Strategies for Numbers 3 (Multiplying, Dividing, & Fractions)

QLWG
Essential Life Skills
Unit 17

QLWG Skills for Life
Acknowledgements

QLWG *Skills for Life Series*

THEMATIC UNITS

Competency-based learning meets the needs of all learners. It is important to keep in mind, however, that all learners are different. In order to address the needs and interests of all learners, units have been divided by *Essential Life Skills* and *Individual Life Skills*.

Essential Life Skills are important for everyone, while *Individual Life Skills* address the needs and interests of different learners. Once learners have completed the "Essential" units, they may choose a unit that is applicable to their interests and lifestyle.

Essential Life Skills Units	Individual Life Skills Units
1. Orientation Unit	18. My Hobbies and Leisure Time
2. Around the Home	19. Employment Skills
3. My Community	20. On the Job
4. Being a Canadian Citizen	21. My Family
5. What's for Dinner?	22. Entertainment (music and film)
6. Managing My Money	23. Fitness and the Great Outdoors
7. Smart Shopping	24. Getting Around (travel and transportation)
8. My Health	25. Career Exploration
9. All About Me	26. Getting My Driver's Licence
10. Communication Skills	27. Learning in Quebec
11. Living in Quebec	28. Living Green
12. Strategies for Reading	29. Handling Legal Concerns
13. Strategies for Writing	30. The Retirement Years
14. Strategies for Grammar	
15. Strategies for Numbers 1: Understanding Numbers	
16. Strategies for Numbers 2: Adding & Subtracting	
17. Strategies for Numbers 3: Multiplying, Dividing & Fractions	

QLWG *Skills for Life Series*

Strategies for Numbers 3:
Multiplying, Dividing & Fractions
Unit #17

Table of Contents

WELCOME LEARNER!

This workbook is meant to help you develop important life skills. As you work on different activities, try to see the purpose in what you are doing, stay motivated and enjoy!

Things to Look for:

Checkpoints

You will finish every unit of study with a Checkpoint (in blue). Once you have completed the Checkpoint questionnaire, you will send this document to your distance education tutor. Make sure you fill in the **date, your name**, **your phone number** and the **distance education tutor's name** on the cover of this document.

Word Stops

Word Stops will explain more difficult words. Look for words in bold print (example: **bold**). A **Word Stop** will follow to tell you what that word means.

Word Stops will appear in the workbook when there is a difficult word.
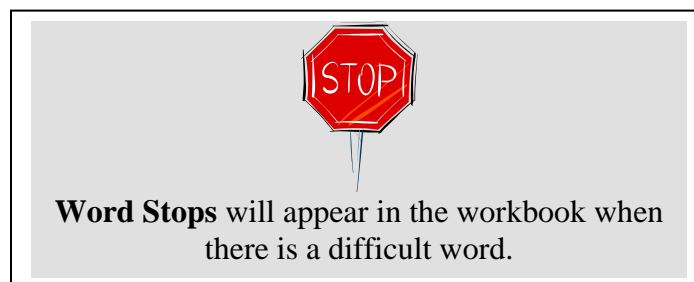
If you do not understand, follow these steps:

1. Look at titles and pictures. Do they tell you anything?

2. Try to find the general meaning.

3. Look for Word Stops.

4. Use a dictionary.

5. If you still do not understand, contact your distance education tutor.

Before you contact your distance education tutor:

1. Prepare your questions. What do you want to ask?

2. Give the page number and section title to your tutor so they know where you are.

> **"Act the part; walk and talk exactly as if you were already the person you want to be."**
> **~Brian Tracy**

Strategies for Numbers 3:
Multiplying, Dividing & Fractions

"Numbers are the highest degree of knowledge. It is knowledge itself." ~Plato

Introduction:

In this unit, you will develop strategies to help you handle everyday Math such as multiplying, dividing, identifying fractions, calculating time and reading recipes.

In this unit, you will:

- learn about multiplying.
- practice multiplying numbers.
- learn about division.
- practice dividing numbers.
- find out what a fraction is.
- practice adding and subtracting fractions.
- practice using Math for everyday life.

