

Important Concepts . . .

Preview Review



Mathematics Grade 5 TEACHER KEY

**W3 - Lesson 5: Chance and
Probability**

Important Concepts of Grade 5 Mathematics

W1 - Lesson 1	Number Sense Numbers 0 to 100 000
W1 - Lesson 2	Exploring Proper Fractions
W1 - Lesson 3	Exploring Decimals
W1 - Lesson 4	Numbers With Up to 2 Decimal Places
W1 - Lesson 5	Multiplication
W1 - Quiz	
W2 - Lesson 1	Division
W2 - Lesson 2	Collecting Data and Analyzing Patterns
W2 - Lesson 3	Estimating and Taking Measurements
W2 - Lesson 4	Perimeter and Area Measurements
W2 - Lesson 5	Metric Measurements
W2 - Quiz	
W3 - Lesson 1	Volume, Capacity, Mass, and Time
W3 - Lesson 2	2-D Shapes and 3-D Objects
W3 - Lesson 3	Transformations
W3 - Lesson 4	Statistics and Probability
W3 - Lesson 5	Chance and Probability
W3 - Quiz	

Materials Required

Protractor
Ruler
Calculator

**A textbook is not
needed.**

**This is a stand-alone
course.**

Mathematics Grade 5

Version 5

Preview/Review W3 - Lesson 5 TEACHER KEY

Publisher: Alberta Distance Learning Centre

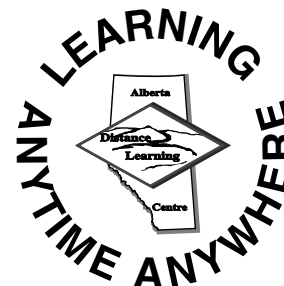
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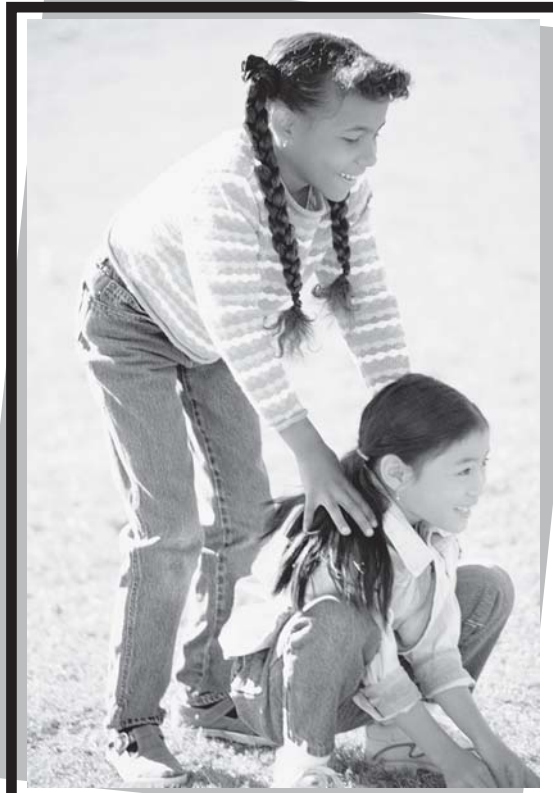
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Preview/Review Concepts for Grade Five Mathematics

TEACHER KEY



***W3 - Lesson 5:
Chance and Probability***

OBJECTIVES

By the end of this lesson, you should

- understand the nature of probability
- learn the terms used in probability
- conduct a probability experiment

A decorative border of pencils surrounds the text. At the top, three pencils are arranged horizontally. On the left, two pencils are arranged vertically. On the right, two pencils are arranged vertically. At the bottom, three pencils are arranged horizontally. In the bottom right corner, there is a pencil holder containing several pencils.

