Unit Plan - Gr. 6/7 Data Management and Probability- Term 3

Grade 6 OEs and SEs

OEs:

- determine the theoretical probability of an outcome in a probability experiment,and use it to predict the frequency of the outcome.

SEs:

- express theoretical probability as a ratio of the number of favourable outcomes to the total number of possible outcomes, where all outcomes are equally likely (e.g., the theoretical probability of rolling an odd number on a six-sided number cube because,of six equally likely outcomes, 3/6 only three are favourable – that is,the odd numbers 1,3,5);
- represent the probability of an event (i.e., the likelihood that the event will occur), using a value from the range of 0 (never happens or impossible) to 1 (always happens or certain);

–predict the frequency of an outcome of a simple probability experiment or game,by calculating and using the theoretical probability of that outcome (e.g.,"The theoretical probability of spinning red is 1/4 since there are four different-coloured areas that are equal. If I spin my spinner 100 times,I predict that red should come up about 25 times."). (Sample problem:Create a spinner that has rotational symmetry. Predict how often the spinner will land on the same sector after 25 spins. Perform the experiment and compare the prediction to the results.).

Summative Task 1

Demonstrate understanding of probability in EQAO question.

Grade 7 OEs and SEs

OE's

- compare experimental probabilities with the theoretical probability of an outcome involving two independent events.

SE's

- research and report on real-world applications of probabilities expressed in fraction, decimal,and percent form (e.g.,lotteries, batting averages,weather forecasts, elections);

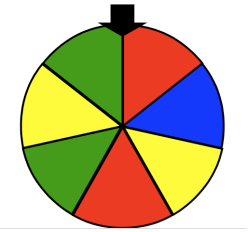
–make predictions about a population when given a probability (Sample problem:The probability that a fish caught in Lake Goodfish is a bass is 29%. Predict how many bass will be caught in a fishing derby there,if 500 fish are caught.);

–perform a simple probability experiment involving two independent events,and compare the experimental probability with the theoretical probability of a spe- cific outcome (Sample problem:Place 1 red counter and 1 blue counter in an opaque bag. Draw a counter,replace it, shake the bag,and draw again. Compare the theoretical and experimental probabilities of drawing a red counter 2 times in a row)

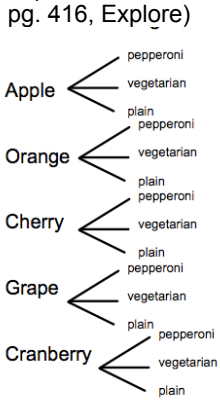
–represent in a variety of ways (e.g.,tree diagrams,tables,models,systematic lists) all the possible outcomes of a probability experiment involving two independent events (i.e.,one event does not affect the other event),and determine the theoretical probability of a specific outcome involving

two independent events (Sample problem:What is the probability of rolling a 4 and spinning red,when you roll a number cube and spin a spinner that is equally divided into four different colours?)

Summative Task 1 Demonstrate understanding of probability in EQAO Question.

Day	Problem/Checkpoint	Intent
1 WAAAAC	Warm-up: Jamar and Yvonne are playing a game with this spinner. Jamar wins a point if the pointer lands on green or blue. Yvonne wins a point if the pointer lands on red or yellow. Is this a fair game? Explain how you know. (MMS (Gr. 6, pg. 411 #2)  Activity: Suppose you put counters in a bag. Someone will draw 1 counter from it. Describe with pictures or words, the counters you would put in the bag for each situation. Explain how you decided how many counters of each colour to use. Red is certain to be drawn. Red and blue are equally likely to be drawn. Green is more likely than red to be drawn, but less likely than yellow. Blue is likely, but not certain, to be drawn. (MMS Gr. 6- pg. 411 #3) Consolidation: *-explain the probability solution using math terminology: likely, unlikely, certain, probable, never, less liequally likely* *Number Lines- on SmartBoard 0-never impossible, 1 is certain or always* Homework: Suppose you put 15 jellybeans in a bag. A friend will draw 1 jellybean from it. Draw the jellybeans you would like to put in the bag for each situation. - Red is more likely than green to be drawn but less likely than blue. - Yellow and orange are equally likely to be drawn. (MMS HB Gr. 6 pg. 157 #2)	*-get students thinking about math terminology: likely, unlikely, certain, probable, never, less likely, equally likely*

