



Teacher & Parent Guide



Making It Easier to Learn, and Teach, Math

WHAT IS *MATHAROUND* AND WHY USE IT?

MathAround doesn't feel like schoolwork. Yet it gets children ready for school math. It also helps them catch up when needed – and keep up.

MathAround gives children something that most of them are missing. Something they need in order to succeed in math.

That something is language. Not definitions, but familiarity with basic words and phrases of math class. For example:

- Kindergartners need to know that a boy with *just as many* chores as his sister may not have *many* chores at all.
- When they hear the sentence *There are 5 birds but only 2 are blue*, first graders need to picture a total of 5 birds, not 7.
- When second graders do arithmetic with a large number, like 750, they need to have a sense of what that number of stickers or cars looks like.
- Third graders need to have pictures in their head when they hear phrases like *two-thirds of the way there* and *three-fourths of the class*.

When children are fluent with basic words and phrases of math, learning is easier. And so is teaching.

HOW DOES *MATHAROUND* FIT WITH OTHER MATH PROGRAMS?

MathAround enhances – but does not replace – whatever math program is being used. It improves students' ability to understand their teacher and the materials their teacher is using. Students come to class more equipped to learn. They are less likely to struggle with word problems. They are less likely to tune out because they cannot understand their teacher or their math materials. In these ways, *MathAround* makes existing programs and methods more efficient and effective.



WHO IS *MATHAROUND* FOR?

MathAround is for every child from age 4 to 8 or 9.

- Children who are behind can use *MathAround* to help catch up.
- Children on track or ahead can use *MathAround* to help them do better with concepts and word problems.
- Children who think they are no good at math or simply don't like it can use *MathAround* to gain confidence and develop and a more positive attitude.
- Children can use *MathAround* to get ready for the next school year.

At home, in school, or anywhere else, *MathAround* can be used by an individual, a small group, or an entire class.

It requires no training for teachers, parents, or children – even as young as four years old and even with children with severe learning disabilities.

WHAT TOPICS DOES *MATHAROUND* COVER?

Each grade level of *MathAround* includes the words and phrases

- contained in state and common core standards for that grade.
- considered essential by the teachers and other math educators involved in the development of *MathAround*.
- commonly found in the word problems and explanations of math programs and used in classrooms



HOW TO USE MATHAROUND

1

Choose a Grade:

K =

1 =

2 =

3 =

sign in

2

Choose an Episode

return to grade list

watch the grade intro video to learn about the characters

3

Tap the Picture That Matches the Sentence

return to episode list

narrate sentence

text on/off

Get Feedback and Move On to the Next Sentence...

progress

not a match

match!



MathAround At Home

Yes, kids have a lot of fun with the characters, stories and activities in *MathAround*. And children as young as 4 years old find their way through each episode without much help. But that doesn't mean there isn't a role for parents!

If you wish to help, think about the way you learned language as a child. You spoke grammatically before you went to school – without a single test or grammar lesson. In a similar way, children can understand and speak math language correctly through experience.

You can help while your child plays *MathAround* or while you're together during any part of the day.

OPPORTUNITIES IN EVERYDAY EVENTS

Throughout your day, you'll find opportunities to say aloud the math terms illustrated in *MathAround*, such as *a little more*, *twice as many*, *halfway there*, *three-fourths of a cup*, and so on. Try to use and emphasize math words and phrases as you

- shop,
- cook,
- play games,
- watch movies, or
- engage in any other activity with your child.

OPPORTUNITIES IN *MATHAROUND*

While using *MathAround*, your child will sometimes choose a picture that turns red, indicating it doesn't match the sentence. Encourage but don't force your child to stop and think before selecting another picture: *Why wasn't my choice correct? Did I miss something in the picture? Did I miss something in the sentence? Did I hear or read a word incorrectly?*



Whether you're observing your child play *MathAround* or using math language with them at other times, please keep in mind these points:

- Mistakes are NOT bad things. We can't expect children to learn without making them.
- The activities in *MathAround* are there to give children the chance to make mistakes and learn from them in a natural, friendly way. They are not tests.
- Each incorrect picture is designed to teach something.
- Children learn math language best when they hear math terms in full sentences, especially sentences that fit with whatever you are doing. *Hmm, that package has two more cans than this one. We need three-fourths of a cup of milk; do we have enough?*
- Without forcing the issue, you can encourage your child to draw conclusions about math words and phrases. *Yes, twice is the same as two times.*
- The characters in *MathAround* make it easy to have fun helping your child learn math language. In fact, as you watch the animated stories with your kids, you may find yourself chuckling along with them.

If your child finds an episode especially enjoyable, you can build on that enthusiasm with activities spun off from the episode. Here are examples for each grade. Each activity can be done with one child or a group of two or more, for example, your child and some friends or a small home-schooled class.