What I Already Know

Explain what you know about multiplying, dividing, and fractions. This list will help you to keep track of what you learn.

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Multiplying Whole Numbers

Multiplication is the total number that is found by multiplying groups of the same size. You can get the same result by repeated addition.

Example:

Every year, John gives Mary twelve roses on their anniversary. Mary and John have just celebrated their sixth anniversary.

How many roses has Mary received altogether for their anniversaries?

To find the answer, you can:

Add 12+12+12+12+12+12   OR   Multiply 6 x 12

= 72 roses
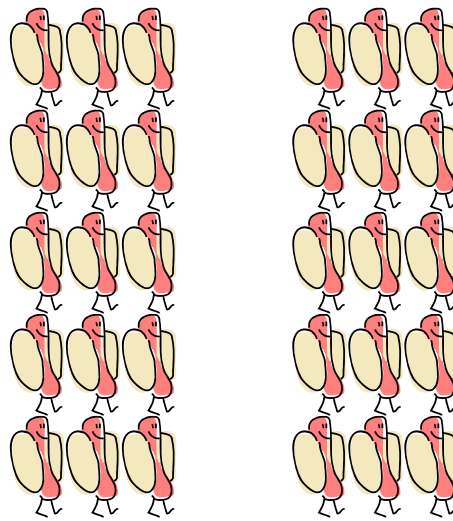
ANOTHER EXAMPLE:

Imagine you are going to throw a party for a friend. You will invite ten (10) people. You will be serving barbequed hotdogs. You want to offer three (3) hotdogs to each person.

To find out how many hotdogs you need, you will need to multiply ten by three.

$= \mathbf{30}$ hotdogs

Multiplication can be written in two ways:

10 x 3 = 30

OR

 10
 x3
‾‾‾
 30

Multiplying to a Hundred (10 x 10)

X	0	1	2	3	4	5	6	7	8	9	10
0	0	0	0	0	0	0	0	0	0	0	0
1	0	1	2	3	4	5	6	7	8	9	10
2	0	2	4	6	8	10	12	14	16	18	20
3	0	3	6	9	12	15	18	21	24	27	30
4	0	4	8	12	16	20	24	28	32	36	40
5	0	5	10	15	20	25	30	35	40	45	50
6	0	6	12	18	24	30	36	42	48	54	60
7	0	7	14	21	28	35	42	49	56	63	70
8	0	8	16	24	32	40	48	56	64	72	80
9	0	9	18	27	36	45	54	63	72	81	90
10	0	10	20	30	40	50	60	70	80	90	100

To use the times table:

1.   Choose a number in the top row (dark blue). Choose a number that you would like to multiply it by in the left-hand column (dark blue).

2.   Go down and across to see where the two lines meet.

3.   The box where the lines meet is the answer to the multiplication.

Practice using the times table:

2 x 4 =   _____

6 x 6 =   _____

10 x 0 =   _____

6 x 7 =   _____

3 x 3 =   _____

9 x 9 =   _____

Multiplying Two-Place Numbers

To multiply a two-place number by a one-place number:

1. Place one number above the other so that the numbers are lined up. Draw a line under the bottom number.

   23
   x3

2. Multiply the ones' place numbers (3 x 3 = 9). Write nine below the line under the ones' place column.

   23
   x3
   9

3. Now, multiply the number in the tens' place column (2) by the number in the ones' place of the second number (3). Place the answer below the line under the tens' place column.

   23
   x3
   69

Carrying Numbers

When the value in the ones' column is greater than nine, you need to carry the extra value to the tens' place column.

   ⁴
   29
   x5
   145

In this example, start by multiplying the numbers in the ones' column (9x5). Write the five (5) and carry the four (4) to the tens' column. Then, multiply the tens' column ($5 \times 2 = 10$). Then, add the four to the ten ($10 + 4 = 14$). Write down the 14. You should come up with a total of 145.

ACTIVITY: Practice multiplying numbers. Once you have completed the activity, check the answers provided in the ANSWER KEY at the back of this unit.

