ask questions throughout the story, such as “Are the socks the same?” How is one sock different from the other sock?” and “Which is your favorite sock?”
- Together draw and color pairs of socks in a variety of patterns. Then cut them out and separate the pairs. Play a game of matching the socks.
- Gather some matched and mismatched household items, such as mittens, socks, shoes, napkins, place mats or towels. Talk about them together using vocabulary from the book. For example: “Which mittens are the same?” “Which towels are different?” “How are they different?”
- **TEACHER IDEA!** I like to add manipulatives so kids can touch and recreate the essence of the book. I used lots of pairs of tiny baby socks, which you can find cheap at a Value Village or a second-hand store. The kids matched the pairs. They could also play “Concentration” with them. Make a grid so kids have to lift up flaps to find the socks. In order to make a match, they have to remember where all the different socks are. If you put manipulatives with a book, kids are able tie-in the concepts and they use them to retell the story. It’s excellent. Thanks Brenda Margepts, Balmoral, Manitoba!

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Beep Beep, Vroom Vroom

Patterns

Level 1 Ages 3+

Activity Ideas

Recognizing and being able to extend patterns leads to the development of logical thinking.

When little Molly plays with her big brother's red, yellow and blue toy cars, you know there's bound to be trouble...unless she can put them back in just the right order before he returns! Illustrated by Chris Demarest.

DC Standard 4.2, Patterns, Functions and Algebra: Children will demonstrate a beginning understanding of patterns and use mathematical representations to describe patterns. **(4.2.2)** Recognize, describe and copy simple patterns

- Read the story with your child or class and describe the patterns in which Molly places the cars on the shelf. Ask the children to describe the pattern by color or by type of car.
- To prepare for this activity, cut out squares, triangles and rectangles using three different colors of construction paper. Make sure to have a variety of sizes of each shape (10 each of small, medium and large in each of the different colors should be more than enough to start). Working with a small group of children, have one child make a pattern using 6 shapes that are all red. (For example, small square, large square, medium triangle, small square, large square, medium triangle). Ask the next child to repeat the pattern with the same sizes and shapes, but in yellow. Ask the next child to try using green shapes. Everybody says the pattern order together. As a variation, ask a child to make a color pattern only using small triangles (red, yellow, green, red, yellow, green). Ask the next student to use medium squares to copy the color pattern. And so on.
- Arrange coins in a pattern (for example, "penny, penny, nickel, penny, penny nickel," or "PPN PPN"). Ask your child or students: "Can you figure out what comes next?" Help them continue the pattern, using extra coins. Some patterns that you may wish to try include: PPN PPN, or PNP PNP, or PPNN PPNN.

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The Best Bug Parade

Comparing Sizes

Level 1 Ages 3+

Activity Ideas

Comparing sizes is a simple form of classification and is necessary for the development of measurement skills.

In Ladybug's garden, everything is relative. Who's big? Bigger? Biggest? Long, longer, longest? Short, shorter, shortest? Line up! It's time for the best bug parade of all. Illustrated by Holly Keller

DC Standard 4.3, Measurement: Children use a variety of nonstandard and standard tools to measure and use appropriate language terms to describe size, length, weight and volume.

- Read the story with your child or students and describe what is going on in each picture. Ask questions throughout the story, such as "Do the bugs look the same or different?" and "How do they look different?"
- Together with your child or students, draw and color some of your own imaginary bugs. Then cut them out and arrange them in order of size. Line them up for your own best bug parade.
- Look at things in the real world, for example, family members, pets, furniture, plates, flowers. Discuss their size relationships. "Who is bigger?" "Which is smallest?" Extend the concept by asking such questions as "Who is older?" "Who is youngest?" "Which is darker?" "Which is lightest?"
- Nature Walk: Go for a walk together in a nearby park and bring along a tape measure or ruler. Measure and compare plants. "Which is taller?" "Which has wider leaves?" "Which has the smallest flower?"

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Bug Dance

Directions

Level 1 Ages 3+

Activity Ideas

Sheet music is provided for the musically inspired. In addition to learning these basic directions, children gain a foundation in important mapping skills.

The bugs in Coach Caterpillar's gym class are learning a dance, but Centipede keeps tripping over his own feet! "Two steps to the left, two steps to the right. One hop forward, one hop backward. Turn right! Wiggle left. Wiggle right. Do the Bug Dance every night! Illustrated by Christopher Santoro.

DC Standard 4.4, Geometry and Spatial Sense: Children will begin to demonstrate an understanding of shape, size, position, direction, and movement, and they will describe and classify real objects by shape. **(4.4.5)** Describe, name and interpret position in space; understand and use positional words.