GRADE K DOBIE AND MADDY

Dobie and Maddy are each holding a teddy bear.

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The word *each* can be a challenge for Kindergarteners. In *MathAround* you'll hear statements like: *Dobie is holding a bear in each hand*; and, *Maddy and Dobie are each holding a bear*. Here are a couple of active ways to use the word *each* with your child.

1. Ask your child to give *each* of their stuffed animals an object. Then ask:

- Do they each have a cracker now?
- Does each of them have a cracker?

Encourage your child to answer in complete sentences. For example:

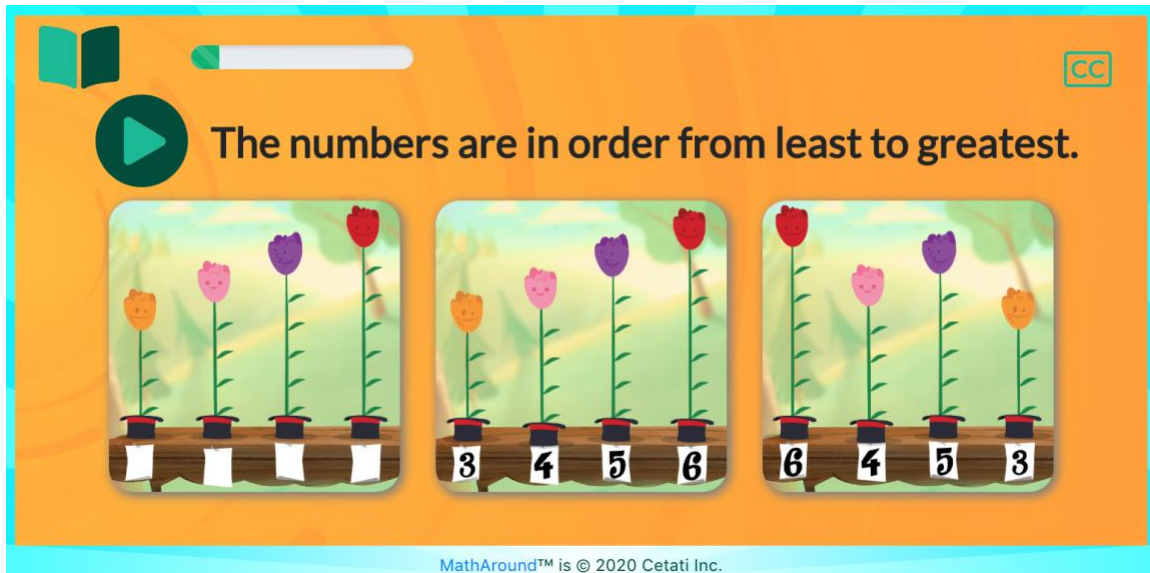
- Yes, they each have a cracker.
- Each one of them has a cracker.

2. When setting the table, you can say something like:

- Be sure each place has an extra fork for salad, or
- Each bowl is different. That looks pretty!



GRADE 1 HOODINI AND PRENTISS



Episodes 1 and 6 help children get familiar with using number lines with comparison words like *greater*, *less*, *smaller*, *larger*, *more*, and *fewer*. For related activities use index cards to make a number line on the floor. Your child writes a number from 0 to 10 on each card and then puts the cards in numerical order on the floor. From there, have your child try one or more of these activities:

- You and your child use objects to represent numbers. For example, put two beans on the 2 card and seven beans on the 7 card. Take turns comparing 2 and 7 with statements like:
 - 2 is less than 7
 - 7 is greater than 2
 - The 7 card has more beans than the 2 card.
 - The 2 card has fewer beans than the 7 card.
- Play *Simon Says* with the cards. For example, take turns saying things like:
 - Simon says go to a number that is greater than 3.
 - Go to a number that is less than 5.
 - Simon says go to a number that is greater than 7 but less than 9.
 - Go to a number that is more than 4. (Oops! Simon didn't say.)

What makes the game fun beyond just listening for *Simon Says* is that there is often more than one correct action.



GRADE 2 OHWON AND AZEE

Azee has 20 fewer batteries than Ohwon.

