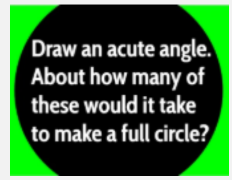
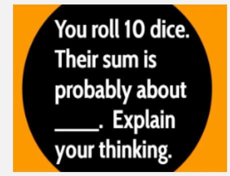
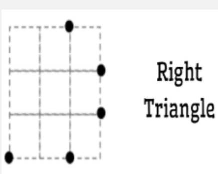
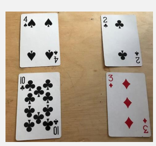
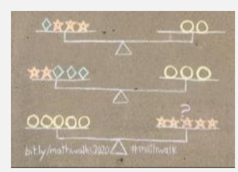
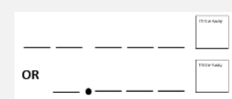
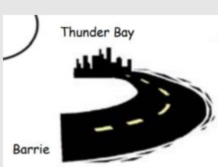
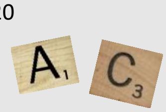
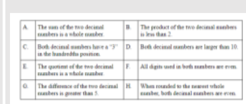
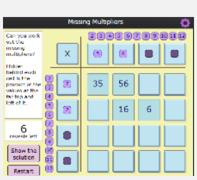
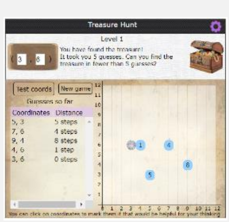
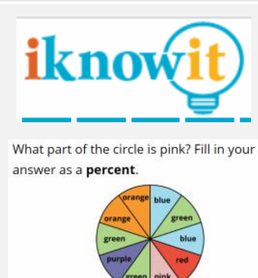
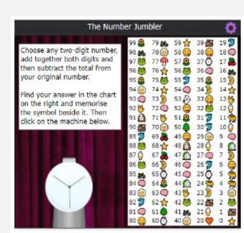
Math 4 - 6 Activities Menu K

Instructions: Each day, choose from the options below.
Choose as many or as few as you have time for.

Curriculum Connections

Creating Futures, Leading and Learning for All

Upper Canada District School Board

	A	B	C	D	E
Estimation	The Estimation activities below are from Thinking Mathematically, by Mark Chubb Click the image for a larger view				
					
Talking about Math	All images for Talking about Math are from IM Talking Math Created / Complied by Kristin Gray Click on each image for prompts and questions.				
					
Activities / Games	Zukei Puzzles 	Closest to: Comparing Fractions 	Estimate the number of jumping jacks you can complete in one minute. Investigate! 	Can You Balance It? 	Build the Biggest 
Problems	Finding Travel Times 	If 100 water balloons cost $20, how much would ten water balloons cost? How much would fifteen water balloons cost? 	If A=1,B=2,C=3 and so on with Z=26, then identify at least five words that have a product between 50 and 500 when multiplying the values of the letters in the word together. (ex. **FACT**: **F**(6) **A**(1)**C**(3)**T**(20) =6X1X3X20 =360 	Menu Math Decimal Operations 	Robin wants to begin watching a movie at 7:15 p.m. If the movie is 95 minutes long, will he be able to watch the entire movie before 9:00 p.m.? Explain why or why not.
Technology	Missing Multipliers 	Treasure Hunt 		Scooter Quest 	The Number Jumbler 

 Please click on this icon, wherever you see it, to access Indigenous content.

Choice Board Background Information:

- ✓ Choice boards were created to provide flexibility in learning at home;
- ✓ Boards were planned for divisions: K-3, 4-6, 7-8 for open, individualized learning;
- ✓ Planned with recognition that parents may currently hold various roles at home;
- ✓ Designed to enhance the materials provided by the Ministry;
- ✓ Experiential learning focus with accessible materials at home;
- ✓ Low/No tech options;
- ✓ Accessible on mobile devices.

Choice Boards - Parents Can:

- ✓ Choose as many or as few learning opportunities as desired;
- ✓ Follow the days of the week or be flexible in using the choice boards;
- ✓ Be confident that the learning is based in curriculum;
- ✓ Engage other children in the home in common experiential learning (i.e., baking, reading, playing math games, being active together);
- ✓ Click on the links provided for further learning and sample questions to ask;
- ✓ Have fun!

