Ideas for parents to help children to practice their math skills

We can all support mathematics learning at home.
When students learn mathematics well, they are

- confident in their ability to do mathematics
- able to use mathematics to solve problems
- able to understand why mathematics works the way it does

Primary	Grade 1	Grade 2
Count Everything! Invite your child to count items like: ● forks, spoons, and plates on the table ● socks, towels, and shirts as you fold the laundry ● pets in the neighbourhood ● leaves, trees, and bugs as you go for a walk or play outside ● steps as you climb them	**Play Games that Involve Counting** Playing board games with number cubes (dice) and spinners, card games, dominoes, and counting games are wonderful opportunities to encourage your child to count in meaningful ways. At first, your child may count the dots on the game cubes (dice), but as they become familiar with the arrangements, you can encourage them to recognize the quantity of dots without counting.	**Count Coins** Count coins together. For example, if you count a collection of nickels together, practice counting by fives. Collections of dimes may also be used to count by tens.
Sing Songs, Repeat Rhymes, Read Books, and Recite Number Names Sing counting songs, say counting rhymes, read books about counting, and practice saying the number names in order. Don't forget to count forward and backward by ones!	**Play "I Spy" with Numbers** Play "I Spy" with numbers. Look for number symbols everywhere—in your home, in the neighbourhood, in the newspaper, on street signs, or in the grocery store. For example, say to your child, "I spy with my little eye the number 15." Encourage your child to look for and find the number 15.	**Order Objects** Use ordinal language (first, second, third, fourth...tenth) to describe the order of tasks, people, events, or objects. For example, the first person in line at the grocery store is wearing a red hat. The second person is wearing a green jacket. The third person...

Primary	Grade 1	Grade 2
Make Patterns with Everyday Objects Encourage your child to make simple repeating patterns with everyday objects such as blocks and toys, with colours and shapes, and with actions and sounds. For example, ask your child to make a movement pattern such as clap, stomp, clap, stomp, clap, stomp...	**Predict What Comes Next in a Pattern** Show your child a repeating pattern that you have created or found. Cover part of the pattern and ask your child to predict what will come next in the pattern.	**Solve Addition and Subtraction Problems** Ask your child to determine answers to addition and subtraction story problems that you encounter in your everyday life. For example, I need nine forks to set the table. I have three forks. How many more do I need?
Look for Patterns Everywhere Encourage your child to find simple repeating patterns everywhere. Patterns occur in quilts, baskets, fabrics, artwork, wallpaper, floor and wall tiles, dance, and in the natural world.	**Describe Patterns** After your child has found a repeating pattern, ask them to describe the pattern using words. Ask your child to describe the part of the pattern that repeats (the core). Repeating patterns occur in quilts, baskets, fabrics, artwork, wallpaper, floor and wall tiles, dance, and in the natural world.	**Practice Recalling Basic Addition Facts** Practice one set of basic addition facts at a time until your child has quick recall of that set of facts. For example, practice the "and one more" (+ 1) facts by asking your child "what's 1 more than 8, or what's 8 and 1 more?" Then, practice another set of facts, for example "and two more" (+ 2) facts. Join the two sets and practice them together. Continue this until your child is able to quickly recall all the basic addition facts.
Play with Water Provide your child with different containers to fill with water. Talk about which containers hold more water and which containers hold less water.	**Build and Play with Sand** When you go to the beach, bring along containers of different sizes and shapes for your child to fill with sand. Build a sandcastle together and talk about the shapes that you see. Talk about which containers hold more or less sand.	**Predict What Comes Next in a Pattern** Show your child a repeating pattern that you have created or found. Ask your child to predict what will come next in the pattern. Then, ask your child to predict the third term, or fifth term, or tenth term in the pattern.

Primary	Grade 1	Grade 2
Prepare Food and Cook Together Prepare food and cook with your child. Use the language of measurement as you cook. For example, talk about needing a bigger pan, more flour, a little less water, a little more cooking time, one more egg, etc.	**Play "Who's Taller?"** Invite your child to compare the heights of different family members or friends. Ask your child to determine who is taller. Put everyone in order from tallest to shortest. Invite your child to draw a picture to show the different heights of the family members or friends.	**Play with Patterns** Show your child a repeating pattern you have created using actions. Ask your child to show you the same repeating pattern using blocks, household objects, sounds, dance, or other actions.
Compare Objects Show your child an object and ask them to find another that • is longer or shorter • is almost the same length • is lighter or heavier • is bigger or smaller • holds more or less	**Play "Find My Mistake"** Have fun making statements about measurements that are incorrect. Ask your child to correct the statement and to explain their thinking. For example, say • Our cat is heavier than our sofa. • Our bathtub holds less water than this glass. • Your tongue is longer than your leg.	**Estimate** Invite your child to estimate the length of objects around the house. For example, ask your child to predict how many footsteps it will take to measure the length of a room or how many hands it will take to measure the length of a table. Use the language of estimation to describe the estimate, for example, the table is *about* 17 hands long.
Go on a 3-D Object Scavenger Hunt Encourage your child to look for different 3-D objects in the house and outside. For example, look for something that is shaped like a ball or look for something that is shaped like a can.	**Explore 3-D Objects** Gather a collection of empty containers and boxes. Ask your child to find out which of the objects roll, stack, or slide and to tell you about what they discover.	**Use the Calendar** Use the calendar to help organize special events, family outings, and school events. Talk about the days of the week, the months of the year, and the passage of time.

