



GETTING READY FOR GRADE 5! MATH



This year in Grade 4 mathematics learning was focused on the following areas:

- Reasoning about place value to 1,000,000
- Reasoning about fractions and operations with fractions
- Building, drawing, and analyzing shapes and their attributes

Next year in Grade 5 your child will continue to develop their mathematic skills by:

- Completing operations with fractions
- Extending understanding of place value to decimals and decimal operations
- Developing an understanding of volume

The following choice boards provide a sample of activities that your child might choose to do over the summer to reinforce and review concepts, begin to bridge new concepts for the following year, and keep their mathematical curiosity alive. Engagement in mathematics leads to more academic success, so giving students voice over how they do the work and choice over what work they do is crucial.

The choice boards are grouped by topic based on the reporting domains—Operations and Algebraic Thinking, Numbers and Operations in Base 10, Numbers and Operations with Fractions, Measurement and Data, Geometry, and Mathematical Practices. Have a conversation with your child about what areas they are interested in, what activities they would like to engage in, and what areas they would like to grow as a mathematician. Students are encouraged to revisit any activities they are interested in.

Try the tasks together and have fun thinking and working together.

- Remember every child can be a strong mathematician.
- Encourage your child to stick with a task even if it seems challenging.
- Listen carefully to how your child is thinking about math.
- If you see signs of frustration, leave the problem and return to it with fresh perspective later

Ask:

If your child is stuck and unsure how to begin...	While your child is working...	When your child has completed the problem and reflecting on the answer...
<ul style="list-style-type: none"> -What do you know? -What do you need to find out? -How might you begin? -What should you do first? 	<ul style="list-style-type: none"> -How can you organize your information? -Can you make a drawing to explain your thinking? -What do you need to do next? -Do you see any patterns? -Does this remind you of any other problems you've done? 	<ul style="list-style-type: none"> -Is your solution reasonable? -Can you convince me that your solution makes sense? What did you try that didn't work? -How do you know that your answer makes sense? -Do you think there is more than one answer? How could we find out?

Numbers in Base 10: Place value to 1,000,000

<p>Create your own 'Which one doesn't belong'. Write 4 different 6-digit numbers. Find a way that 1 number does not belong to the rest (For example, 135,321 is odd but the rest of the numbers are even). Create a reason for each number.</p>	<p>Choose a number below 1,000,000. Write down everything you know about that number. Ask your family members what else they know about the number.</p>	<p>The answer when you subtract a 5-digit number from another 5-digit number is 15, 249. What are some possible number sentences that would make this true?</p> <p style="text-align: center;">_____, _____ - _____, _____ = 15,249</p>
<p>Learn to count forwards and backwards by 1,000s up to 10,000 in a language you do NOT know. What patterns do you hear when you say the words?</p>	<p>Ask someone in your family to tell you 6 digits. How many different numbers do you think you could make? Write as many as you can.</p>	<p>Do the 1,000 exercise challenge! Choose 5-10 different exercises and decide how many of each you will do. The total must be exactly 1,000!</p>
<p>Paperclips are sold in sets of 500, 250, or 100. How many different ways can you buy exactly 1,000 paper clips?</p>	<p>The answer when you add a 6digit even number and another 6 digit even number is exactly 1,000,000. All the digits in each number are different. What are some possible number sentences that would make this true?</p>	<p>Find 4 numbers larger than 10,000 in a newspaper or in online articles. Put them in order from least to greatest. What is the difference between the smallest and the largest number?</p>

Operations and Algebraic Thinking: factors and multiples, solving multi-step problems

<p>The answer to a multiplication problem is 24 (or 36, 54, 72, 88). What are all the different number sentences it could be?</p>	<p>I multiplied 2 odd numbers and I got a product that was less than 30. What are all the possible number sentences</p>	<p>The answer to a division question is 3. What might the question be? How do you know? What else could it be?</p>
<p>Find something rectangular in your house. Calculate the area. What are other possible rectangle dimensions that have the same area?</p>	<p>Would you rather have two tables with 9 chairs and one table with 6 chairs -or- 4 tables with 5 chairs and 2 tables with 2 chairs at your birthday party? Why?</p>	<p>Create an original song to help you remember multiplication facts or the factors of a number. Perform it for your family!</p>
<p>Do you think there are there more prime numbers between 1 and 50, or composite numbers between composite numbers between 50 and 75? How do you know?</p>	<p>Write a story problem that requires multiplication and subtraction to solve. Pretend to be a teacher and teach them how to solve them using your favorite strategy.</p>	<p>Write a story problem that requires division and addition to solve. Pretend to be a teacher and teach them how to solve them using your favorite strategy.</p>

Number and Operations with Fractions: Operations with fractions, decimal notation

