



## 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

Author: Leslie Friesen

In-House Teacher: Sue Rees

Project Coordinator: Dennis McCarthy

Preview/Review Publishing Coordinating Team: Nina Johnson,

Laura Renkema, and Donna Silgard



Alberta Distance Learning Centre has an Internet site that you may find useful. The address is as follows: <http://www.adlc.ca>

The use of the Internet is optional. Exploring the electronic information superhighway can be educational and entertaining. However, be aware that these computer networks are not censored. Students may unintentionally or purposely find articles on the Internet that may be offensive or inappropriate. As well, the sources of information are not always cited and the content may not be accurate. Therefore, students may wish to confirm facts with a second source.

### ALL RIGHTS RESERVED

Copyright © 2007, by Alberta Distance Learning Centre, 4601-63 Avenue, Barrhead, Alberta, Canada, T7N 1P4. Additional copies may be obtained from Alberta Distance Learning Centre.

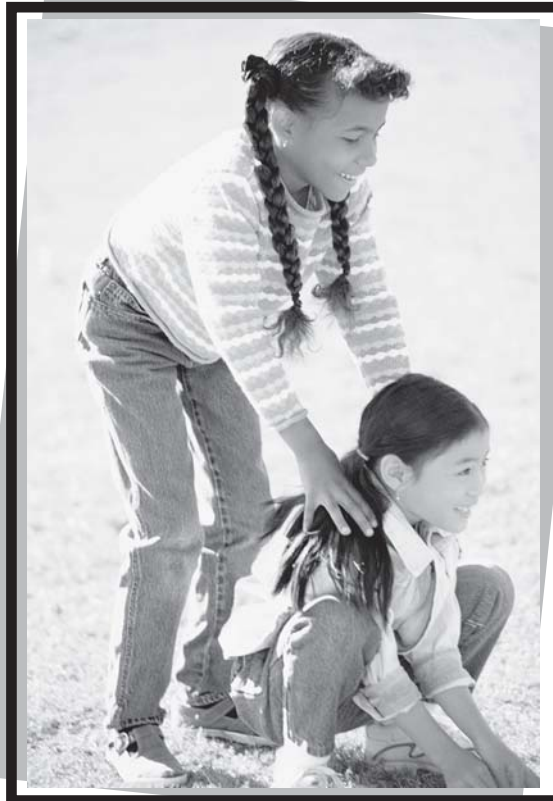
No part of this courseware may be reproduced or transmitted in any form, electronic or mechanical, including photocopying (unless otherwise indicated), recording, or any information storage and retrieval system, without the written permission of Alberta Distance Learning Centre.

Every effort has been made both to provide proper acknowledgement of the original source and to comply with copyright law. If cases are identified where this effort has been unsuccessful, please notify Alberta Distance Learning Centre so that appropriate corrective action can be taken.

**IT IS STRICTLY PROHIBITED TO COPY ANY PART OF THESE MATERIALS UNDER THE TERMS OF A LICENCE FROM A COLLECTIVE OR A LICENSING BODY.**

# 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

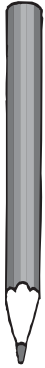


## Glossary of Terms



**Data:** information gathered and analyzed

**Event:** a result that is of note in a discussion of probability

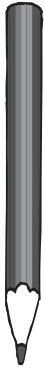


**Fair event:** a situation in which either outcome is equally likely to happen

**Frequency:** the number of times something happens or occurs

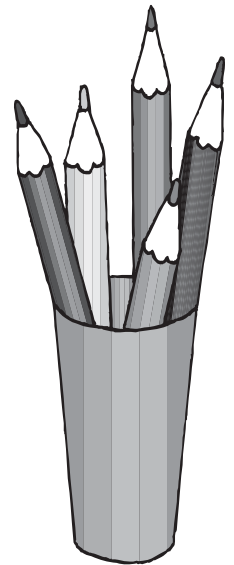
**Improbable event:** a situation in which an event or outcome is unlikely to happen

**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:**

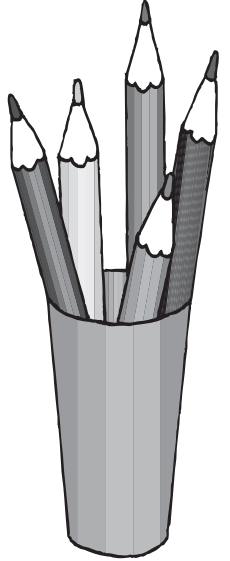
not specifically chosen; happens by chance