Primary	Grade 1	Grade 2
Blow Bubbles Blow bubbles and compare them. See who can make the biggest, smallest, longest, shortest, widest, or thinnest bubble.	**Play "What's the Same and What's Different?"** Encourage your child to talk about how two things are the same and how they are different. For example, ask your child to explain how a shoe and a sock are the same or how are they different. Ask your child to explain how a fork and a spoon are the same or how are they different.	**Solve Hidden Picture Puzzles** Solve hidden picture puzzles together. Many children's magazines contain hidden picture puzzles.
Build Structures Build structures with blocks, empty boxes, and containers. Let your child experiment with different ways to stack the blocks, empty boxes, or containers. Allow them to discover which objects work best for building and which ones don't.	**Build with Blocks** Show your child a 3-D object built with blocks. Ask your child to build that same object with blocks.	**Trace the Face** Trace the face of different 3-D objects, like cans and boxes, and notice the shape of that face. For example, if the face of a cube is traced, the shape that results is a square.
Do Jigsaw Puzzles Work together to complete jigsaw puzzles.	**Guess My Sorting Rule** Show your child a set of objects that you have sorted. Ask your child to try to guess your sorting rule.	**Track the Weather** Keep track of the weather each day and record it on the calendar. At the end of the month, count the number of days that had rain, were sunny, or had snow.

Primary	Grade 1	Grade 2
Draw Pictures Draw pictures and talk about the objects that you are drawing.		**Ask Questions** Use everyday events to ask questions about your child's life and experiences. This will help your child understand how to ask good questions. Questions might include • What is your favourite vegetable? • What is your favourite day of the week? • What book should we read tonight? • What games do you like when you play outdoors?

Grade 3	Grade 4	Grade 5
Pose Number Riddles Challenge your child to answer riddles about numbers. For example: • I have more than 333 toothpicks but fewer than 335. How many toothpicks do I have? (334) • I am thinking of a number. When I am counting by ones, it comes after 799. What's my number? (800) • I am thinking of a number. It has four hundreds, three tens, and five ones. What number am I thinking of? (435) Challenge your child to make up riddles for you to solve.	**Count Money** Count coins together to find their total. Encourage your child to record the total as a whole number expressed in cents and as a decimal number expressed in dollars. For example, if your child counted nickels and said the total was 85 cents, that could be written as 85¢ or as $0.85.	**Practice Recalling Basic Addition, Subtraction, and Multiplication Facts** Your child achieved quick recall of addition facts (up to 9 + 9) in grade 2, related subtraction facts (18 — 9) in grade 3, and multiplication facts (up to 9 x 9) in grade 4. Even though your child may already know them, practicing these basic facts is always a good idea. Play board games or games with cards or number cubes (dice) that require your child to practice basic facts or mental mathematics.

Grade 3	Grade 4	Grade 5
Practice Recalling Basic Addition and Subtraction Facts Continue to practice basic addition facts. Your child should have quick recall of those facts from grade 2. Even though your child may already know them, practicing these basic facts is always a good idea. Practice one set of basic subtraction facts at a time until your child has quick recall of that set of facts. For example, practice the "one less" (— 1) facts by asking your child "what's 1 less than 8?" Then, practice another set of facts, for example, the "two less" (— 2) facts. Join the two sets and practice them together. Continue this until your child is able to recall all of the basic subtraction facts.	**Play Games that Involve Money** Board games that involve counting money help your child practice this important skill. Playing store is another fun way to practice using and counting money.	**Practice Recalling Division Facts** Practice one set (a strategy) of basic division facts at a time until your child has quick recall of that set of facts. For example, practice the division facts involving 1. Then, practice another set of facts. Join the two sets and practice them together. Continue this until your child can quickly recall all the basic division facts.
Create Multiplication and Division Story Problems Talk about everyday items that come in groups of two (such as eyes, mittens, socks), groups of three (wheels on a tricycle, sides on a triangle), groups of four (tires on a car, sides on a square), or five (fingers on one hand, days in a school week). Use these everyday items to create multiplication and division story problems together. For example, if there are three dogs, how many eyes do they have? (Three groups of two eyes is six eyes.)	**Practice Recalling Basic Addition and Subtraction Facts** Your child achieved quick recall of basic addition facts up to 9 + 9 in grade 2, and the related subtraction facts in grade 3. Even though your child may already know them, practicing these basic facts is always a good idea.	**Play Card Games and Games with Number Cubes** Play games with cards or number cubes (dice) that require your child to practice basic facts or mental mathematics.