1.
32
x6

2.
76
x7

3.
12
x3

4.
92
x9

5.
45
x2

6.
99
x1

7.
47
x7

8.
63
x5

9.
17
x9

10.
26
x8

11.
34
x4

12.
98
x7

13.
27
x4

14.
14
x8

15.
78
x2

16.
36
x3

17.
89
x9

18.
23
x7

19.
85
x6

20.
32
x5

21.
58
x6

22.
14
x8

23.
65
x9

24.
39
x7

25.
91
x9

26.
49
x4

27.
25
x4

28.
97
x5

To multiply a two-place number by a two-place number:

1. Place one number above the other so that the numbers are lined up. Draw a line under the bottom number.

    23
    x43

2. Multiply each number in the bottom row by the upper row:

    a. Multiply the ones' place numbers ($3 \times 3 = 9$).
    b. Multiply the one-place number in the bottom row by the two place number ($3 \times 2 = 6$).
    c. Put a zero (0) in the one-place below the 69.
    d. Finish multiplying the number ($3 \times 3 = 9$) and ($3 \times 2 = 6$).

    23
    x33
    69   Add a
    690   zero.

3. Now, add the two numbers together.

    23
    x3
    69   Add the
    690   numbers.
    759

    Note: Carry numbers to the tens' column when necessary.

"Music is the pleasure the human mind experiences from counting without being aware that it is counting." **~Gottfried Leibniz**

ACTIVITY: Practice multiplying numbers. Once you have completed the activity, check the answers provided in the ANSWER KEY at the back of this unit.

1.
   72
  x66

2.
   76
  x97

3.
   12
  x83

4.
   92
  x29

5.
   45
  x52

6.
   99
  x67

7.
   97
  x17

8.
   71
  x98

9.
   73
  x43

10.
   76
  x90

11.
   12
  x57

12.
   87
  x29

13.
   12
  x12

14.
   82
  x37

15.
   63
  x37

16.
   61
  x45

17.
   72
  x12

18.
   43
  x79

19.
   36
  x87

20.
   44
  x44

Multiplying Money

Multiply money in the same way that you multiply whole numbers.

Example 1 (multiplying by one-place numbers):

I want to buy three bottles of orange juice. Each bottle costs $1.25.

$1.25
x   3
$3.75

> 3 x 5 = 15 (Carry the one to the ten's place and write the 5 in the one's place.)
>
> 3 x 2 = 6 (+1) = 7
>
> 3 x 1 = 3

Example 2 (multiplying by two-place numbers):

We will have 14 guests at my son's birthday party. It will cost $3.15 for each person.

$3.15
x   14
12.60
31 .50
$44.10

> 4 x 5 = 20 (Carry the two to the ten's place and write the 0 in the one's place.)
>
> 4 x 1 = 4 (+2) = 6
>
> 4 x 3 = 12
>
> Add a zero to the next row (because you are multiplying from the ten's place).
>
> 1 x 5 = 5
>
> 1 x 1 = 1
>
> 1 x 3 = 3
>
> Add the two numbers together.

10

Where to Put the Decimal Point

What to do:

1. To begin, ignore the decimal points and multiply as usual.
2. Then, count how many total digits are on the right side of the decimal points in what you are multiplying.
3. Finally, place the decimal point in your answer so there are this many digits to the right.

Example 1:

1) 9.2
  × 3
  276

2) 9.2 (One space!)
  × 3
  276

3) 9.2
  × 3
  27.6

Example 2:

1) 9.2
  × 3.3
  3036

2) 9.2 (Two spaces!)
  ×3.3
  3036

3) 9.2
  ×3.3
  30.36

Basically, you multiply, count the spots behind the decimals and then put the decimal point in your answer.

11

ACTIVITY: Practice multiplying dollar amounts. Once you have completed
the activity, check the answers provided in the ANSWER KEY
at the back of this unit.

