INSTRUCTIONS FOR USING REMOTE LEARNING PROJECTS

These materials were developed with the intention of easing the transition between in-class and temporary remote learning. Learning experiences are aligned with curricular outcomes and assessment tools have been included with each project.

Note:

- 1. The teacher either sends a link to the appropriate project or sends the document itself.
- 2. The teacher ensures that parents/caregivers receive any required school supplies (bin with pencils, markers, paper, etc.).
- 3. The teacher reassures parents/caregivers that communication will be maintained between home and school.
- 4. Parents/caregivers may access additional resources at:
 - My Learning at Home (<u>www.edu.gov.mb.ca/k12/mylearning</u>)
 - My Child in School (<u>www.edu.gov.mb.ca/k12/mychild/index.html</u>)

PROJECT OVERVIEW						
Grade:	5					
Main Subject:	Mathematics					
Big Idea:	Probability involves the use of mathematics to describe the level of certainty that an event will occur.					
Title:	tle: PROBABILITY					
Strand:	Statistics and Probability					
Duration:	Approximately 2–3 weeks					
Materials:	Internet Accessible Device (if available), paper, pencil or non-permanent surface (personal white board with dry erase markers), paperclip, coin, plastic/paper cup, and dice. Links to resources can be found in the notes section. Instructions for the slides can be found below. The slides can also be transferred to Google Slides to offer more interaction. Hands-on manipulatives are ideal as significant learning occurs when students can build and visualize different representations of mathematics. Websites containing virtual manipulatives are suggested. If a specific platform is used for delivering online instruction (i.e. Seesaw, Google Classroom), asynchronous tasks can be uploaded there.					
Short Description:	The project is meant as a complete unit covering all the outcomes for Grade 5 in the Manitoba curriculum. The goal is to develop a deeper understanding of probability. The activities are problem-based (such as the context of whether a game is fair or not) and set up as science experiments.					

LEARNING OUTCOMES

Kindergarten to Grade 8 Mathematics: Manitoba Curriculum Framework of Outcomes 2013

Mathematics: <u>www.edu.gov.mb.ca/k12/cur/essentials/docs/glance_kto9_math.pdf</u> 5-SP.3; 5-SP.4

ASSESSMENT													
LANGUAGE ARTS			MATHEMATICS		SCIENCE			SOCIAL STUDIES					
COMP. Listening & Viewing	COMP. Reading	COMM. Speaking & Represent.	COMM. Writing	Critical Thinking	Knowledge and Understanding	Mental Math & Estimation	Problem Solving	Knowledge and Understanding	Scientific Inquiry Process	Design Process & Problem Solving	Knowledge and Understanding	Research and Communication	Critical Thinking and Citizenship
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LEARNING EXPERIENCES AND ASSESSMENT

These slides are meant as a complete unit covering all the outcomes for Grade 5 in the Manitoba curriculum. The goal was to develop a deeper understanding of probability. The activities are problem-based (such as the context of whether a game is fair or not) and set up as science experiments. (*See note on next page about students recording their work as a science experiment.) They use simple hands-on materials and are suitable for being done at school or at home.

These slides cover the outcomes in Grade 5 but can be used for introductory activities for other grade levels.



Image Source: https://i.stack.imgur.com/kctVd.png

Some other things to note:

- Almost all of the activities can be done independently. (Students sometimes have to take on the role of both Player A and Player B.)
- If these activities are being done online, students can play with a partner and go into a breakout room to do so.
- Grade 5 is the first time probability is introduced in the curriculum. The outcomes in Grade 5 are focussed on using the language of probability and then using it when doing experiments.
- Fractions are embedded in the Grade 5 activities as much as possible. For Grade 6 and up, the idea of how fractions, decimals, and percent are connected is reinforced.
- Consideration was also given to scaffolding concepts.
- All the activities can used as assessment tools. The last activity is meant to be used for assessment.

*SUGGESTION about how students record their work:

Each activity has the same four parts as a science experiment:

- a) Problem (Students record the question.)
- b) Prediction (Students make their prediction.)
- c) Experiment (Students make the chart, list, etc., that is shown and record their results.)
- d) Comparing results to the prediction (Students make comparisons and give possible suggestions as to why they got those certain results.)

Students can follow this same format in recording their work for each activity to make it easy and consistent.



Source of Image: <u>corregir-letra.png</u> (442×328) (orientacionandujar.es)

Grade 5 (Level 1)

Here is the outline of what's in the slides:

Slide #	What It's About
2	List of What You'll Learn in this Unit
3	What is Probability?
4	Why Is It Important?
5-6	A Probability Line
7	Activity 1: Probability Line
8	How Is Doing Probability Activities Like a Science Experiment?
9	Activity 2a: Cup Drop
10	Activity 2b: Cup Drop from a Different Height
11-12	Predicting Weather
13	Activity 4a: Spinner A
14	Activity 4b: Spinner B
15	Wheel of Fortune video clip
16-17	Activity 5a: Wheel of Fortune
18-19	Activity 5b: Wheel of Fortune in Italy
20	Activity 6: The Game of PIG
21	Probability Photo Story (Assessment activity)
22	Answers: Wheel of Fortune - Slide 16 Activity 5a
23	Answers: Wheel of Fortune- Slide 19 Activity 5b

APPENDIX (PRINTABLE SUPPORT MATERIALS INCLUDING ASSESSMENT)

Grade 5: Probability.pptx Grade 5: Probability Rubric.docx

Probability Rubric								
Student:	Basic descriptors to help guide your formative assessments.							
Basic descriptors to help guide your formative assessments. Full details of the student achievement profiles can be found here: <u>Mental Math and Estimation</u> <u>Knowledge and Understanding</u> <u>Problem Solving</u>	Requires considerable ongoing teacher support.	Requires occasional teacher or peer support.	Accurate, clear, and uses appropriate strategies and procedures. Requires occasional prompting for clarification.	Accurate, clear, flexible, consistent, and efficient. Justifies and explains reasoning clearly and completely using accurate math vocabulary.				
	Limited	Basic	Good	Very Good/Excellent				
Tracking student data throughout these learning experiences allows the teacher to make an informed assessment about a student's level of achievement of these outcomes.								
 5.SP.3 Describe the likelihood of a single outcome occurring, using words such as impossible possible certain [C, CN, PS, R] 								
 5.SP.4Compare the likelihood of two possible outcomes occurring, using words such as less likely equally likely more likely [C, CN, PS, R] 								

Suggested Codes for daily record keeping purposes:

- I Knowledge has been demonstrated individually
- H Used when knowledge has been demonstrated individually, but with help from the teacher or a peer
- G Used when knowledge has been demonstrated within a group
- X Used when a question has been attempted but answered incorrectly
- N Used when a question has not been attempted

Adapted from: Liljedahl, P. (2021). *Building thinking classrooms in mathematics, grades K-12: 14 teaching practices for enhancing learning*. Thousand Oaks, CA: Corwin Press Inc.