UPPER CANADA District School Board

Explanatory Notes: LEARN AT HOME CHOICE BOARDS FOR PARENTS AND EDUCATORS

Creating Futures, Leading and Learning for All

Choice Board Activities Provide:

- ✓ Clear connections to curriculum expectations and process skills;
- ✓ Open activities with options to individualize learning;
- ✓ Accessibility (many require little to no technology);
- ✓ Math – focus on numeracy skills;
- ✓ Literacy – focus on reading, writing, oral language and media literacy;
- ✓ French learning opportunities;
- ✓ Health and Physical Well-Being;
- ✓ Opportunities to foster connections within the household;
- ✓ Focus on conversation and thinking.

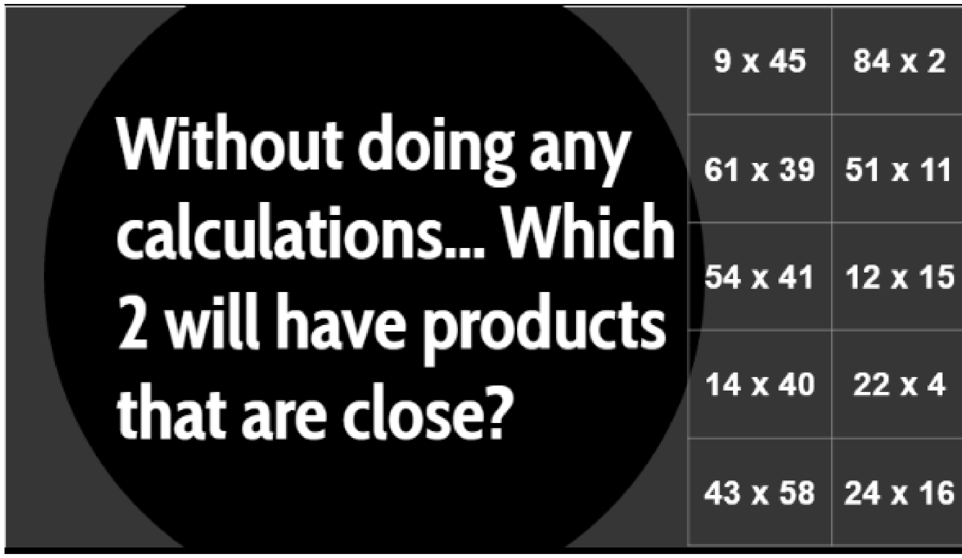
Choice Boards - Teachers Can:

- ✓ Create classroom-based choice boards for students while they are learning at home;
- ✓ Incorporate ideas from the choice boards into teaching practices, daily and weekly planning;
- ✓ Explore and incorporate new resources into classroom learning;
- ✓ Engage students and families in virtually sharing learning with one another;
- ✓ Expand on activities in order to provide individualized learning opportunities;
- ✓ Incorporate other UCDSB resources (i.e., Math Tool, VLC, links) to extend student learning.

Estimation

Task A:

Why did you pick the products you did?



Task B:

I know the product is between these two numbers because ….

Task C:

The strategy I used was …

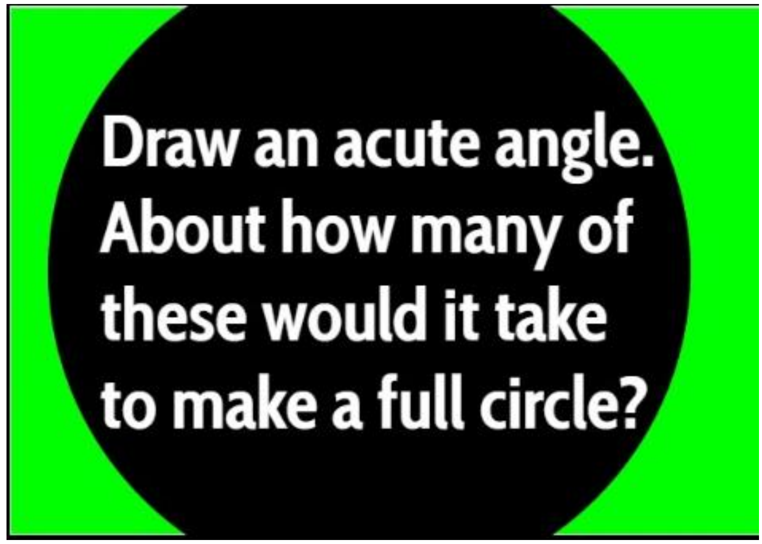
I know my solution makes sense because …