PART 1:

a)
$21.70
x 2

b)
$4.25
x 7

c)
$1.20
x 3

d)
5.55
x10

e)
$4.75
x 12

f)
$2.99
x17

g)
$0.97
x18

h)
$8.35
x39

i)
$6.13
x 10

j)
$22.99
x 2

k)
$34.77
x12

l)
$18.15
x38

m)
$82.25
x 5

n)
$44.78
x 72

o)
$8.88
x 8

p)
65.12
x55

q)
$99.13
x 88

r)
$72.09
x 67

s)
$29.21
x32

t)
$12.45
x50

12

PART 2:

1. You want to send twelve (12) roses to your mother for Mother's Day. Each rose costs $1.75. How much will it cost you?

_____
_____
_____
_____

2. You want to get 25 cobs of corn for a family barbeque. A cob of corn costs $0.75. How much will it cost you?

_____
_____
_____
_____

3. You will buy ten (10) new pens. Each pen costs $2.25. How much will it cost you?

_____
_____
_____
_____

Dividing Whole Numbers

Division is splitting something into equal parts. It is used to see how much of something will fit into the whole. You can get the same result by repeated subtraction.

Example:

Martha has four kids. Every day she prepares four lunches. Today, she has twenty (20) strawberries to put in their lunches. She wants them all to have the same amount.

How many strawberries can she put in each lunch?

$$20 - 5 = 15$$

$$15 - 5 = 10$$

$$10 - 5 = 5$$

$$5 - 5 = 0$$

To find the answer, you can:

Subtract five (5) strawberries from the whole four (4) times.

OR
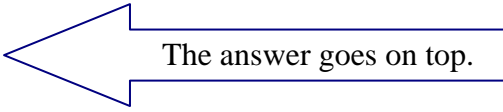
Divide twenty (20) strawberries by four (4):

$$20 \div 4 = 5$$

14

There are two ways to do division:

20 ÷ 4 = 5

OR

5
20/4.

The answer goes on top.

Dividing by 0:

Numbers cannot be divided by zero (0). You cannot make zero (0) groups of a number.

Dividing by 1:

A number divided by one (1) equals that number. If you divide by 1, you have one group. Everything is in that one group.

Dividing by 2:

A number divided by two (2) tells you how much you would have if you split a number in half:

$0 \div 2 = 0$ $2 \div 2 = 1$ $4 \div 2 = 2$ $6 \div 2 = 3$ $8 \div 2 = 4$

$10 \div 2 = 5$ $12 \div 2 = 6$ $14 \div 2 = 7$ $16 \div 2 = 8$ $18 \div 2 = 9$

Dividing by 3:

A number divided by three (3) tells you how much you would have if you split a group into three:

$0 \div 3 = 0$ $3 \div 3 = 1$ $6 \div 3 = 2$ $9 \div 3 = 3$ $12 \div 3 = 4$

$15 \div 3 = 5$ $18 \div 3 = 6$ $21 \div 3 = 7$ $24 \div 3 = 8$ $27 \div 3 = 9$

15
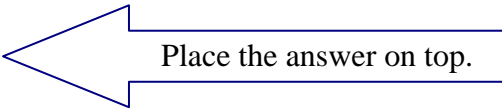
Division Practice:

1. You are playing cards with 5 friends. You are playing a game with 25 cards. You need to divide these 25 cards amongst your five friends. How many cards does each friend get?
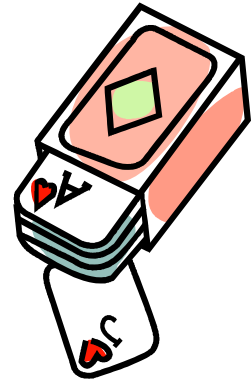
Practice with each way of dividing:

$25 \div 5 =$ _____

Place the answer on top.

25/5
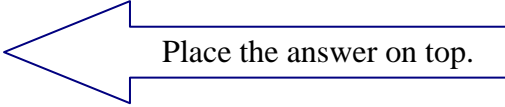
Each person will have _____ cards.