Grade 3	Grade 4	Grade 5
Play Pattern Games Tell your child a pattern rule, such as, "Start at 1 and add 2 each time." Have your child follow the rule and call out the pattern, "1, 3, 5, 7, 9... "	**Practice Recalling Multiplication Facts** Practice one set of basic multiplication facts at a time until your child has quick recall of that set of facts. For example, practice the multiplication facts involving 1. Then, practice another set of facts. Join the two sets and practice them together. Continue this until all the basic multiplication facts can be quickly recalled.	**Practice Mental Mathematics Strategies** Ask your child to write on recipe cards (or index cards) a series of mental mathematics questions they have been learning at school. Then have a "race" with your child to see who can correctly answer the questions first. If you don't know the mental mathematics strategy, invite your child to teach you.
Bake with Fractions Bake with your child and talk about the fractions used in recipes. Talk about $\frac{1}{2}$ cup of butter or $\frac{1}{4}$ cup of water.	**Budget Together** Show your child how you use a family budget to plan for purchases, to pay bills, and to track purchases.	**Be a Number Detective** Listen for ways that numbers are described in the media. Try to find examples when mistakes are made and then work together to correct them.
Extend Patterns Create an increasing or a decreasing number pattern and ask your child to continue your pattern. For example, if you say 135, 125, 115, 105, ... (counting backward by 10), your child continues the pattern with 95, 85, 75,...	**Prepare Food, Cook, and Bake Together** Bake with your child and talk about the fractions used in recipes. Use measuring cups and measuring spoons to measure ingredients needed for a recipe.	**Practice Estimating in the Real World** Estimate when you are shopping. For example, you might ask your child to explain if a $10 bill would cover the cost of buying two items, for example, a box of cereal for $3.98 and a salad for $6.59.

Grade 3	Grade 4	Grade 5
Estimate the Size of Household Objects Invite your child to estimate the length (in centimeters or meters) or the mass (in grams or kilograms) of objects around the house. For example, ask your child to predict how many meters long a room is or how many centimeters wide a table is. Describe it using the language of estimation, for example, the table is *about* 60 centimeters wide.	**Talk about Time** Talk about the time it takes to complete everyday tasks. Talk about seconds, minutes, hours, days, weeks, months, and years.	**Practice Sorting** Take turns sorting 3-D objects and invite your child to explain the sorting rules using words such as sides, edges, corners/vertices, and faces; parallel, intersecting, perpendicular, vertical, and horizontal; or cubes or other prisms, spheres, cones, cylinders, and pyramids.
Make a Monthly Calendar Work with your child to build and create their own monthly calendar. They will need to write the month, the days of the week in order, and the dates. Ask your child to fill in any special dates for that month, such as class trips and physical education days.	**Measure Household Objects** Measure (in centimetres or metres) the length, width, or distance around different household objects, such as a table.	**Practice Measuring** Estimate and measure ● the length, width, or distance around different household items in centimetres and metres ● the capacity of different containers in litres and millilitres ● the mass of objects around the house in grams and kilograms
Play Charades Invite your child to pretend they are inside a large 3-D object (cubes or other prisms, spheres, cones, cylinders, and pyramids) and get them to act out the shape.	**Read Clocks** Read the time on a clock. Read both analog (a clock with moving hands) and digital clocks (only numbers) and both 12-hour (1 pm, 2pm) and 24-hour (13:00, 14:00) clocks. Talk about minutes to and minutes after the hour when describing time.	**Look for Graphs** Look for graphs in magazines and newspapers. Notice the different kinds of graphs that are used. Talk about the information displayed on the graph.