Estimation Continued:

Task D:

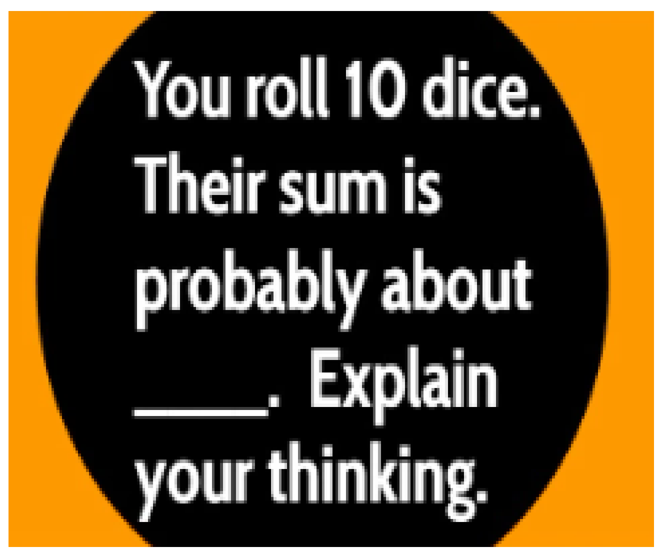
How did you come up with your estimate?

Can you verify your estimate?



Task E:

How did you decide on your estimate?
Investigate and compare your estimate to actual results.



Talking about Math

Talking Math

Task A: How many oranges do you see? How do you see them?

Generally, there is between $\frac{1}{4}$ and $\frac{1}{3}$ cup of juice in one orange.

About how much juice would half an orange produce?

How much juice could all the oranges in the picture produce?

How many oranges would you need to make orange juice for your family for a week?

Task B: African Elephants

Tell a mathematical story about the picture.

A baby elephant typically weighs about 200 pounds. What are three possible weights for an elephant whose weight would round to 200 pounds?

If an adult female elephant is about 30 times heavier than a baby elephant. What are some possible weights for a female elephant? How do you know?

An African forest elephant's tusks grow about 17 cm each year. If an elephant lies to be 65 years old, about how long would their tusks be?

If the elephant's tusks were 375 cm long, how old would the elephant likely be? How do you know?

Talking about Math Part 2

Talking Math

Task C: What you notice and wonder about this picture?

If there are 18 rows of umbrellas. How many umbrellas are there altogether?

Elena wants to copy this umbrella pattern for a party. She bought 128 umbrellas. How many rows of umbrellas will she have?

There are 10 streets that have this umbrella pattern. How many umbrellas will there be all together? What if there were 100 streets? 1000 streets?

Task D: What do you notice?
What do you wonder?

This game is called Skeeball. In this game, each player rolls a ball down the lane and the ball hops into one of the numbered holes. The number the ball goes into is the amount of points the player gets. A round of Skeeball involves rolling 5 balls .

If you play 2 rounds of Skeeball, what are 5 possible scores you could have?

A player plays 4 rounds of Skeebal. The total score is 2 680. What are the possible scores for each round?

Talking about Math Part 3

Talking Math

Task 3: What words can you spell with the tiles on the table?

How many points is each word worth?

Each game tile is a square inch. If you put all the tiles together to make a figure, what would its area be? What might this figure look like? What would its perimeter be?

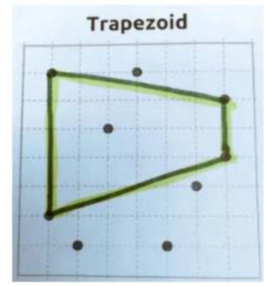
In the word “LAW”, which letters have a line of symmetry? Which do not? How do you know?

Challenge: Can you come up with a word game to play with your family? Decide on a scoring system. What letters will you have the most of? The least of? If letters have point values, which ones score the most? Which would score the least?