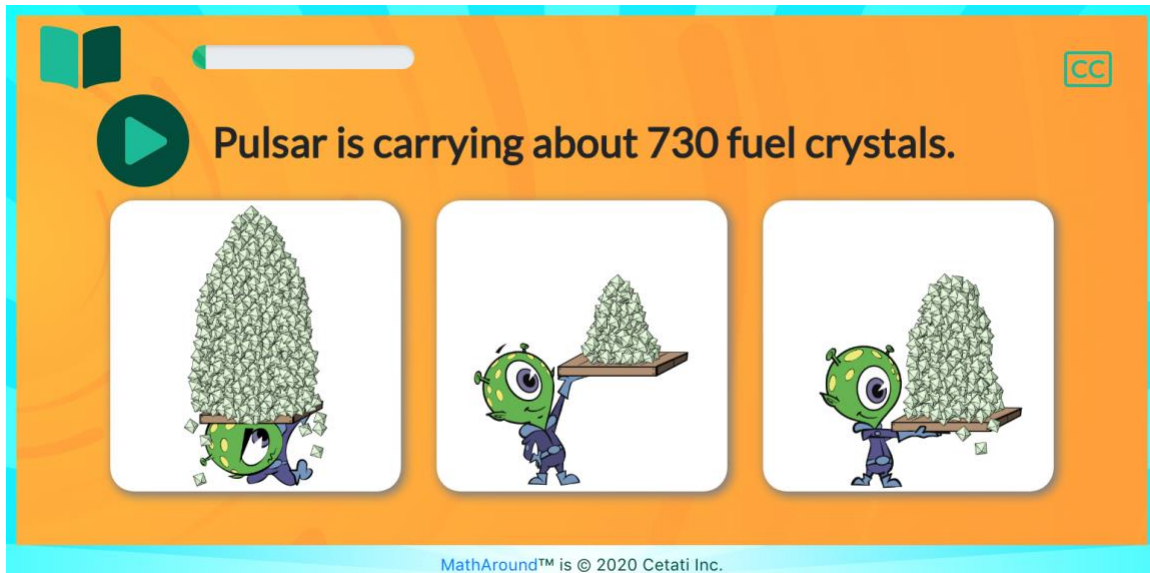
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If children can picture numbers as combinations of tens and ones, they will find grades 2 and 3 much easier. In the second episode, Ohwon's memory boards and packages of light bulbs and batteries help kids see numbers that way.

- Kids can have fun making their own models of ones and tens (and a hundred). Get some beans and craft sticks. Your child can make a model of 10 by gluing 10 beans on one craft stick. Ten such craft sticks can be joined to make a raft of 100 beans.
 - Compare trying to count the number of beans in a pile of 41 with counting the number in a group of 4 sticks and a solo bean.
 - Ask your child to collect 70 beans. How many sticks is that?
 - Ask your child to make a design with 73 or some other number of beans.
 - Take the raft of 10 sticks and cover some of them. Ask your child: *how many sticks are hidden? How many beans are hidden?* Children who have experience with groups of tens that make 100 will find the ability to picture such combinations a valuable skill in second grade and beyond.
 - Make a design and ask your child how many beans are in your creation.



GRADE 3 PULSAR AND QUASAR



Estimating is a skill with a lot of language to it and it's the math skill we probably use more than any other on a daily basis. Terms such as 'about', 'around', 'or so', 'my guess would be', are for when we don't need an exact number, but a good estimate that makes sense will do. Making sense is the most important part. Kids and parents can have fun making good guesses or making not so good guesses and figuring out why they weren't so good.

- A walk out in the neighborhood is a fun way to estimate and to use the language of estimation. For example, ask:
 - About how many cars do you think you'll see on our walk today?
 - Do you think we're to see more than 100 people on our walk?
 - About how many houses do you think we'll see?
- Your child might enjoy filling jars with jellybeans or pebbles and guessing about how many are in the jar. For example, ask:
 - Talk about whether a guess that's off by a little is a good guess?
 - Encourage them to think of ways they could make a good guess as opposed to just a wild guess.
- Play Guess My Number
 - Think of a number between 10 and 50 and have your child make guesses. After each guess, give feedback: *It's a larger number. It's much smaller than that. You guessed 25; it's a little greater than 25. That guess is just a little too high.*



The Future

MATHAROUND IS THE FIRST PART OF A SERIES THAT EXTENDS BEYOND ALGEBRA

	Level	Main Content Focus (words and phrases of ...)
PRIMARY	K	comparing (more, less, fewer, longer, shorter, ...) numbers (to 20) in context half money words (worth, cost, cents, dollars)
	1	numbers to 100 (visualizing and using in context) language of addition and subtraction ('sum,' 'difference,' etc.) simple time and money
	2	numbers to 1,000; (visualizing and using in context) simple fractions (one-half, one-third, one-fourth) more time and money
INTER-MEDIATE	3	simple fractions (including two-thirds, three fourths) multiplication (<i>twice as many</i> , 3 times as tall) area and perimeter
	4	place value to 1 million division more fractions, mixed numbers decimals
	5	visualizing fraction arithmetic, percent, simple percent change
MIDDLE SCHOOL	6	ratio, proportion, percent change, area and volume, negative numbers
	7	ratio, proportion, percent, equivalent expressions, angle measure
	8	algebra foundations
HIGH SCHOOL AND BEYOND	HS I	algebra
	HS II	geometry
	HS III	finance
	HS IV	probability and statistics



Contact Us

We are always happy to discuss any questions or feedback you have. Please email us at info@matharound.com.