GETTING READY FOR GRADE 6!
MATH

-This year in Grade 5 mathematics learning was focused on the following areas:
  -Completing operations with fractions
  -Extending understanding of place value to decimals and decimal operations
  -Developing an understanding of volume

Next year in Grade 6 your child will continue to develop their mathematic skills by:
  -Solving ratio and rate problems
  -Extending understanding of multiplying and dividing fractions
  -Using variables in mathematical expressions
  -Thinking statistically

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...
-What do you know? -What do you need to find out? -How might you begin? -What should you do first?	-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?	-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 from the millions to the thousandths

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.	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.	The answer when you subtract a 5-digit number to the thousandths (ex: 23.789) and a 5-digit number to the thousandths is 15.243. What are some possible number sentences that would make this true? __ __ .__ __ __ - __ __.__ __ __ = 15.243
If you walk 10,000 steps a day, as recommended by doctors, how long would it take you to walk 1,000,000 steps? What if everyone in your family walked 10,000 steps? How long would it take for you to reach 1,000,000 total?	Ask someone in your family to tell you 6 digits. How many different numbers including 3 decimal values (to the thousandths) do you think you could make? Write as many as you can. Write the largest number you can and the smallest number you can.	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!
Would you rather eat 0.9 or 0.25 of a bowl of spinach? Why? Write your own "Would you rather...?" questions involving decimals. Ask your family to answer them.	The answer when you add a 6 digit even number and another 6 digit even number is exactly 1,000,000. All the digits in the 6-digit number are different. What are some possible number sentences that would make this true?	Find 4 numbers involving decimals 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?

Operations and Algebraic Thinking: write and interpret expressions

Write an equation using parentheses and all four operations with an answer of 25. What else could it be?	A 4 digit whole number divided by a 2 digit divisor has no remainder. The sum of the digits in the quotient is 9. What numbers might you have divided? What's another solution?	Create a word problem about summer that could be solved by dividing a three digit dividend by a 2 digit divisor. Pretend to be a teacher and teach your strategy to a family member.
Find something rectangular in your house. Calculate the area. What are other possible rectangle dimensions that have the same area? Find other things in your house that you think have a similar area. How do you know?	I bought 13 oranges in packs of 12 for $ 0.99 a pack. I threw away 16 rotten oranges. Then I sold the remaining oranges for $1.25 for a pack of 7. How much money (profit) did I make?	0.75 is the answer to a question using multiplication, division, addition, and subtraction. What could the question be? What else?
Express the number 50 in at least 25 different ways. Use all 4 operations (multiplication, division, addition, subtraction) and include fractions and decimals.	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.	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.

Number and Operations with Fractions: Operations with fractions		
Would you rather eat one-third of a half kilogram of chocolate or one-half of a quarter kilogram bag of your favorite food? Why? Write your own "Would you rather" fraction questions to ask your family.	Create your own 'Which one doesn't belong' with fractions. Find a way that 1 item does not belong to the rest (For example, 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.	Measure the biggest room in your house. What is the area? What would the area be if the room was 2/3 as big?
Create and solve two word problems involving multiplication of fractions and a mixed number. Then ask your family members to solve them. Did you solve them the same way?	Find examples of fractions in your house or outside your house. They can be numbers, pictures, or words. How many of the fractions are greater than 1? How many are less than 1?	Create number cards and a fraction game. Write down the rules and teach it to your family.
Subtract one mixed number fraction from another mixed number fraction with different denominators with an answer of 2 ½. What might the fractions be? Give a few possibilities.	The produce of two fractions with unlike denominators is less than ½. What might the two fractions be?	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?

Measurement and Data: Measurement and conversions, represent data, volume		
Would you rather eat one-third of a half kilogram of chocolate or one-half of a quarter kilogram bag of your favorite food? Why?	Would you rather do homework for 45 minutes Monday through Friday or do 10,500 seconds on the weekend? Why?	Write your own "Would you rather…?" questions involving money, time, or converting. Ask your family members to answer them. Make sure they give reasons!
Go on a Scavenger Hunt to find all the rectangular prisms in your bed room. Find he volume of the largest one and the smallest one. What is the difference?	Design a raised garden bed. (Look up pictures if you need) What would you plant? What are the dimensions of your raised garden bed and the what is the total volume? Bonus: what is the total volume in cubic centimeters and cubic meters?	What are all the different rectangular prisms you could make with a volume of 144? Draw as many as you can.
Imagine your bed was 10 times longer, 10 times wider, and 10 times taller. What would the dimensions and total volume be? Draw a picture of it with you for scale. Find something else in your house and make it 10 times longer in each dimension.	Imagine you could pack your entire family in a single box. What would the dimensions be so that you could all fit but still be close. What is the total volume of the box?	Find the area of the smallest room in your house in meters. What would the area be in square centimeters? How do you know you're right?

Geometry: Coordinate plane, classify shapes		
Would you rather get $98.00 a day for 2 weeks or 0.01 cent the first day, 0.02 cents the second day, 0.04 cents the third day, 0.08 cents the fourth day and so on? Are you surprised?	Keep track of the temperature for a week and plot it on the coordinate plane. What patterns do you notice? Can you try to write a rule for the line?	Find 'almost' shapes. Find things that are 'almost' different types of quadrilaterals (parallelogram, trapezoid, rectangle, rhombus, square, kite) . Describe why they are NOT that shape.
Do some research at a garden nearby. How many flowers/ trees/blades of grass are in one square meter. Plot on a coordinate plane how many would be in 2 square meters, 2 square meters, and so on. Draw the line the connect the points.	Create your own coordinate plane picture. Write the coordinate pairs for the shape and then see if a family member can recreate your picture on a blank coordinate plane.	Look out your bedroom window. What are all the different types of quadrilaterals you can see? Be as specific as possible and try to find more than just rectangles!
Create a sign for the door to your bedroom using only quadrilaterals. Make sure your parents can read it!	How many different types of quadrilaterals can you make by folding (no cutting!) a piece of paper? Try to make more than 1 kite, square, rectangle, rhombus, trapezoid, parallelogram, and a quadrilateral. Which was easiest? Which was hardest? Why?	Draw a right angle. How many different types of quadrilaterals can you draw with this right angle? Draw an obtuse angle. How many different types of quadrilaterals can you draw with this right angle? Draw an acute angle. How many different types of quadrilaterals can you draw with this right angle?

Mathematical Practices: Problem Solving, Modeling, Communicating Reasoning		
Gather two different items in your house. Name 3 ways that they are the same and 3 ways that they are different.	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!	Find a picture from a city you've been to. What are all the different math questions you could ask? Ask another family member to think of 3 questions.
Draw a picture of yourself as a strong mathematician. Label what tools you need and write what you would do.	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?"	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.
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!	Read the Guinness book of Records (or look online for world records) with your family. What are different examples of numbers you see? What records surprised you the most?	Create activities for your family to do all based around a decimal number. For example if you choose 6.5 you might try to blink at exactly 6.5 seconds, run/swim exactly 6.5 meters, take 6.5 bites of food.