Grade 3	Grade 4	Grade 5
Make Artwork Together Cut out a particular shape (for example, triangles) from construction paper. Use the triangles to create a work of art together.	**Work with Modelling Clay** Use modelling clay to create models of 3-D objects. For example, challenge your child to make a cube, rectangular prism, triangular prism, or cylinder from modelling clay.	**Talk about the Likelihood of Events Occurring** Talk about the likelihood /chance of certain events occurring. For example, is it more likely that we will have snow in January or July? Is it certain that Saturday will follow Friday? Is it unlikely that a coin will always land on heads if you toss it?
Find Answers to Questions Together Talk about and find the answers to questions that are of interest to your child. Model questioning, such as "I wonder if…," "How could we learn about…" Then, show your child how you find answers to questions that you have.	**Look for Symmetry in the World** Look for shapes in the environment that have symmetry (that means the shape can be divided into two halves that are mirror images of each other). Look for symmetry in wallpaper, pictures, and capital letters.	
	Look for Graphs Look for graphs in magazines and newspapers. Notice the different kinds of graphs that are used and talk about the information you see displayed.	

Grade 6	Grade 7	Grade 8
Talk About Graphs and Data Invite your child to discuss what kinds of information they can get from reading a bar graph, a pictograph, double bar graph, and line graph. Talk about the data that is displayed on them, how the data may have been collected, and how it is stored in databases.	**Find Examples of Percentages** Look for examples of situations where percentages are commonly used, such as a sale that offers 50% off. Mentally calculate prices after discounts, such as 50%, 25%, and 75%, have been applied.	**Prepare Food, Bake, and Cook Together** Invite your child to cook with you. Convert a recipe by halving or tripling it based on the number of people to be fed.
Play Games Involving Chance and Uncertainty Invite your child to toss a coin 25 times and record the results in a chart. Then, ask your child to flip the coin another 25 times and record the results. Ask them to compare and explain the results.	**Find Examples of Integers** Work together to find situations where positive and negative integers are used. For example • temperatures • golf scores above and below par • money situations involving owing money (debits or debts) and earning money (credits) • sports scores (goals for and goals against)	**Play Board Games** Board games that involve number cubes (dice), spinners, and money help your child practise this important mental mathematics skills.

Grade 6	Grade 7	Grade 8
Talk about Probability in the Media Invite your child to discuss how probability is used in the media. Ask your child to find examples of how probability is used to influence people in advertisements, the Internet, newspapers, and magazines.	**Go Through Grocery Flyers** Grocery flyers provide a wonderful opportunity to work with decimal numbers. There are many different tasks you can ask your child to complete using these flyers. For example, give your child a grocery store flyer and ask them to select any item for purchase. Ask them to estimate how much would it cost if they were going to purchase six of that same item. Ask your child to explain the strategy for estimation. Then, ask your child to determine the actual cost of six of that same item. Extend this to a specific dollar amount, such as $100, and ask your child how many items that they could purchase with this amount of money without going over.	**Go Through Grocery Flyers** Grocery flyers provide a wonderful opportunity to work with decimal numbers. There are many different tasks you can ask your child to complete using these flyers. For example, give your child a grocery store flyer and ask them to select any item for purchase. Ask them to estimate how much would it cost if they were going to purchase six of that same item. Ask your child to explain the strategy for estimation. Then, ask your child to determine the actual cost of six of that same item. Extend this to a specific dollar amount, such as $100, and ask your child how many items that they could purchase with this amount of money without going over.
Go on an Angles Scavenger Hunt Invite your child to find examples of acute, right, straight, and obtuse angles in your home and community. For example, the hands on a clock form different kinds of angles at various times of the day.		**Plan a Project Together** Ask your child to research and price a home renovation, gardening, or decorating project; a craft; a party or other event; or a trip. Consider the costs of the materials, for example, the paint (for the house, car, or boat), wallpaper, or flooring; the time needed; the measurements; and the budget needed.

Grade 6	Grade 7	Grade 8
Play Games with Patterns Play games with patterns. For example, Tell your child a pattern rule such as, "Start at 1 and add 2 each time." Have your child follow the rule and call out the pattern "1, 3, 5, 7, 9,..."		
Practice Basic Addition, Subtraction, Multiplication, and Division Facts Your child achieved quick recall of addition facts (up to 9 + 9) in grade 2, related subtraction facts (18 — 9) in grade 3, multiplication facts (up to 9 x 9) in grade 4, and related division facts (81 ÷ 9) in grade 5. Even though your child may already know these basic facts, practicing them is always a good idea. Play board games or games with cards or number cubes (dice) that require your child to practice basic facts or mental mathematics.		
Play "Are You Faster than a Calculator?" Play a game involving number cards or number cubes (dice). Roll two number cubes, or turn over two number cards. You must use a calculator to find the sum (or product) of the two numbers. Your child will try to recall the sum or product before you are able to get the answer on the calculator. If your child has quick recall of the basic facts, they should be faster than the calculator.		