**Sample:**

a selection of population from which information is gathered

**Unfair event:**

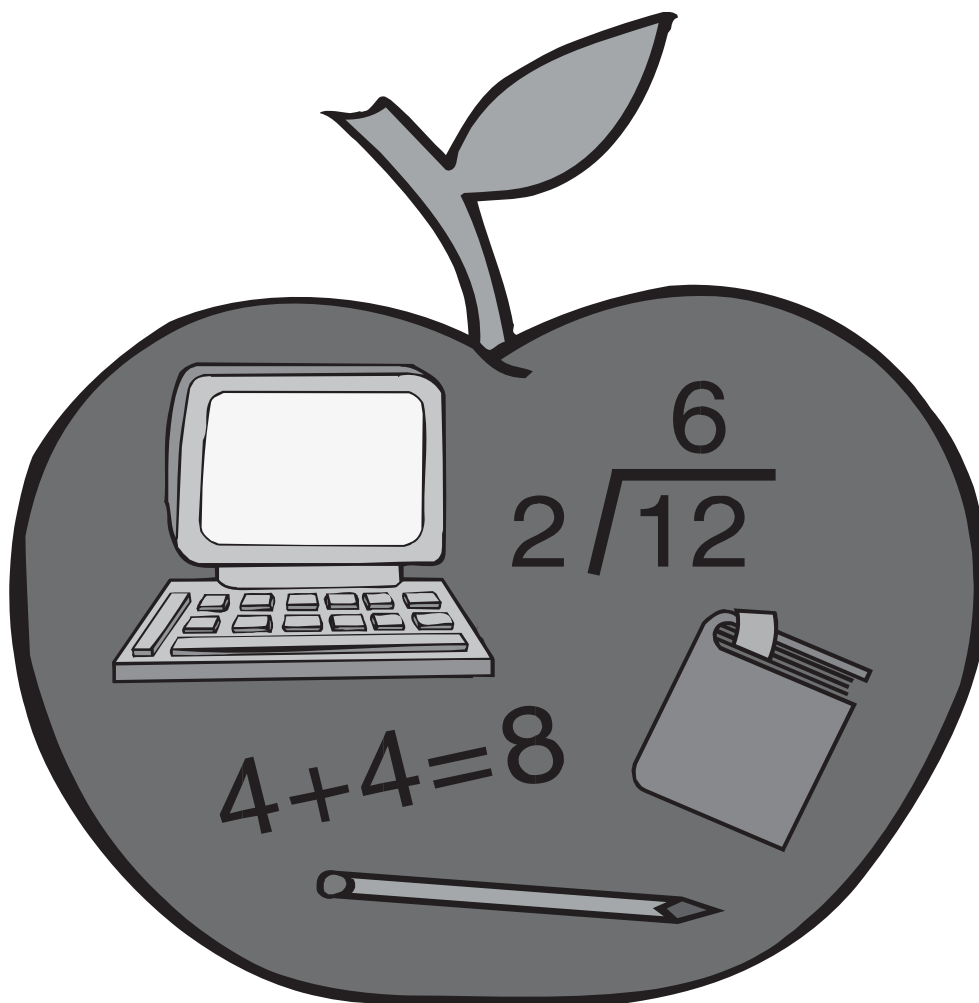
a situation in which one outcome is more likely than the other



## W3 - Lesson 5: Chance and Probability

### Concepts:

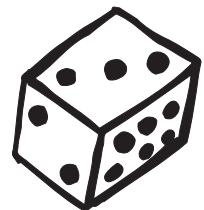
- An Experiment
- The Language of Chance and Probability
- Conduct an Experiment and Explain the Results



## 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**

---

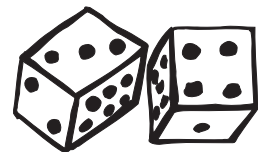
What is the probability of rolling a 3?

**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)...

<b>1, 2</b>	<b>2,2</b>	<b>3,1</b>	<b>4,1</b>	<b>5, 1</b>	<b>6, 1</b>
<b>1,3</b>	<b>2,3</b>	<b>3,2</b>	<b>4,2</b>	<b>5,2</b>	<b>6,2</b>
<b>1,4</b>	<b>2,4</b>	<b>3,3</b>	<b>4,3</b>	<b>5,3</b>	<b>6,3</b>
<b>1,5</b>	<b>2,5</b>	<b>3,4</b>	<b>4,4</b>	<b>5,4</b>	<b>6,4</b>
<b>1,6</b>	<b>2,6</b>	<b>3,5</b>	<b>4,5</b>	<b>5,5</b>	<b>6,5</b>
<b>1,1</b>	<b>2,1</b>	<b>3,6</b>	<b>4,6</b>	<b>5,6</b>	<b>6,6</b>





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.

<b>best</b>	<b>worst</b>	<b>probable event</b>	
<b>always</b>	<b>never</b>	<b>improbable event</b>	
<b>impossible</b>	<b>more likely</b>	<b>less likely</b>	<b>equally likely</b>

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***

---

---

---

---