Zukei Puzzles

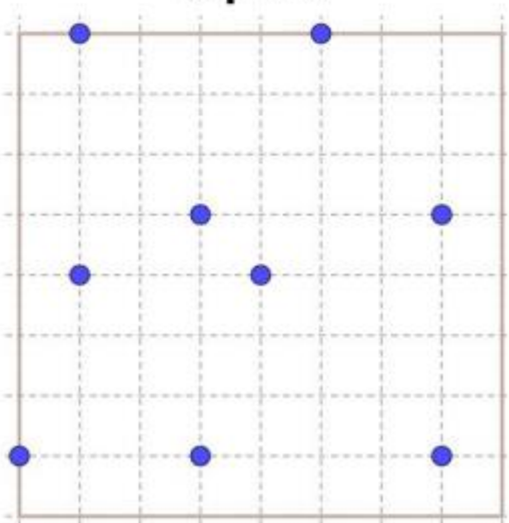
Created by Mark Chubb, @MarkChubb3
https://buildingmathematicians.wordpress.com/2018/03/08/zukei-puzzles/

Instructions: Each puzzle is made up of several dots. Some of these dots will be used as vertices of the shape named above the puzzle. For example, the image below shows a trapezoid made of 4 of the dots. The remaining dots are inconsequential to the puzzle, essentially they are used as distractors.

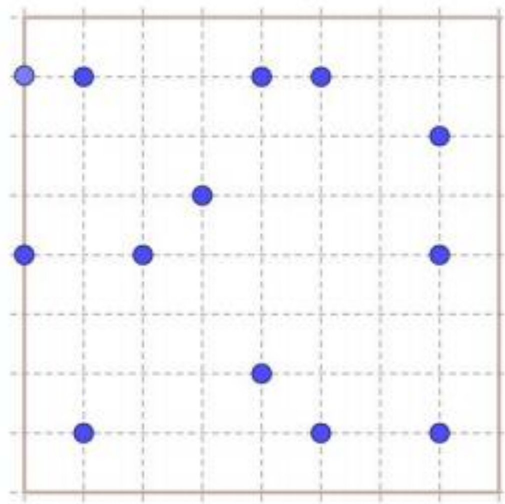


Try These!

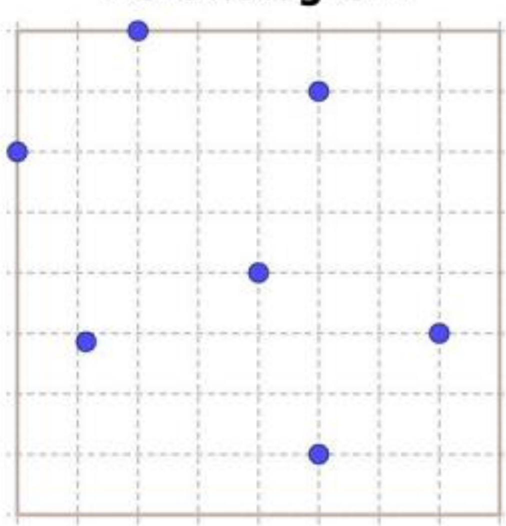
Square



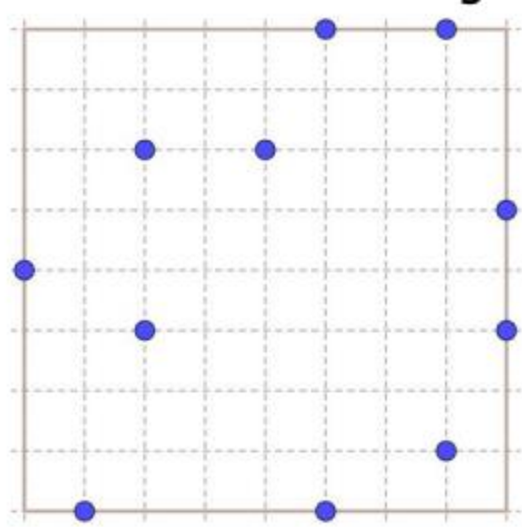
Rectangle



Parallelogram



Acute Isosceles Triangle



Find more Zukei Puzzles **here**

Closest to: Comparing Fractions

Purpose: The purpose of this game is to engage in a discussion of comparing fractions of different numerators and denominators.