2. You are having a family barbeque. You have twenty-four (24) hamburgers to serve twelve (12) people.
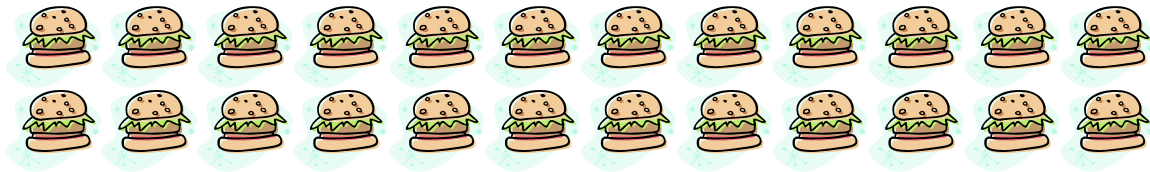
How many hamburgers can each person have?

$24 \div 12 =$ _____

Place the answer on top.

24/2

Each person can have _____ hamburgers.

3. Your neighbour's little girl is selling chocolate bars for $2.00 each. You have $10.00. How many chocolate bars can you buy?
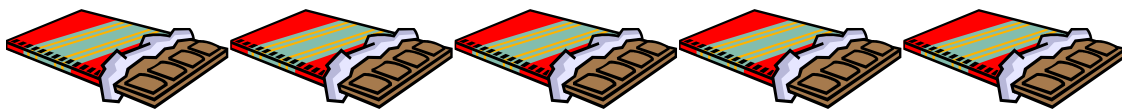
Because you are dealing with whole dollars, you need to divide ten (10) by two (2).
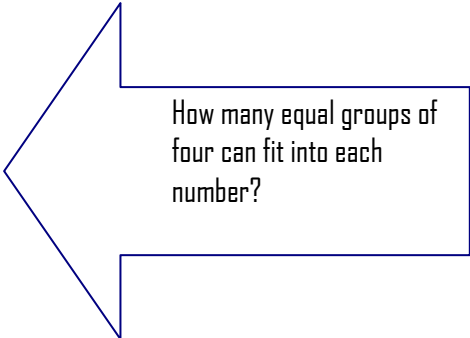
$10 \div 2 =$ _____   (OR $10.00 \div $2.00)

I can buy _____ chocolate bars.

ACTIVITY: Complete each of the following division tables. Once you have completed the activity, you can check the answers provided in the ANSWER KEY at the back of this unit.

1.
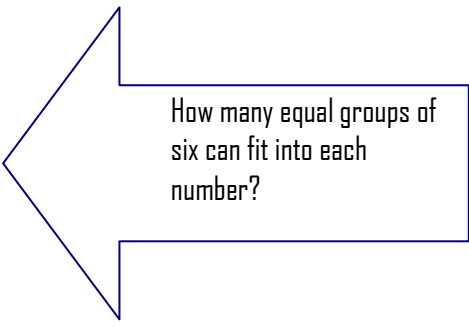
÷	4
4	1
8	
12	
16	
20	
24	
28	
32	
36	
40	

How many equal groups of four can fit into each number?

2.
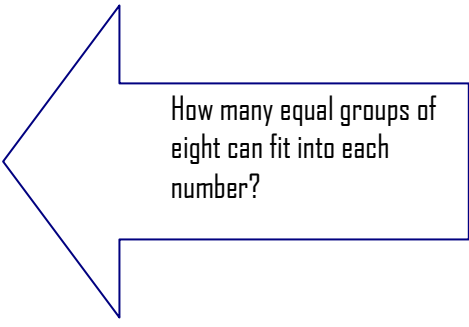
÷	6
6	1
12	
18	
24	
30	
36	
42	

How many equal groups of six can fit into each number?

3.

÷	8
8	1
16	
24	
32	
40	
48	
56	

How many equal groups of eight can fit into each number?

Multiplying and Dividing

Understanding how to multiply will help you to divide.
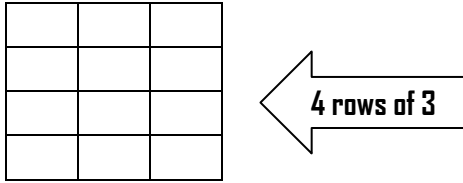
4 rows of 3

EXAMPLE:

How many blocks are there?

4 x 3 = 12

How many rows of three are there?

12 ÷ 3 = 4

You can use multiplication to check division.

