Choice Board –Grade 6/7 Open Questions, Activities and Investigations

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| Big Ideas 🡪  Curricular Competencies | Mixed Numbers, Decimal Numbers and Percents | Flexibility with Decimals and Integers | Linear expressions and Graphs | Volume, Area, Perimeter and Angles; Circles | Data and Probability,  Including circle graphs |
| Reasoning and analyzing   * Connections * Estimates * Mental strategies * Technology * Model math in context | Choose three fractions you can show as decimal hundred thousandths. Explain how you know the decimals and fractions are equal. | Suppose you are dividing a seven-digit number by a two-digit number. What numbers would you find easy to divide? Explain your thinking. | Play [this game](https://www.mathsisfun.com/data/click-coordinate.html) and take screen shots or in some other way prove to your teacher you have mastered it! What level can you get to? | The diagram below shows the first 4 sections in the building of a walkway. Using a table of values or some other method, explain how you might determine the perimeter for any stage. What would the perimeter of the 10th step be? | Describe what 10 colored cubes you would put in a bag so that the probability of selecting a red one is high but not certain. |
| Understanding and solving   * Inquire and solve * Visualize * Multiple Strategies * Connection to place and Indigenous cultures | How could a number 0.❑❑❑ be greater than 0.❑❑❑❑? Explain using this [4 part answer sheet](http://blogs.sd41.bc.ca/math/files/2020/05/Assessment-Sheet.pdf). | Create a question that involves adding a fraction and a decimal number that might look difficult but is pretty easy to solve. Explain why it is easy. | Look at this pattern of triangles:  How many triangles in each row? How many in the 10th row? The 20th row? Describe how you know. | Go on an angle walk in your neighbourhood. Draw or take pictures to identify two or more examples of each type of angle (straight, acute, right, obtuse, reflex) and triangle (scalene, isosceles, equilateral, right, acute, obtuse). | Watch [this video](https://www.youtube.com/watch?v=7nr9rQpm2A4) about the mark and recapture method of counting wildlife. Try out this [Gizmo](https://www.explorelearning.com/index.cfm?method=cResource.dspView&ResourceID=261) to see how probability is used to estimate salmon populations. Design an experiment using materials at home to explain the idea of tagging and releasing fish. Make a video, podcast or write a story explaining your experiment. (Hint: goldfish crackers might be useful) |
| Communicating and representing   * Language * Explain and Justify * Concrete, Pictorial and Symbolic forms | Would you rather? https://i0.wp.com/www.wouldyourathermath.com/wp-content/uploads/2018/12/WYR-Shopping.jpg?fit=960%2C720&ssl=1  Use [this sheet](http://blogs.sd41.bc.ca/math/files/2020/05/Would-You-Rather.pdf) to explain and justify your reasoning. | The sum of two integers is four times their difference. What could the integers be? Explain your answer. | Consider the expression 6n –1. Use materials (ex. Toothpicks, blocks, sugar cubes) to represent the first three terms of the pattern created by the expression. Explain why you chose this representation. | Would you rather have two 25 cm square pizzas or one round one with a 35 cm diameter? Would your answer be different if you LOVED crust? Explain your answer using this [4 part answer sheet](http://blogs.sd41.bc.ca/math/files/2020/05/Assessment-Sheet.pdf). | Read about [how to construct a pie chart](https://www.math-only-math.com/construction-of-pie-chart.html). Then collect some information from your own life and construct an accurate pie chart. Write a paragraph describing the process you used. |
| Connecting and reflecting   * Connect concepts * Indigenous Perspectives | Amir said that to add two fractions, you can add the numerators to get the numerator of the sum and add the denominators to get the denominator of the sum. How can you show, using objects or pictures, that this is incorrect? | Consider how you might choose the [best cell phone](http://www.peterliljedahl.com/wp-content/uploads/NT-Cell-Phone-Plans.pdf) plan for yourself. | Ten people are attending a party. Each person shakes hands with every one else at the party. Find two different ways to find the total number of handshakes. Explain your thinking. | Listen to the story [Raven Steals the Light](https://www.youtube.com/watch?v=74Y38Oy4AM4). Build some paper boxes following [these instructions](http://blogs.sd41.bc.ca/math/files/2020/05/Bentwood-Boxes-6-and-7.docx). | Take a look at this video about the Indigenous game [Lahal.](https://indigenouseducation.comoxvalleyschools.ca/apps/pages/index.jsp?uREC_ID=1064876&type=d&pREC_ID=1357977) Read the game instructions [here](http://blogs.sd41.bc.ca/math/files/2020/05/Lahal.pdf) and then fill in [this sheet](http://blogs.sd41.bc.ca/math/files/2020/05/Lahal-tally-sheet.pdf) about probability. If you want a game that one person can play, look at [The Stick Game instead.](http://blogs.sd41.bc.ca/math/files/2020/05/The-Stick-Game.pdf) |
| Resources for teachers | CEMC’s [lesson plans](https://courseware.cemc.uwaterloo.ca/27) are great for Gr 7 topics | [Multiplying Decimals with Area Model](https://learnzillion.com/lesson_plans/6683-use-an-area-model-to-multiply-decimals-by-decimals/) | [Patterns and Algebraic Thinking](http://www.edugains.ca/resources/LearningMaterials/ContinuumConnection/PatternsAndAlgebraicModelling.pdf) | [Unit](http://www.goldbeltheritage.org/wp-content/uploads/2014/03/Bentwood-Box-Unit.pdf) for teachers based on Bentwood Boxes  CEMC on [Circles](https://courseware.cemc.uwaterloo.ca/27/95/assignments/893/0) | [Probability and Statistics from Edugains](http://www.edugains.ca/resourcesMath/CE/TIPS4Math/Grade7/15_Grade7_Probability_AODA.pdf) |