- Read the story together and discuss which direction the bugs are moving
- Have your child or class wiggle left hands, then right hands, and then left and right feet. Face the same direction as the children and have them identify your left and right hands and feet. To help them remember, you can place a string or a loose rubber band on each child's right hand. Also point out that the thumb and the forefinger of the left hand form the letter "L."
- Plan a walk to the park or store. Draw a simple map of the route you will follow and have your child or class help with the directions. After the directions are written out, follow the directions and take a walk
- **TEACHER IDEA!** "Dancing in All Directions" by Julie Heron, kindergarten teacher
My kindergarten students love the Bug Dance story. I have used it in various ways to teach several different concepts. It not only teaches math but helps build vocabulary, which is important since English Language Learners make up over half my class. After reading the book and acting out the dance steps, my students asked to do the dance over and over again, so I decided to create a Bug Dance Learning Center.
- ★ I made a mat with outlines of feet going in all four directions. The students could then follow the dance steps in the book.

- ★ I created word cards that said: "Hop," "Turn," "Left," "Right," "Forward," "Backward" and "Two Steps." I put several of each into the stack. The instructions for the kids were first to pick 6 cards, then read the cards and put them in some order to create their own dances, and finally, to enjoy the dance!
- ★ One day a little boy asked if we could add other dance moves to the story. So I brainstormed with the class for movement words. The activity is the same as above, but this time included more words that the students themselves had generated: "Shake," "Clap," "Jump," "Over," "Under," "Slide," "Stomp," "Three Steps," "Four Steps," and "Turn Around."

These activities were a big hit. We do them about once a month and they get the same reaction every time. I am happy to get those little bodies moving in a constructive way. I hope your class has as much fun as mine has -- year after year!

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Circus Shapes

Recognizing Shapes

Level 1 Ages 3+

Activity Ideas

Recognizing shapes is the beginning of geometric thinking.

First the elephants form a circle, then the monkeys make a square. Circus shapes are everywhere! Can you find all the circles, squares, triangles and rectangles? Illustrated by Edward Miller.

DC Standard 4.4, Geometry and Spatial Sense Children begin to demonstrate an understanding of shape, size, position, direction, and movement, and they describe and classify real objects by shape.

- Encourage your child or students to retell the story using the names of the shapes: "circle," "triangle," "square," and "rectangle."
- Look for things around the house such as the faces of watches or clocks, buttons on a sweater, books, tiles, rugs, kitchen towels, and windows. Which are triangles? Circles? Squares or rectangles?
- Go on a "Shape Hunt" in your neighborhood. Create a chart with each different shape-circle, triangle, square and rectangle-drawn at the top of its own column. Encourage your child or students to make a mark for each shape "sighting." Then add up all the marks and see how times each shape was found.
- Using construction paper, cut out circles, squares, triangles, and rectangles and mix them all up. Together sort them by shape, asking the children to say the names of the shapes. Ask them to draw the shapes and then tell you what they are.

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Double the Ducks
Doubling Numbers
Level 1 Ages 3+

Activity Ideas

The first step in mastering basic addition is adding a number to itself (for example, 3+3).

The young cowboy has his two hands full with five little ducks. They need three sacks of food and four bundles of hay. And when they each bring home a friend, it's twice as much work. For 10 little ducks, he needs double the food, double the hay and double the hands! Illustrated by Valeria Petrone.

DC Standard 4.1, Number Concepts:

Children will demonstrate a beginning understanding of number and operations and how they relate to one another: (4.1.2) Count with understanding to at least 10; (4.1.3) Use numbers to tell how many; (4.1.5) Recognize and name numerals up to 10.

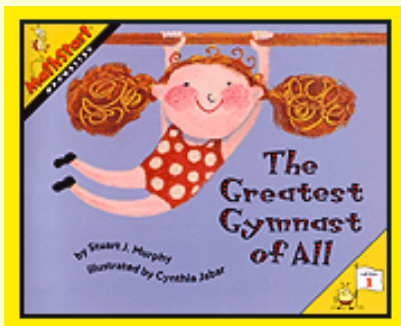
- After you have read the story together once, reread the story, using small objects such as buttons, marbles, or blocks. Ask your child or students to "double the number" of objects to match the storyline.
- Tell your child or students that you have thought of a number and then doubled it. Then say what the doubled number is and ask if they can figure out what the original number was. For example, if the doubled number is 10, the correct answer is 5. If the children have difficulty, use a group of small objects—buttons, paper clips, or pennies—that total your doubled number. Then have the children separate the objects into two groups.
- Have the children make “Doubles Books.” To prepare, take sheets of 8 ½ x 11 inch paper, turn it so it’s horizontal (wide) and draw a line down the middle. On the left-hand side of each page, draw an object (for example, 1 person, 2 ducks, 3 balloons, 4 trees, and 5 flowers). Make enough photocopies so that each child gets a set of pages. Ask the children to draw double the number objects on the right-hand side of each page (for example, 2 people, 4 ducks, 6 balloons, 8 trees, and 10 flowers). Using a new sheet of paper, have the children draw a cover for their Doubles Books. Staple each book on the upper left hand corner. Your math whizzes are now authors!