5 x 3 = **15**
15 ÷ 5 = 3

"Still more astonishing is that world of rigorous fantasy we call mathematics. "

~Gregory Bateson

19

ACTIVITY:　Practice dividing. Once you have completed the activity, you can check the answers provided in the ANSWER KEY at the back of this unit.

1. $30 \div 3 =$ _____　　　　2. $10 \div 2 =$ _____

3. $45 \div 5 =$ _____　　　　d. $18 \div 6 =$ _____

e. $72 \div 9 =$ _____　　　　f. $21 \div 7 =$ _____

g. $5 \div 1 =$ _____　　　　h. $48 \div 6 =$ _____

i. $40 \div 4 =$ _____　　　　j. $24 \div 8 =$ _____

k. $15 \div 3 =$ _____　　　　l. $18 \div 3 =$ _____

m. $72 \div 8 =$ _____　　　　n. $36 \div 6 =$ _____

o. $9 \div 3 =$ _____　　　　p. $50 \div 10 =$ _____

q. $35 \div 5 =$ _____　　　　r. $14 \div 2 =$ _____

s. $100 \div 10 =$ _____　　　　t. $28 \div 7 =$ _____
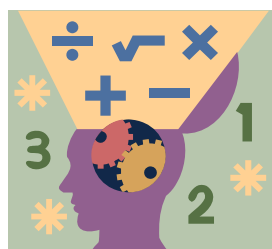
ACTIVITY:

Practice multiplying and dividing. Once you have completed the activity, check the answers provided in the ANSWER KEY at the back of this unit.

1. $40 \div 5 =$ _____   2. $10 \times 5 =$ _____

3. $27 \div 3 =$ _____   4. $7 \times 3 =$ _____

5. $9 \times 7 =$ _____   6. $21 \div 7 =$ _____

7. $9 \div 3 =$ _____   8. $6 \times 6 =$ _____

9. $36 \div 6 =$ _____   10. $25 \div 5 =$ _____

11. $5 \times 3 =$ _____   12. $50 \div 2 =$ _____

13. $7 \times 8 =$ _____   14. $56 \div 7 =$ _____

15. $9 \times 3 =$ _____   16. $4 \times 10 =$ _____

17. $45 \div 9 =$ _____   18. $9 \times 8 =$ _____

19. $10 \times 10 =$ _____   20. $7 \times 7 =$ _____

RECAP:
Adding, Subtracting, Multiplying and Dividing
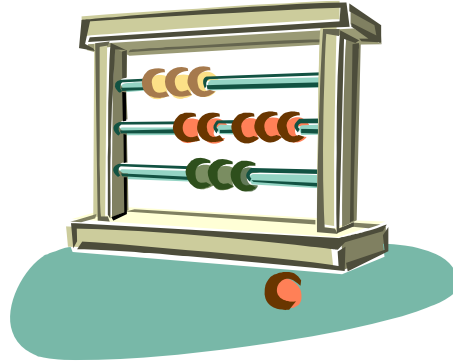
When to Use Each Math Strategy:

Add:

➤ To find how many altogether.
➤ To find the total amount.

Subtract:

➤ To find how many are left.
➤ To find how many more you need of something.

Multiply:

➤ To find how many equal groups altogether.
➤ To find the total amount.

Divide:

➤ To know how many can be shared equally.

How are you doing?

Complete the questionnaire to keep track of your learning.

1. Have you completed all reading and activities to this point? (*Circle your answer.*)

    Yes   **No**

2. If you answered "No", explain what you did not complete and why.

    _____

    _____

    _____
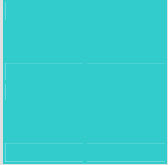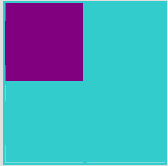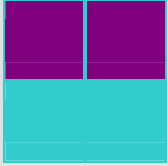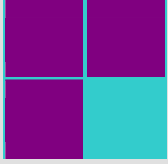
3. What was easy and why?

    _____

    _____

    _____

4. What was difficult and why?

    _____

    _____

    _____

5. General comments. *(Do you have any comments on the work that you have done?)*

    _____

    _____

    _____

    _____

Fractions

A fraction is part of an entire object.

