LESSON PLANS: ONTARIO
Grade 6: Data Management and Probability
Introduction to Probability

45 MINS

powered by **Mathletics**

Overall Curriculum Expectations:

- Represent as a fraction the probability that a specific outcome will occur in a simple probability experiment, using systematic lists and area models.

Specific Curriculum Expectations:

- Determine and represent all the possible outcomes in a simple probability experiment (e.g., when tossing a coin, the possible outcomes are heads and tails), using systematic lists and area models.
- Represent, using a common fraction, the probability that an event will occur in simple games and probability experiments.

Introduction to Lesson   10 MINS

What Is Probability:

- Take a few minutes to begin a discussion around probability.
- Create a KWL chart with students to determine what they already know about probability and what they would like to learn.
- On the interactive whiteboard or individually, look through Concept Search.
- Log in to
        Teacher Console > Demonstrations > Concept Search.
- Suggested terms to search are probability, chance, random, spinner. Add these words to your math word wall or math journal.
- You can also look up the terms in the Animated Math Dictionary for a specific definition.

ITEMS NEEDED

- ✔ Interactive whiteboard
- ✔ Mathletics teacher login
- ✔ Computers/tablets
- ✔ Spinners
- ✔ Die
- ✔ Chart paper
- ✔ Markers
- ✔ Coins

ASSESSMENTS

- ✔ Observations
- ✔ Participation
- ✔ Probability questions (index cards)
- ✔ Math journals
- ✔ Collect eBook handouts for assessment.

ACCOMMODATIONS/ MODIFICATIONS

- ✔ Ability groups
- ✔ Encourage students to use manipulatives for probability.
- ✔ Limit/modify the number of questions required.
- ✔ Have a teacher-led centre. Scaffold student learning.
- ✔ Allow students to work in a grade level above or below in Rainforest Maths.

EXTENSION OF LEARNING

- ✔ Curriculum activities
- ✔ During science, have students determine the outcomes of an experiment.
- ✔ Have students create tree diagrams during language arts.

## The Lesson   🕐 20 MINS

Problem Solving

• To begin having students think about possible outcomes, start with a combinations Problem Solving Game, **Demonstrations > Problem Solving > Combinations > I-scream Lady game.**

• Students should take turns coming up to the interactive whiteboard and determining a possible combination. At the end, ask students: How many different combinations are there? If all the ice cream cones were in a freezer and I pulled one out, what would be my chances of having one with chocolate? Mango? How would we represent this in a fraction? How else could we organize this data?

• You can also try the "Monkey Matters"game under Data in Problem Solving. This will introduce students to a tree diagram and how to record possible outcomes using this method.

Probability Games (Centres)

o **Centre 1—Spinners:** Have students complete page 6 of **eBook > Grade 6 > Chance and Probability.** Give students spinners, or have them create their own. Students should use these manipulatives to help answer the questions. Have students glue these sheets into their math notebooks.

o **Centre 2—Roll the Dice:** Have students complete page 7 of the **eBook > Grade 6 > Chance and Probability**. Students can do a combination of any of the questions on this page or all questions. Give students chart paper to re-create one of the questions, showing a table they created with their expected and actual outcomes. Students should work with partners for this task, and each partnership should have 2 dice.

o **Centre 3—"Rainforest Maths":** Display "Rainforest Maths" on the interactive whiteboard. Log in to the **Teacher Console > Demonstrations > Rainforest Maths > Grade 6 > Probability.** Have students work together at this centre to complete the interactive problems. Students will have a chance to explore dice probability, spinners, and tree diagrams. After centres are completed, have one student from each group teach the other students what their group did and the strategies they used to determine the possible outcomes.
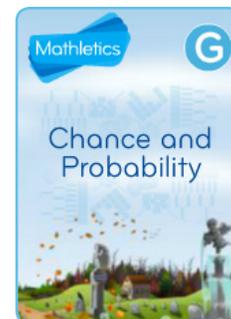
Consolidating the lesson   🕐 15 MINS

• **What Are the Chances?**
Have students complete their own probability question on an index card. Using elbow partners, give students the sentence starter, "What are the chances…." Students should think about when they would see/use probability in real life. Partners should determine a question to ask another group. Collect questions to solve next class (e. g., What are the chances of running into a girl in our classroom?). Students could then determine the odds of running into a girl out of the whole school or class.