Required Materials:

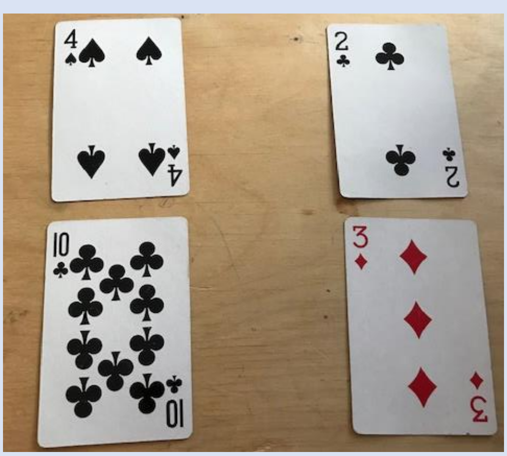
- ❑ At least two players
- ❑ A deck of cards with the face cards removed

Instructions:

1. Start by setting the target number to zero.
2. The player that can make the smallest fraction (closest to zero) will win the hand.
3. Deal each player 3 cards.
4. Players select two of their cards to create a fraction. One card for the numerator. One card for the denominator.
5. Players go around and show their hands, and they discuss who has the fraction closest to zero and why.
6. The player with the lowest fraction collects everyone's cards as points and sets them aside.
7. Deal out three cards to everyone again and repeat.

Change it up:

- ❑ Pick a different target number, like 1 or $\frac{1}{2}$



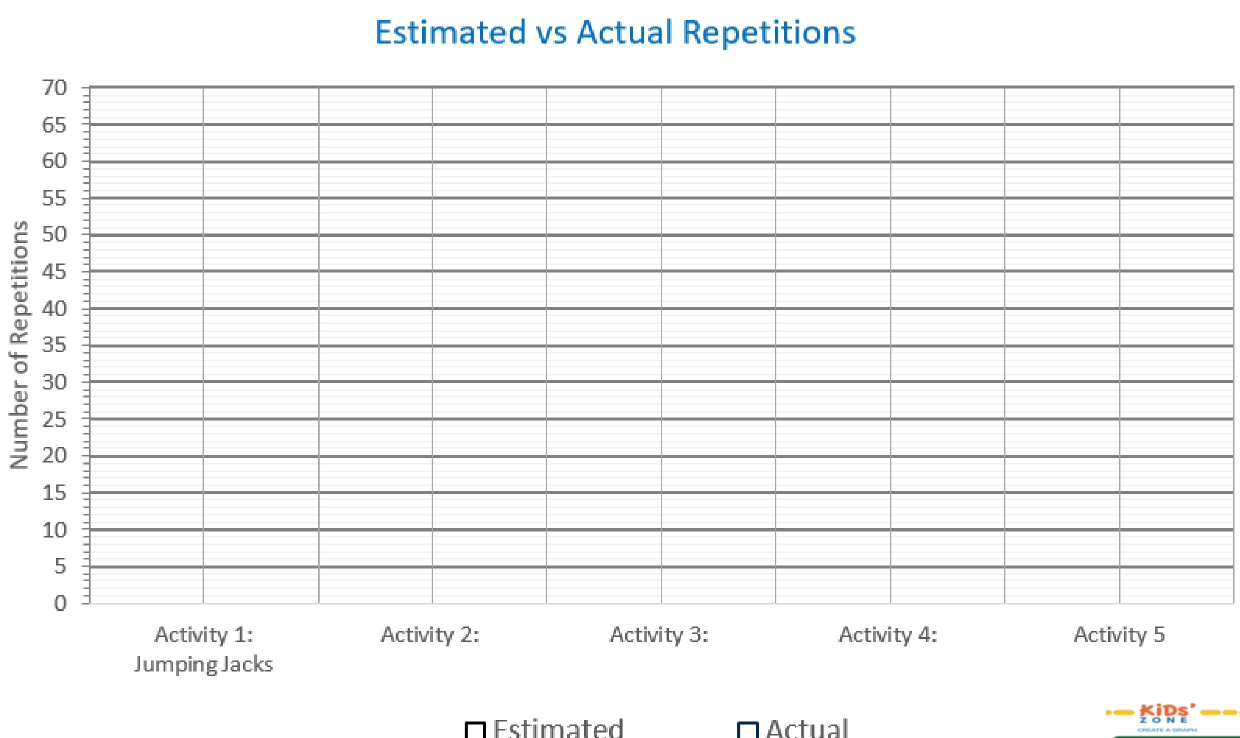
Example:
Player 1: I have four tenths. I think it is closest to zero.
Plyer 2: I have two thirds. I think yours is closest to zero too. I know this because four tenths is less than one half and mine is greater than one half.