Day	Problem/Checkpoint	Intent
2 WAAAAC	Warm-up: What is the theoretical probability of tossing red? (Record your answer as a percent, ratio, and fraction) Predict and then calculate the experimental probability of tossing red by performing the tossing 10 times. Record your results. Does your theoretical probability equal your experimental probability? Activity: Create a spinner that has rotational symmetry. Predict how often the spinner will land on the same sector after 25 spins. Perform the experiment and compare the prediction to the results. (Ontario Curriculum) Consolidation: Difference between theoretical and experimental probability. Homework: Flip It Activity (Probability and Statistics pg. 32)	*Theoretical and Experimental Probability*
3 Checkpoint	8 Keenan places 3 green marbles, 4 yellow marbles and 1 blue marble in a bag. Keenan then adds 1 green marble and 1 yellow marble to the bag. Does the probability that Keenan will randomly choose a yellow marble increase, decrease or stay the same? Circle one: Increases Decreases Stays the same Justify your answer.	

Day	Problem/Checkpoint	Intent
4	Warm Up: For his party, Jordan buys juice boxes and slices of pizza. He buys equal amounts of apple, orange, cherry, grape, and cranberry juice. He also buys equal numbers of pepperoni, vegetarian, and plain pizza slices. How many different combinations of one juice and one pizza slice can Jordan's guests have? (MMS Gr. 6 pg. 416, Explore)  Possible Combinations Apple-Pepperoni Apple- Vegetarian Apple- Plain Warm Up #2- Ramon's class is preparing for an all day hike. Each student will make a small bag of trail mix for the hike. To make the mix, students must choose one ingredient from each of the three lists. How many different kinds of trail mix can Ramon make? List A: coconut, oat flakes, puffed rice List B: raisins, dried apricots List C: chocolate chips, sunflower seeds (MMS, Gr. 6. Pg. 417 Connect) Activity: Jean is buying a new car. She can choose from 5 paint colours- black, blue, silver, red, or gold- and two upholstery colours- grey or black. List all the possible combinations of paint and upholstery colours using a tree diagram. Suppose Jean was to choose two colours by pointing at lists without looking. What is the probability she would end up with a silver car with black upholstery? (MMS Gr. 6, pg. 419 #4) Consolidation: demonstrate an understanding of how to make a tree diagram to calculate possible outcomes. Use this information to calculate the probability of each outcome. Homework: Neil is choosing a track suit. The sweatshirts come in navy, red, white, and grey. The track pants come in white, grey, and navy. Use a tree diagram to show all the different outfits Neil can buy. What fraction of the outfits would have matching tops and pants? (MMS, Gr. 6, pg. 426 #4)	*Using tree diagram to find out combinations/ outcomes.*

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5	Warm-up: Teacher Directed: Suppose a family has two children. Draw a tree diagram to illustrate the possible combinations of the genders of the two children. When we toss a coin, there are two possible outcomes. When we toss a coin twice, there are four possible outcomes. (Show is a tree diagram) Activity: 1) Jim has to choose an outfit. His choices are black, grey or navy. His sweater choices are red, beige, white, or yellow. (Hint: use B for black and G for grey, and so on.) a) Draw a tree diagram to display all the possible outfits. b) How many outfits have either black pants or a white sweater? c) How many outfits do not have black pants or do not have a white sweater? d) How many outfits have a black sweater? (Grade 7 Text p.g. 409 #5) Homework: A test has 3 true (T) or False (F) questions. Complete the tree diagram to show the possible outcomes for answering all 3 questions. (Gr. 7 MMS HW Book Pg. 227 #5)	*Using Tree Diagrams to Calculate Probabilities*

Day	Problem/Checkpoint	Intent
6	Warm-up: Vijay has a tub of 500 plastic jungle animals. Suppose he chooses an animal without looking. There is a 10% chance he will pick a giraffe. How many giraffes are in the tub? Show how you know. (Math Workbook Grade 6 p.g.159 #3) Activity: The probability that a fish caught in Lake Goodfish is a bass is 29%. Predict how many bass will be caught in a fishing derby there, if 500 fish are caught. (Math Curriculum Documents p.g. 108) Consolidation: How to calculate the population when given the probability. Bansho Homework: Lizzy has a jar of 300 jelly beans. Suppose she chooses a jelly bean without looking. There is a 15% chance she will pick a red jelly bean. How many red jelly beans are in the jar? Show how you know.	*Make predictions about a population when given a probability.*

Day	Problem/Checkpoint	Intent
7 Summative Assessment	EQAO Question 9 The faces of a number cube are labelled 1, 2, 2, 3, 4 and 5. The number cube is rolled 114 times. • How many times would you expect the number 2 to appear? Justify your answer.	*Assessment of knowledge.*