Math, as Easy as 1, 2, 3

Created by the Early Literacy Specialists of Eastern Ontario

Breaking down the barriers

Have you ever done the following activities with your child? Read a book, sing a nursery rhyme, solve a puzzle, or play a board game. Have you ever used the words, big, small, tall, short, round, or square? If you said yes to any of those questions you have done math with your child! It can be so simple and yet so many of us fear the 'M' word, and this fear is often transferred from one generation to the next.

Most of us relate math to countless hours of algebra, calculus, trigonometry and geometry. But before a child is exposed to these concepts, he needs to be exposed to the basic skills of numeracy and mathematical vocabulary. These skills set the foundation for our future math lovers.

What is numeracy?

Sorting, counting, comparing, estimating, sequencing, matching, measuring and shape recognition are the basic foundations of mathematics. These simple skills develop critical thinking, problem solving, risk taking and reasoning in daily life activities.

How can I support children?

Be involved in the child's play and daily activities. Your involvement will stimulate your child's curiosity; enrich your child's motivation and increase achievements and numeracy milestones.

What are the numeracy milestones?

From counting to 3 or 30, understanding the difference between empty and full, learning the names of the numbers, doing simple additions, and counting backwards are examples of numeracy milestones. These milestones are crucial for future academic and life successes. *The Canadian Child Care Federation numeracy development chart is available here: http://www.cccf-fcsge.ca/wp-content/uploads/RS_95-e.pdf*

What is mathematical vocabulary?

Mathematical vocabulary are basic math words that children use during play and during their daily activities. In order to learn these words, they must first be introduced by an adult. These words increase number sense, numeration, measurement, geometry, algebra and estimating knowledge. Here are a few examples:

Number sense and numeration	Measurement	Geometry and spatial sense	Patterning and algebra	Estimating and graphing
More, less, all, gone, add, take away, separate, increase, numbers, total, how many, count forward, count backwards, tally	Big, little, tall, full, empty, hot, cold, measure, small, cm, cup, fill, heavy, light, degree, freezing	Over, through, turn around, left, right, thick, thin, shape (square, circle), two and three dimensional shapes (cube, cylinder, etc.),sides, tube, corners, point, lines	First, last, same different, order, group, set, sort, before, next, last, pair, pattern, compare, repeat, again, behind	Guess, estimate, range, organize, probably, zone, predict

How many? **What did you do first?** **That's a big truck!** **Let's put the small bears together!**

What are numeracy activities?

Numeracy activities are games or everyday practices that encourage numeracy learning.

Sorting, matching and grouping

- Matching games (dominoes, memory games)
- Matching socks and mittens
- Grouping. Trucks with trucks, dolls with dolls, red pencils with red pencils, etc

Counting

- Nursery rhymes or songs with numbers
- Books with numbers
- Counting objects, people, animals
- Counting while traveling. "Let's count the blue cars!"
- Treasure hunt. "Find one rock, two sticks, and three leaves."
- Board games (rolling dice, moving spaces)

Comparing

- Talk about comparison. "Your feet are smaller than mine."
- Use comparative adjectives such as big, bigger, biggest, small, smaller, smallest

Estimating

- Place items in a jar, such as buttons, cookies, and crackers and guess how many there are
- Include measuring, counting and estimating at the sand or water table. "How many cups do we need to fill the pail? Let's count them."

Sequencing

- Make patterns with beads, blocks or other objects
- Follow a recipe. Use words like 'first, next, and then'
- Look for patterns in your environment
- Clap, stomp, or jump in different patterns

Measuring

- Use measuring tools such as measuring cups, spoons, rulers, and thermometers
- Bake cookies or make play dough and ask the child to measure the ingredients with you
- For younger children, use their hands to measure as a non-standard unit of measurement
- Trace your shadow with a chalk and measure it

Shape and number recognition

- Find shapes and numbers everywhere! Find them in a book, in your home, or outside.
- Do shape or number puzzles
- Play board games with shape dice or number dice
- Make crafts using paper shapes
- Use cookies cutters and stamps with play dough
- Build with blocks

Providing learning opportunities and activities enriched with mathematical vocabulary will motivate your child to work with numbers and will increase his natural curiosity to understand the world around him.

Resources

Adams, Linda, and Judi Waters. *Esso Family Math, Resources of JK, K and Grade 1 Child and Their Parents*.Third ed. London: U of Western Ontario, 2002. Print.

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