Fitness Fun

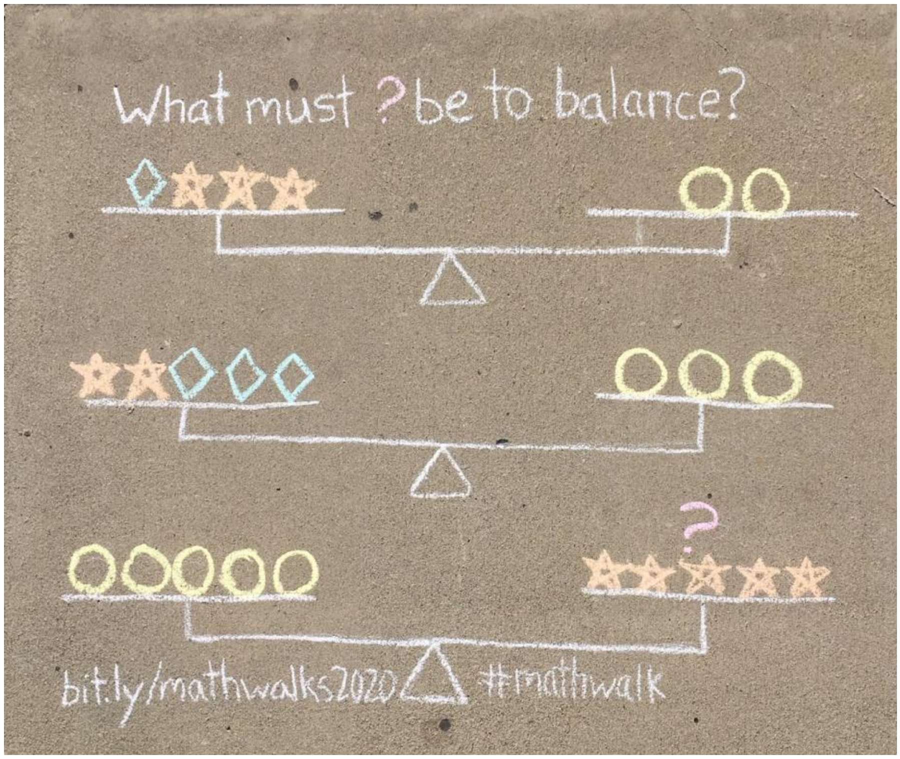
Estimate the number of jumping jacks you can complete in one minute. Investigate!

Repeat with other movements and record your estimated results vs. actual results in the table below. Construct a double bar graph that represents your data.

Fitness Activity	Estimated Results	Actual Results
Jumping Jacks		



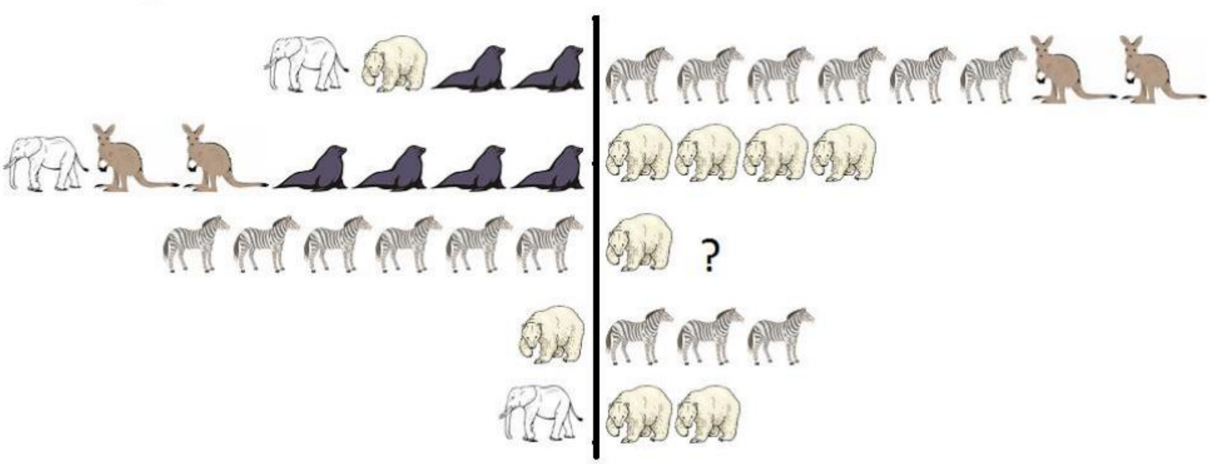
Can You Balance It?