<p>Would you rather eat $\frac{1}{2}$ or $\frac{6}{6}$ of a plate of vegetables? Why? Write your own "Would you rather" fraction questions to ask your family.</p>	<p>Create your own 'Which one doesn't belong' with fractions. Find a way that 1 item does not belong to the rest (For example, $\frac{7}{12}$ does not belong because the top number is more than 5 and the rest have a top number less than 5). Create a reason for each fraction.</p>	<p>Add two fractions with denominators of 10 and 100 that equal ONE. What might the fractions be? Then write the addition sentence with the equivalent decimals.</p>
<p>Name five fractions that are not equivalent to $\frac{1}{2}$. Choose at least two and write a story problem.</p>	<p>Read Fraction Fun on Epic. Write your own fraction book!</p>	<p>Create number cards and a fraction game. Write down the rules and teach it to your family.</p>
<p>Subtract one fraction from another where both fractions have denominators of 10 and 100. The answer is ONE. What might the fractions be? Then write the subtraction sentence with the equivalent decimals.</p>	<p>Draw a square. Show at least five different ways to represent $\frac{1}{2}$. Show at least three different ways to represent $\frac{1}{4}$.</p>	<p>Plan a meal for your family. With an adult, make a list of the ingredients, go shopping, and then follow the recipes. Are there fractions in your recipes?</p>

Measurement and Data: Measurement and conversions, represent data, measuring angles

<p>Would you rather make \$1,500 by working every weekday for 3 weeks or make the same amount for working 2 days a week of 8 weeks. Why?</p>	<p>Would you rather do homework for 45 minutes Monday through Friday or do 10,500 seconds on the weekend? Why?</p>	<p>Write your own "Would you rather...?" questions involving money, time, or converting. Ask your family members to answer them. Make sure they give reasons!</p>
<p>Go on a Scavenger Hunt to find all the right angles in your room. The next day find all the acute angles in your room. The next day find all the obtuse angles in your room.</p>	<p>Identify, record and classify angles: acute (less than 90°), obtuse (greater than 90°), right (90°) in everyday things (buildings, bridges, furniture...).</p>	<p>Would you rather babysit for 5 hours every day for 5 days and make \$5 per hour or sell ice cream for 4 hours for 7 days and make \$4 per hour? Why?</p>
<p>Find 5 things in your house that are about 1 cm. What are they?</p> <p>What are 5 things that take you about 1 minutes to do?</p> <p>Find 5 things in your house that are about 1 kilogram. What are they?</p>	<p>Create a schedule for your day with times, activities, and how long it will take to complete each activity. The next day create a schedule for your family.</p>	<p>Find the area of a room in your house in meters. What would the area be in square centimeters? How do you know you're right?</p>

Geometry: Shapes and their attributes

<p>Draw 3 different triangles. List 2 ways they are all the same, list 2 ways they are all different.</p>	<p>Draw a right triangle. What might be the measures of the second and third angles? How do you know? Ask a family member what they think.</p>	<p>Find 'almost' shapes. Find things that are 'almost' a right triangle, an equilateral triangle, parallel lines, or perpendicular lines. Describe why they are NOT that shape.</p>
<p>Find at least 3 examples of symmetry in your kitchen.</p>	<p>Find 5 different rectangles in your room. Predict which shape has the greatest perimeter. Measure to find out. Were you correct? How do you know?</p>	<p>What English letters and numbers, Chinese characters, Korean characters, or other letters have 1 pair of parallel lines? Are there any that have two or three pairs of parallel lines?</p>
<p>Create a sign for the door to your bedroom using only triangles. Your parents must be able to read it!</p>	<p>How many different types of triangles can you make by folding a piece of paper? What is the largest triangle you can make by folding? How do you know? What is the smallest triangle you can make?</p>	<p>Draw a right triangle. What might be the measures of the second and third angles? How do you know? Ask a family member what they think.</p>

Mathematical Practices: Problem Solving, Modeling, Communicating Reasoning

<p>Gather two different items in your house. Name 3 ways that they are the same and 3 ways that they are different.</p>	<p>Create your own fun 'Which one doesn't belong'. Gather 4 different objects in your house. Find a way that 1 item does not belong to the rest (For example, the cookie does not belong because it is round and the other objects are square). Create a reason for each item. Ask your family to give reasons too!</p>	<p>Draw or take a picture of a building. What are all the different math questions you could ask? Ask another family member to think of 3 questions.</p>
<p>Draw a picture of yourself as a strong mathematician. Label what tools you need and write what you would do.</p>	<p>Write fun "Would you rather...?" number questions. For example "Would you rather have 13 large scoops of ice cream or 23 small scoops of ice cream? Why?" or "Would you rather have 10 minutes of free time at 9:00 and 15 minutes of free time at 10:00 OR 30 minutes of free time at 11:00? Why?"</p>	<p>Think of your favorite places at ISB (the playground, your classroom, the dome). From memory try to draw it and label as many parts as you can.</p>
<p>Create a number poster of important numbers in your life (your age, number of people in your family, your house numbers). Be sure to label what each number is!</p>	<p>Create a family workout based around a certain number up to 100. Have your family do the exercises with you. (For example if the number is 61 you could do 61 jumping jacks, 61 push ups, run for 61 seconds...)</p>	<p>Create activities for your family to do all based around a number. (For example if you choose 20 you might choose to have everyone read for 20 minutes, play outside for 20 minutes, eat 20 bites of food...)</p>