Glossary of Terms

Data:	information gathered and analyzed
Event:	a result that is of note in a discussion of probability
Fair event:	a situation in which either outcome is equally likely to happen
Frequency:	the number of times something happens or occurs
Improbable event:	a situation in which an event or outcome is unlikely to happen
Population:	an entire group of people (or things) for which information is required
Probable event:	a situation in which an outcome is likely but not certain
Probability:	the chance of something happening



Random:

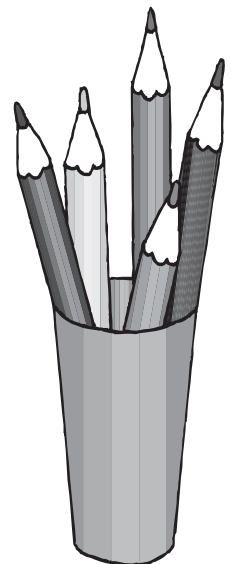
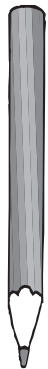
not specifically chosen; happens by chance

Sample:

a selection of population from which information is gathered

Unfair event:

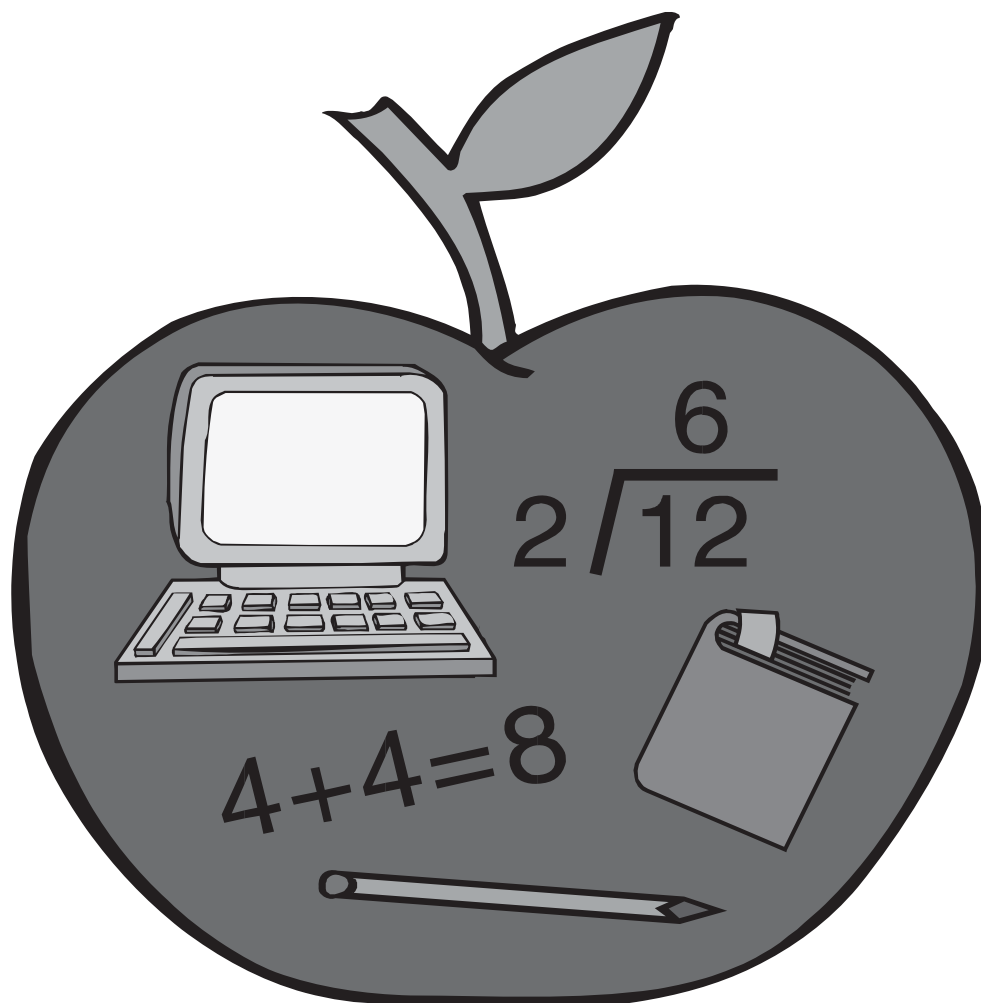
a situation in which one outcome is more likely than the other



