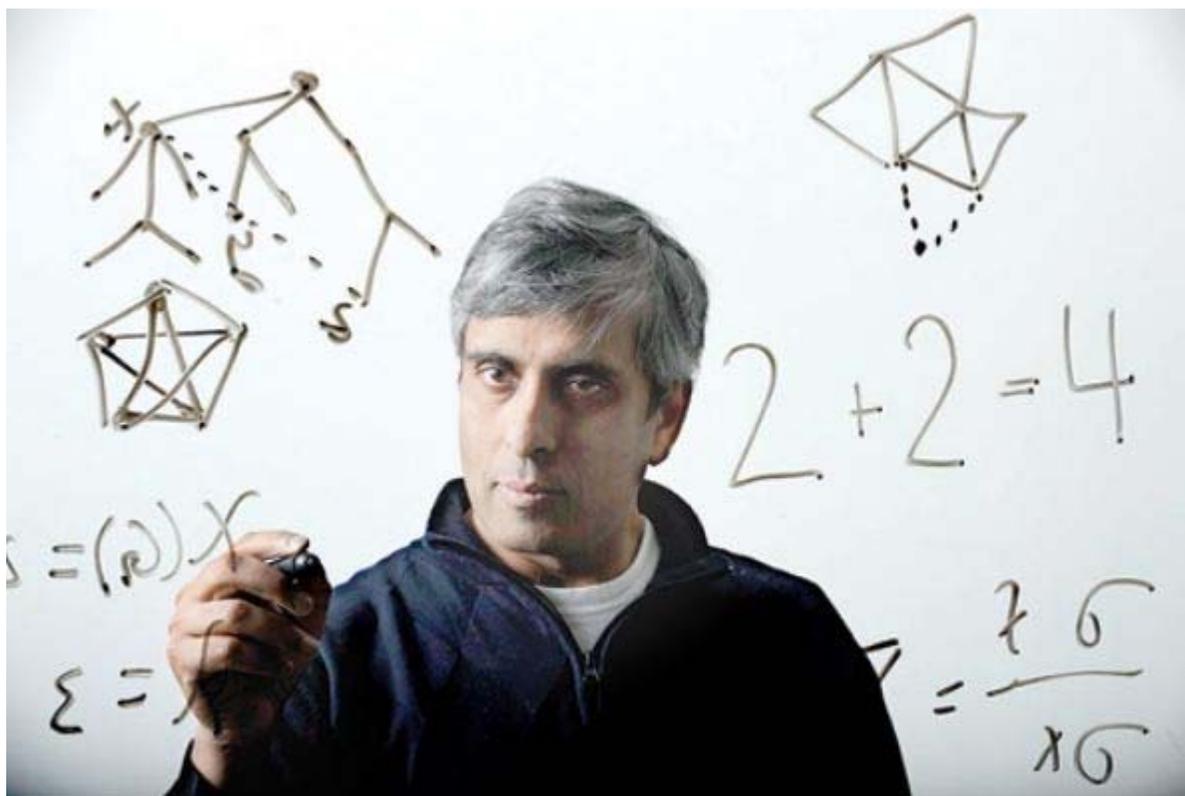


Dr Gupta answers your math questions

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Mathematician Arvind Gupta says parents should show children that math is everywhere in their world.

Photograph by: Glenn Baglo, Canwest News Service, Canwest News Service

Vancouver Sun readers ask our resident math expert the questions that vex them about teaching their children mathematics.

Bob Verner says:

Many of the students that I tutor at all grade levels lack recall of basic facts —often they revert to counting on their fingers or mentally counting to do basic computation. It would be useful to have a list of websites and activities (games, etc.) that would provide help to improve rote skills while at the same time having fun. I use a deck of cards (remove face cards and use Ace for one) and have all my students play card games (Rummy, Fish, etc.) where the pairs add up to 10 (instead of getting pairs of the same cards). I also time them to see how fast they can go through this deck with pairs adding to 10 (called TENZIES). It would be very helpful to have more information on activities and games for all grade levels.