Challenge:

Problem Solving: Noah's Ark **Name**____________________

Mr. Noah wants his Ark to sail along on an even keel. The ark is divided down the middle, and on each deck the animals on the left exactly balance those on the right – all but the third deck. Can you figure out how many SEALS are needed in place of the question mark so that they (and the bear) will exactly balance the six zebras?



https://ispeakmath.files.wordpress.com/2014/03/noahs-arc-ps.pdf

Build the Biggest

____ ____ ____ ____ ____

Throw Away

OR

____ ● ____ ____ ____

Throw Away

Players: at least 2

Materials: a die per person, paper

Object: build the biggest number possible

How to Play:

- Players each draw a game board like the ones above. To practice whole numbers, use the top image. To practice decimals use the second image.
- Each player rolls their die and decides where to place the digit in their number.
- Once placed, a digit cannot be moved.
- The throw away box is used to discard a digit that a player doesn't want to use to build their number.
- Players continue rolling the dice and placing digits until their game board is filled.
- Players read their numbers out loud and the largest number wins.

Change it Up:

- Use more or fewer digits
- Try to build the smallest number possible
- Roll only one die, each player must use the same numbers

Home Connections
Math Activities

Finding Travel Times

Have your child solve the following problem in a way that makes sense to him or her.

1. The distance from Barrie to Thunder Bay is 1275km. How long would it take to travel this distance by car if you travel at an average speed of 85km per hour?
2. Determine the approximate time it would take to travel by car between two cities of your choice.

Multiplication and division are inverse operations. Multiplication involves combining groups of equal size to create a whole, whereas division invoves separating the whole into equal groups.

Let's Talk About It

- How was your strategy the same or different in answering the two questions?
- If you were taking the trip what else would you take into consideration that might change the amount of time it would take to arrive at your destination?

https://www.mathies.ca/files/Number%20Sense%20and%20Numeration%20Grade%206.pdf

Interesting question, calculating the cost of water balloons. Sometimes the cost is a bit higher than expected, though.

Watch the attached video to understand how Indigenous peoples might not have the luxury of playing with water balloons.

Indigenous Water Crisis

Decimal Operations Menu Task:

Created by: Dave Martin.
Collected at: natbanting.com/menu-math & lapageadage.com/menu-math

Build as *few* pairs of decimal numbers as possible to satisfy each constraint at least once.

A.	The sum of the two decimal numbers is a whole number.	B.	The product of the two decimal numbers is less than 2.
C.	Both decimal numbers have a “3” in the hundredths position.	D.	Both decimal numbers are larger than 10.
E.	The quotient of the two decimal numbers is a whole number.	F.	All digits used in both numbers are even.
G.	The difference of the two decimal numbers is greater than 5.	H.	When rounded to the nearest whole number, both decimal numbers are even.

Which constraints pair nicely?

Which constraints cannot be paired?

Is it possible to solve in 2, 3, or 4 pairs of decimal numbers?

Describe how and why you built each pair of decimal numbers.

Be sure to identify which pair satisfies which constraints.

Explore the potential of Menu Math.
More information, including the inspiration behind the tasks, can be found at Nat Bantings website http://natbanting.com/menu-math/