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The Greatest Gymnast of All

Opposites

Level 1 Ages 3+

Activity Ideas

Recognizing opposites helps children develop the spatial sense necessary for the development of geometry concepts.

There is simply no stopping "Zipping, Zooming Zoe," who just happens to be the "Greatest Gymnast of All." She's up, then down, on the mat, then off, over the hoop, then under. Illustrated by Cynthia Jabar.

DC Standard 4.4, Geometry and Spatial Sense: Children will begin to demonstrate an understanding of shape, size, position, direction, and movement, and they will describe and classify real objects by shape. (4.4.5) Describe, name, and interpret position in space; understand and use

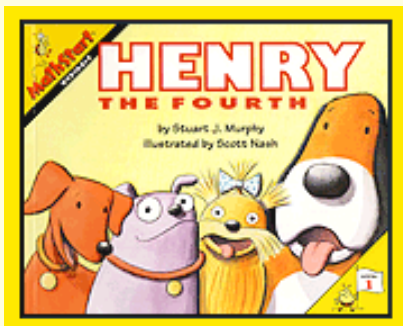
- As you read the story together, ask the children about Zoe's positions. For example, "Where is Zoe?" "Is Zoe **ON** the mat or **OFF** the mat?" "Is Zoe **OVER** the hoop, **UNDER** the hoop, or **INSIDE** the hoop?"
- Introduce the concept of opposites. Explain that "near" (up close) and "far" (way, way in the distance) is an example of a pair of opposites. Then ask, "If I say big, what is the opposite?" "If I say wide, what is the opposite?" "If I say over, what is the opposite?" "Can you think of some more pairs of opposites?"
- Play the Opposite Game when the children are on the playground. Ask them, "Where's the top of the slide? Where's the bottom?" "Who is running fast? Who is walking slow?" "What is the tallest object on the playground?" (It might be a tree!) "What is the shortest object on the playground? (It might be a blade of grass!)"

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Henry the Fourth

Ordinals

Level 1 Ages 3+

Activity Ideas

Identifying order is essential for developing sequencing skills.

It's "Dog Show Day" and the kids in the neighborhood have all gathered together to see four perfect pooches compete. Maxie's first, Baxter's second, Daisy's third, but will the stage-shy Henry the Fourth end up stealing the show? Illustrated by Scott Nash.

DC Standard 4.1, Number Concepts: Children demonstrate a beginning understanding of number and operations and how they relate to one another.

- Ask the children to point to the dog highlighted in any of the math diagrams in the story. Talk about the position of that dog in relation to the other dogs. Ask questions such as, "How many dogs came before Baxter?" and "Where is Baxter in the line of dogs?"
- Have the children take turns telling you the story as you page through the book together. Point out the relationships between the numbers and the ordinals. For instance, Daisy is number three. She is the third dog in the show.
- Talk about things around the classroom or house and identify their order. "Which step is first going up the stairs? Which is second? Which is third?" Look at cars parked on the street and talk about their order. "Which is the second car from the corner?"
- Make a line of toy animals or cars. Pretend it's a parade. Ask the children to point to the second toy in line, then the fourth, the third, and the first. Turn them around. "Now which is first?"
- **TEACHER IDEA!** My kindergartners read *Henry the Fourth* and were so inspired that later that day they wrote their own book filled with pets who could do funny tricks! They ordered them 1st through 21st and now love reading each other's pages. We have a horse that can button and unbutton buttons, a raccoon that can do karate, and a dragon that can blow acid! Thanks Kate Jamieson, Beauvoir School, Washington, DC!

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A House for Birdie

Understanding Capacity

Level 1 Ages 3+

Activity Ideas

Capacity is an important concept in geometry.

Poor little Birdie! He doesn't have a house to protect him from the wind and rain. So his buddies — Spike, Queenie, Goldie, and Fidget, who range in shape from tall, thin, and narrow to short, fat and wide—decide to help him find one. They fly all over the neighborhood, but each house they come to is either too tall, too wide, too fat or too short for Birdie, but perfect for one of them. Just when the skies begin to cloud over and things look their bleakest, Birdie's friends pitch in to build a house that's just right for Birdie. Illustrated by Edward Miller.