Dear Bob,

The current B.C. curriculum does emphasize the use of mental math strategies to learn basic math facts so using fingers and Popsicle sticks to count is just fine. The good news is that there are loads of websites, books, and games that can be used concurrently to reinforce the learning that children are doing in the classroom and with tutors.

In terms of websites, www.kidsnumbers.com has a variety of online games to practice adding, subtraction, multiplication and division as well as time, fractions, algebra and money. Another site for practice games is www.playkidsgames.com; just click on “math games.” The site www.multiplication.com has a great section of games that will help to teach both multiplication and division. A whole host of fun activities are available at www.fun4thebrain.com.

If you are able to pay for books or games, check out the websites for “Box Cars and One Eyed Jacks” or “Making Math More Fun.” The books *Multiplication in a Flash* and *Memorize in Minutes: The Times Tables* use pictures and stories such as “skate x skate = sticky floor” with a picture of two skaters with gum on their skates and $8 \times 8 = 64$ at the top of the page. Remember that research shows that our brains remember things better when told in a story or song.

I hope this gives you some new ideas to use with your students, Bob.

Concerned Parents write:

My fourth grade daughter consistently gets a B in math in her Montessori school, but doesn't seem to be able to apply math in real life at all. She knows no math facts rote, and can't do a single digit division question without drawing a picture and apportioning out the dividend 'manually' — like dealing cards. In a board game, she counts the dots on the dice and can't make change — even with straight dollars, no cents. I told the teacher that we are very concerned but she says that we just don't understand and are expecting too much. We want to help her at home, but the school doesn't want us to give her math practice sheets because they call that 'drill and kill'. Are we way off base here? Should we just relax about this?

Dear Concerned Parents,

Kudos to you for being engaged in your child's schooling. Remember that there are many ways to help children practice math concepts without using practice sheets. Try focusing on one area of concern at a time. For addition, subtraction, multiplication and division, you can use dot stickers of one or two colours in different arrangements on paper plates. Flash these quickly and have your daughter try to visualize and remember the number that was on the plate. In the case of addition: three yellow and four blue make seven dots. As for making change, it sounds like you could have some fun playing store at home. Help your child to see that she can make change in different ways: by counting up from the cost to the given amount, or by subtracting the cost from her amount, or by using coin and bill denominations (10, 25, etc.) to add up from the cost to the given amount. Start with simpler questions and work your way to more complex situations as she gains confidence.

The Math Matters columns and online question area at www.vancouver.sun.com/math will continue to provide parents with websites and ideas for games and activities to develop the applied math skills that you want to support in your child. Perhaps check out my answer to Bob's question this week where I provided many websites that have fun math games for all ages.

I would also suggest maintaining a productive dialogue with your daughter's teacher. The B.C. government provides learning outcomes for mathematics in each grade which you could review with the teacher. If you have concerns that your child cannot do what is stated there then you can discuss the

philosophy of the particular school and classroom with regards to the learning outcomes expected. Then together you can decide if you need to further individualize her studies during math class at school. Good luck!

Dave Kennedy says:

Very happy to see your article. What about math help for adults — a lot of people have suddenly found themselves back at college and university and none of the math looks familiar — yikes! Are there any math programs, books or DVD's that you recommend that do not cost a fortune for people lost in the math wilderness?

Dear Dave,

This is a great time for adults to go “back to school” to learn math. If you are finding certain math concepts from your courses tough to grasp, try the fabulous video and voiced-over whiteboard lessons on sites like freemathhelp.com, or through a search on YouTube or MathaTube (Thank you to Sun reader Denz for that one). Other sites like math.com or coolmath.com have detailed text lessons using examples to guide you through a new concept. You can also find online tutoring services like ziizoo.com where you can choose your tutor by their qualifications, availability and hourly rate.

If you are taking a university or college level math course, and your faculty does not offer an online supplement to your class, try to find similar online course support materials provided by another Canadian university. The UBC Math Department has a great online supplement for its first year calculus class.

As for recommending books and DVDs, this would depend on what level of math you are taking and what topic you need help with. I recommend using the internet as much as possible to find the help you need — it's instant, often free, and topic specific.

Got a question of your own? Leave it in our soundoffs section below and Dr Gupta could answer it next week.

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