W3 - Lesson 5: Chance and Probability

Concepts:

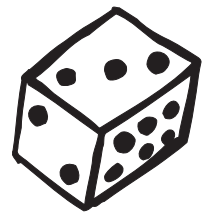
- An Experiment
- The Language of Chance and Probability
- Conduct an Experiment and Explain the Results



An Experiment

Often we will use a dice toss to decide who goes first in a game. Is there a higher probability that some numbers are more likely to come up than other numbers?

Before we start our experiment, we need to make sure we know all the possible solutions to the experiment, both likely and unlikely.



What are the six possible ways that a single die will land?

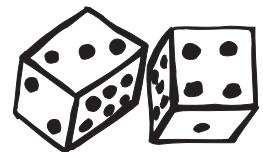
1, 2, 3, 4, 5, 6

What is the probability of rolling a 3?

1 : 6 *The chance is 1 chance in 6.*

What is the probability of rolling doubles when using two dice? List the possible outcomes of rolling two dice. (Hint: 36 ways possible.) Begin by showing all the possible combinations: (1,1), (1,2), (1,3)...

1, 2	2,2	3,1	4,1	5, 1	6, 1
1,3	2,3	3,2	4,2	5,2	6,2
1,4	2,4	3,3	4,3	5,3	6,3
1,5	2,5	3,4	4,4	5,4	6,4
1,6	2,6	3,5	4,5	5,5	6,5
1,1	2,1	3,6	4,6	5,6	6,6



What are the six favourable outcomes if your goal is to roll doubles when rolling two dice?

1 and 1, 2 and 2, 3 and 3, 4 and 4, 5 and 5, 6 and 6

To find the probability of a situation, use the following formula:

$$\text{Probability} = \frac{\text{Favourable Outcome}}{\text{Possible Outcomes}}$$



Of 36 possible outcomes, there are 6 favourable outcomes.

What is the probability of rolling doubles? $\frac{6 \div 6}{36 \div 6} = \frac{1}{6}$ (*Simplest form*)

Another way of stating the probability of rolling doubles is ...

For every 6 rolls, 1 is likely to be doubles.

The Language of Chance and Probability

Fill the blanks with the following probability terms.

best	worst	probable event	
always	never	improbable event	
impossible	more likely	less likely	equally likely

1. We are *less likely* to see snow in June than in April.
2. A chance of rain is *more likely* in July.
3. When flipping a coin, you have a(n) *equally likely* chance of receiving heads as tails.
4. A good experiment should *never* be unfair.
5. You are *more likely* to see Canadian geese in May than in December.
6. The *best* place to go during a tornado is the basement.
7. *Absolute* *always* means that something is certain to happen. Probable events are more likely to happen.
8. An *improbable event* is less likely to take place than a *probable event*.

Conduct an Experiment and Explain the Results

Create an experiment that involves probability. This might include tacks, dice, coin tosses, or anything else as long as you have cleared it with your teacher.

1. What is the purpose of your experiment? (What are you trying to determine by doing the experiment?)

Answers will vary

2. Guess what you think will occur in this experiment.

Answers will vary

3. Explain what procedures and material are required to complete this experiment.

Answers will vary

4. Prepare a chart to record your data. Then, do your experiment, and record your data in the table.

Answers will vary

5. Tally your results; then, explain what the results mean.

Answers will vary

6. Create a probability calculation from your results.

Answers will vary

7. Write a probability statement about your experiment using at least two terms listed on page 5. Write two conclusions about what you found from looking at (analyzing) your data.

Answers will vary