DC Standard 4.3, Measurement: Children will use a variety of nonstandard and standard tools to measure and use appropriate language terms to describe size, length, weight and volume. (4.3.1) Use nonstandard units to measure length and amount of content

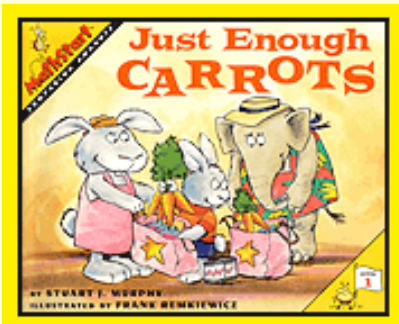
- Ask each child to imagine a bird and describe it. For example, a stork is tall, a penguin is short, a sparrow is tiny, and a turkey is big (factoid: Ben Franklin thought the turkey should have been our national bird instead of the bald eagle!). Then ask the children to draw a picture of their bird, and a birdhouse scaled to the bird's shape.
- Take out a one-cup measuring cup and a few large bowls or containers. Ask the children to guess how many cups of water are needed to fill one of the containers. Have one of the children check the estimate by filling up the container, one cup at a time. Taking turns, continue with the other containers. You can also use sand at a sand table or on the playground.
- Have the children imagine their families as birds. Now draw them and their corresponding birdhouses. Ask how big a birdhouse would you need to fit your entire family? Wow!
- Gather together a collection of four or five stuffed animals and boxes of different sizes. Have the children decide which animal taller, which is thinner and which is wider? Which is the tallest? Which animal fits best in which box?

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Just Enough Carrots

Comparing Amounts

Level 1 Ages 3+

Activity Ideas

To formulate addition and subtraction equations involves being able to identify "more," "fewer" and "the same."

Young rabbit can't understand why Mom is buying so many bags of peanuts and cans of worms at the grocery store when everybody knows carrots are a whole lot tastier. Horse, he notices, has more carrots in his cart, while Elephant has fewer, though Bird has the same amount. H'mmmm... Could Mom be planning a party? Illustrated by Frank Remkiewicz.

DC Standard 4.3, Measurement: Children use a variety of non-standard and standard tools to measure and use appropriate language terms to describe size, length, weight, and volume.

- Gather together a number of objects such as small toys, plastic spoons, and blocks, and ask your child, or each child in your class, to make piles. Does one pile have more items than the other two? Does one pile have fewer items? Ask your child to make three piles that each have the same number of items.
- Using construction paper, cut out "carrots," "cans of worms" and "bags of peanuts." Give each child a total of 12 items (but mix them up so a child doesn't get 4 of each item!). Ask the children to sort their items. Which do they have more of? Which do they have fewer of? Help them trade with each other to create piles that all have the same number of items.
- Ask questions throughout the story, such as: "Would you eat more carrots than the rabbit would eat?" "Would you eat the same amount of worms that the birds would eat?" "Would you eat fewer worms?"
- Take a "More! Fewer! Same!" adventure walk around your house or around the classroom. For example, in the bathroom, are there more toothbrushes or more bars of soap? Are there the same number of bath towels and washcloths? Are there more bath-toys than bath-takers? In the kitchen: Are there more cups, bowls, or plates on the table at breakfast? At snack time? In the classroom: Are there more boys or girls? Are there fewer boys than girls? Are there the same number of boys and girls? Are there more kids than adults?

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Leaping Lizards

Counting by 5s and 10s

Level 1 Ages 3+

Activity Ideas

Counting by 5s and 10s is an important skill that helps children master multiplication facts, tell time, and count money.

To put on “The Fifty Leaping Lizards Show!,” you need fifty star-struck leaping lizards. Where will they all come from? The first five are found lounging in bunk beds, but the next five arrive in theatrical style, riding unicycles and juggling. The next five are speed-demons in race-cars, followed by five more in a hot-air balloon. Colorful graphics keep track of the count, first by showing how counting by 5s works, and then showing how counting by 10s is related: Kids can easily see how each group of 10 lizards divides into two groups of 5. Will there be enough lizards by show time? Illustrated by JoAnn Adinolfi.

DC Standard 4.2I, Number Concepts: Children demonstrate a beginning understanding of number and operations and how they related to one another.