Grades 4 – 6: Curriculum Continuum

Note: highlighted expectations are addressed in this menu

	Grade 4	Grade 5	Grade 6
Process Skills	❑ Problem Solving ❑ Reasoning and Proving ❑ Reflecting	❑ Selecting Tools and Computational Strategies ❑ Connecting	❑ Representing ❑ Communicating
Number Sense and Numeration	❑ read, represent, compare, and order whole numbers to 10 000, decimal numbers to tenths, and simple fractions, and represent money amounts to $100 ❑ demonstrate an understanding of magnitude by counting forward and backwards by 0.1 and by fractional amounts ❑ solve problems involving the addition, subtraction, multiplication, and division of single-and multi-digit whole numbers, and involving the addition and subtraction of decimal numbers to tenths and money amounts, using a variety of strategies ❑ demonstrate an understanding of proportional reasoning by investigating whole-number unit rates	❑ read, represent, compare, and order whole numbers to 100 000, decimal numbers to hundredths, proper and improper fractions, andmixed numbers ❑ demonstrate an understanding of magnitude by counting forward and backwards by 0.01 ❑ solve problems involving the multiplication and division of multi-digit whole numbers, and involving the addition and subtraction of decimal numbers to hundredths, using a variety of strategies; ❑ demonstrate an understanding of proportional reasoning by investigating whole-number rates.	❑ read, represent, compare, and order whole numbers to 1 000 000, decimal numbers to thousandths, proper and improper fractions, and mixed numbers ❑ solve problems involving the multiplication and division of whole numbers, and the addition and subtraction of decimal numbers to thousandths, using a variety of strategies ❑ demonstrate an understanding of relationships involving percent, ratio, and unit rate
Patterning and Algebra	❑ describe, extend, and create a variety of numeric and geometric patterns, make predictions related to the patterns, and investigate repeating patterns involving reflections; ❑ demonstrate an understanding of equality between pairs of expressions, using addition, subtraction, and multiplication	❑ determine, through investigation using a table of values, relationships in growing and shrinking patterns, and investigate repeating patterns involving translations; ❑ demonstrate, through investigation, an understanding of the use of variables in equations.	❑ describe and represent relationships in growing and shrinking patterns (where the terms are whole numbers), and investigate repeating patterns involving rotations; ❑ use variables in simple algebraic expressions and equations to describe relationships.
Measurement	❑ estimate, measure, and record length, perimeter, area, mass, capacity, volume, elapsed time, using a variety of strategies ❑ determine the relationships among units and measurable attributes, including the area and perimeter of rectangles.	❑ estimate, measure and represent time intervals to the nearest second estimate and determine elapsed time, with and without using a time line, given the durations of events expressed in minutes, hours, days, weeks, months, or years ❑ measure and record temperatures to determine and represent temperature changes over time ❑ estimate and measure the perimeter and area of regular and irregular polygons, using a variety of tools and strategies.	❑ estimate, measure, and record quantities, using the metric measurement system; ❑ determine the relationships among units and measurable attributes, including the area of a parallelogram, the area of a triangle, and the volume of a triangular prism.
Geometry and Spatial Sense	❑ identify quadrilaterals and three-dimensional figures and classify them by their geometric properties, and compare various angles to benchmarks; ❑ construct three-dimensional figures, using two-dimensional shapes; ❑ identify and describe the location of an object, using a grid map, and reflect two-dimensional shapes	❑ identify and classify two-dimensional shapes by side and angle properties, and compare and sort three-dimensional figures; ❑ identify and construct nets of prisms and pyramids; ❑ identify and describe the location of an object, using the cardinal directions, and translate two-dimensional shapes	❑ classify and construct polygons and angles; ❑ sketch three-dimensional figures, and construct three-dimensional figures from drawings; ❑ describe location in the first quadrant of a coordinate system, and rotate two-dimensional shapes
Data Management and Probability	❑ collect and organize discrete primary data and display the data using charts and graphs, including stem-and-leaf plots and double bar graphs ❑ read, describe, and interpret primary data and secondary data presented in charts and graphs, including stem-and-leaf plots and double bar graphs ❑ predict the results of a simple probability experiment, then conduct the experiment and compare the prediction to the results	❑ collect and organize discrete or continuous primary data and secondary data and display the data using charts and graphs, including broken-line graphs ❑ read, describe, and interpret primary data and secondary data presented in charts and graphs, including broken-line graphs ❑ represent as a fraction the probability that a specific outcome will occur in a simple probability experiment, using systematic lists and area models.	❑ collect and organize discrete or continuous primary data and secondary data and display the data using charts and graphs, including continuous line graphs; ❑ read, describe, and interpret data, and explain relationships between sets of data; ❑ determine the theoretical probability of an outcome in a probability experiment and use it to predict the frequency of the outcome.