Choice Board –Grade 4/5 Open Questions, Activities and Investigations

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Big Ideas 🡪  Curricular Competencies | Fractions and Decimals | Computational fluency with ÷ and x | Patterns and Relations | Polygons, Perimeter and Area | Graphing and Probability |
| Reasoning and analyzing   * Connections * Estimates * Mental strategies * Technology * Model math in context | How could knowing that 2.15 – 0.83 = 1.32 help you solve other decimal subtraction questions? | Play this game of [Factors and Multiples.](https://nrich.maths.org/factorsandmultiples) Write or sketch a strategy you used to make the longest “chain”. | Try this [Picture Perfect](https://teacher.desmos.com/activitybuilder/custom/57e04d6fc8c899190bdbb450) activity on Desmos. It is also available en Francais as [Image Parfait](https://teacher.desmos.com/activitybuilder/custom/5ac642d314f1910a872b688d).  Teachers can set up their classes for Desmos. | Look around your home and yard. Find some objects and measure their perimeter and calculate their area. Draw a model and show all work. What object had the largest perimeter? The largest area? If you don’t have a ruler or tape measure, use your arm or foot lengths to measure! | Imagine someone has put 10 marbles, 4 different colours in a bag. If you can only draw out one at a time, then replace, how might you use graphing and probability to figure out how many in the bag? Carry out and record your own experiment. |
| Understanding and solving   * Inquire and solve * Visualize * Multiple Strategies * Connection to place and Indigenous cultures | Model (either by drawing or in some other visual way) three fractions with a numerator of 2. How are they the same? How are they different? | Would you use the same strategies to multiply 16 x 36 and 40 x 25? Explain your thinking | Make a [cardboard loom](https://www.youtube.com/watch?v=AWLIy-Um7_0) weaving. Create 2 or 3 different patterns using ideas from [here](https://www.heddels.com/2017/12/7-weave-patterns-to-know-twill-basketweave-satin-and-more/). Also, learn about Coast Salish weaving by watching this [video](https://www.youtube.com/watch?v=wT2E6UjCn44). When you have completed your weaving, make a short diary or video explaining your patterns. | Make a drawing or model to answer this question. What has a greater area, a rectangle with a length of 9 and a perimeter of 22 OR a rectangle with a length of 5 and a perimeter of 20? | Choose some pieces to make your own version of the Metis [Plum Seed](http://aboriginalperspectives.uregina.ca/workshops/workshop2010/plumseedsgame.shtml) game. Play, either alone or against someone, until you reach 11 points. Make a graph of the number of times you make each score (0, 1 or 2 pts). What kind of graph is most useful? How will you label it? |
| Communicating and representing   * Language * Explain and Justify * Concrete, Pictorial and Symbolic forms | Write instructions for your classmates to teach them how to subtract numbers with decimal tenths or hundredths. | Describe three different ways to estimate 417÷3. | Look at the first four steps in the pattern above. How many triangles will be in the 10th step? The 20th step? How do you know? | This challenge has two parts: a) Construct 3 shapes with the same area but different perimeters; then b) Construct 3 shapes with the same perimeter but different areas. Which ones were your favourite to construct? Which ones surprised you? | What is more likely to happen? Rolling 3 dice and getting 3 different numbers? Or flipping 3 coins and getting all the same (heads OR tails)? Explain your reasoning. |
| Connecting and reflecting   * Connect concepts * Indigenous Perspectives | Is it possible to fill in the denominators so that the two fractions below are equivalent?  and  How could the two be equivalent? | “Adnan needs to equally distribute 168 cans of soup to 8 shelters in the city. How many  cans will each shelter get?”  “The cans come in cases of 8. How many cases will Adnan need in order to have 168  cans of soup?”  Answer these questions using the 4 part sheet [here](http://blogs.sd41.bc.ca/math/files/2020/05/Assessment-Sheet.pdf). What is the same? What is different? | Try these number patterns [here](http://blogs.sd41.bc.ca/math/files/2020/05/Patterns-Grade5.pdf). \*This is challenging. | Would you rather have a cabin that has a length of 8 m and a perimeter of 28 m or one that has a length of 6 m and a perimeter of 36 m? Fill out [this sheet](http://blogs.sd41.bc.ca/math/files/2020/05/Would-You-Rather.pdf) to explain. | Design a probability game using a story as described [here](http://blogs.sd41.bc.ca/math/files/2020/05/A-Game-of-Chance.docx).  Info for teachers [here](https://curriculum.gov.bc.ca/sites/curriculum.gov.bc.ca/files/contributed-resources/Creating%20a%20Probability%20Game.pdf). |
| Resources for teachers | NCTM [Equivalent Fractions](https://www.nctm.org/Classroom-Resources/Illuminations/Interactives/Equivalent-Fractions/)  Alberta guide to [Adding and Subtracting Decimals](http://www.learnalberta.ca/content/kes/pdf/or_cf_math_num_c_05_adddec.pdf) | [Ontario multiplication and division guide](http://eworkshop.on.ca/edu/resources/guides/NSN_vol_3_Multiplication.pdf) | CEMC [Guide to Patterns](https://www.cemc.uwaterloo.ca/resources/invitations-to-math/Patterns-Grade5.pdf) | [Perimeter](https://www.youtube.com/watch?v=AAY1bsazcgM) from Math Antics | Manitoba [Teachers’ Guide](https://www.edu.gov.mb.ca/k12/cur/math/support_gr4/statistics.pdf)  [Probability](https://www.mathsisfun.com/data/probability.html) from Math Is Fun  [Graphing](https://www.math-salamanders.com/bar-graphs-4th-grade.html) from Math Salamandars |