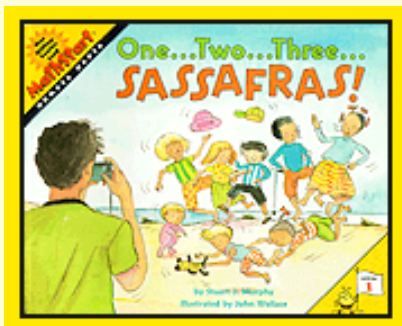
- Start with 50 playing blocks and ask the children to create groups of 5. How many groups of 5 are there? Then put the groups of 5 together in pairs to make groups of 10. How many groups of 10 are there? This can also be done using smaller objects such as buttons or pennies.
- Show your child or class an analog clock (with hands). Explain how each number on the clock face indicates 5 minutes. Together, count the number of groups of 5 minutes to discover how many minutes are in 1 hour.
- Together, figure out how many fingers and toes are in the group. Try counting first by 5s and then by 10s.
- The 5s & 10s Travel Game: While riding together in a car or on a bus, ask each player to pick a color. Each car you see of that color is worth 5 points. The first player to get 50 points wins. Play again, changing the rules so each color is worth 10 points.

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One...Two...Three...Sassafras!

Number Order

Level 1 Ages 3+

Activity Ideas

Learning to arrange numbers in order helps develop counting skills and prepares children to understand our number system.

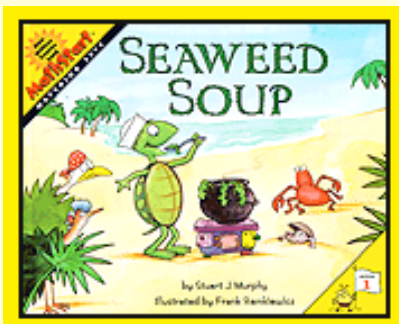
It's picture-taking at the Lumpkin family reunion and Uncle Howie wants all the cousins to line up by age—from one-year-old Jacob to 15 year-old Tanya. "Say Sassafras!" But when Uncle Howie clicks the shutter, something always seems to go wrong. "Great galloping gillywhoppers!" Illustrated by John Wallace.

DC Standard 4.1, Number Concepts: Children demonstrate a beginning understanding of number and operations and how they relate to one another.

- There are several ways the children in the story could have been arranged by Uncle Howie - for example, by height or alphabetically by name instead of by age. Together with your child or class, explore other ordering possibilities (hair color? hats versus hatless? etc.)
- Ask your child or students to draw pictures of their family members. Cut out the pictures and arrange by age from youngest to oldest. Now try from oldest to youngest.
- Write the numbers 1 through 15 on separate index cards. Shuffle the cards and remove one card from the pile without letting anyone see which card you have taken. Can your child or students reorder the cards and figure out which one is missing?
- Find the jersey numbers of the favorite sports team members. These can be found in the newspaper, the team's website, or a program from a game. Ask your child or students to put the players in order based on their jersey numbers.
- Take a deck of cards and put aside the tens and face cards. Each player is dealt 2 cards, which will be used to create a two-digit number. For example, a player dealt an ace and a 9 can make the numbers "19" or "91". Together the players place all their numbers in order. The person with the smallest number collects all the cards. After all the cards have been played, the player with the most cards wins.

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Seaweed Soup

Matching Sets

Level 1 Ages 3+

Activity Ideas

Understanding sets is an important step in counting, as well as in learning about patterns.

Turtle is such a generous and good friend that none of his buddies can say no when he invites them to lunch for a bowl of that "thick and green, gooey and slimy" delicacy, seaweed soup. Will he have enough matching place settings for everybody? Not to worry...this is one resourceful turtle. Illustrated by Frank Remkiewicz.

DC Standard 4.1, Matching Sets, One-to-One Correspondence: Children will demonstrate a beginning understanding of number and operations and how they relate to one another. **(4.1.1)** Use one-to-one correspondence; **(4.1.6)** Recognize quantities of small groups up to 4.

- While reading the story together, ask your child or class what things each new character will need in order to eat lunch. As each new guest arrives, count the number of cups, spoons, napkins and bowls at the table. Discuss how each guest has 1 cup, 1 spoon, 1 napkin, and 1 bowl.
- Plan a party (real or make-believe) with a favorite soup as the main course. (The soup can also real or make-believe: Orange Basketball Bubblegum soup—yum!) Make up a guest list and figure out how many cups, spoons, napkins and bowls will be needed. To help children visualize a place-setting, use paper or plastic cups, spoons and bowls.
- Get a package of plastic silverware (nothing too sharp!) and some plastic cups. Remove one of the forks and of the knives. Ask your child or students to make as many complete sets as they can. For the sets that come up short, what can they find around the room that could serve as a substitute? Be creative—just like Turtle! Try it again, only this time return the fork and take away two spoons and a cup.

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