Whole = 1		**The whole square is blue.**
$\frac{1}{4}$		**One fourth of the square is purple.**
$\frac{2}{4}$		**Two fourths of the square is purple.** **OR** **One half is purple.**
$\frac{3}{4}$		**Three fourths of the square is purple.**

2 + 2 = 4

This also equals one half: ½

Writing Fractions

$$\frac{1}{2}$$

Numerator
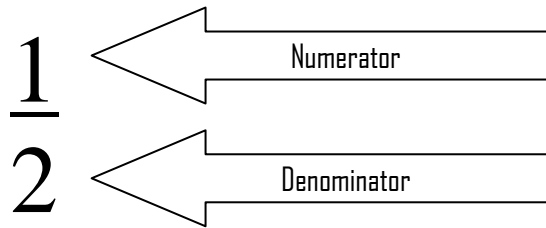
Denominator

➢ The **numerator** is the number of parts.
➢ The **denominator** is the number of parts that make a whole.

EXAMPLE:
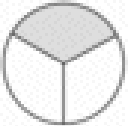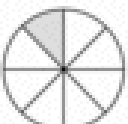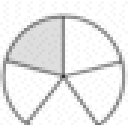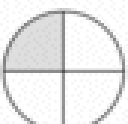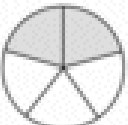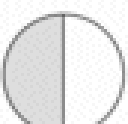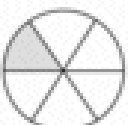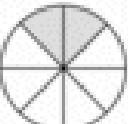
The pie was cut into eight pieces. Eight is the **denominator**.
For a whole pie, all eight pieces must be there.

$$1 = \frac{8}{8}$$

Jill ate 1 piece of pie. The pie is no longer whole. There are seven out
of eight pieces left. The **numerator** is seven.

$$1 = \frac{7}{8}$$

ACTIVITY: Write the fraction for the shaded part(s).

Example:	$\dfrac{1}{3}$
1.	
2.	
3.	
4.	
5.	
6.	
7.	

> "Do math and you can do anything."
> **~N.C.T.M. slogan**

26

Adding Fractions
(With the Same Denominator)

To add two fractions with the same denominator, add the numerators and write the sum over that same denominator.

EXAMPLE:

$$\frac{1}{2} \quad + \quad \frac{1}{2} \quad = \quad \frac{2}{2}$$

Just add the top numbers when you have the same denominator.
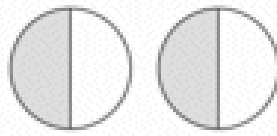
TWO HALVES MAKE ONE WHOLE
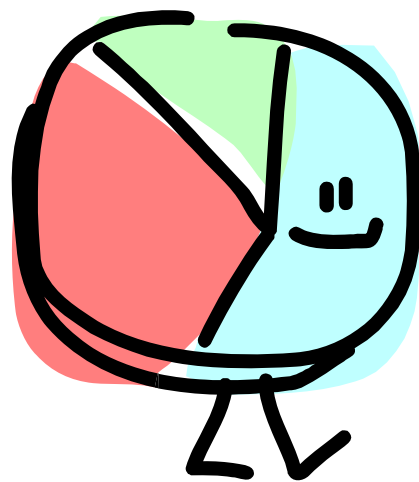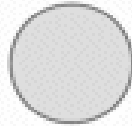
Fractions are important because they show portions less than 1. They're used in cooking, building, sewing and budgeting.
They're everywhere!

ACTIVITY:

Practice adding fractions with the same denominator.

1.

$$\frac{2}{3} + \frac{1}{3} =$$

2.

$$\frac{1}{3} + \frac{1}{3} =$$

3.

$$\frac{5}{10} + \frac{2}{10} =$$

4.

$$\frac{8}{8} + \frac{2}{8} =$$

5.

$$\frac{4}{6} + \frac{2}{6} =$$

6.

$$\frac{6}{8} + \frac{1}{8} =$$

7.

$$\frac{7}{10} + \frac{4}{10} =$$

8.

$$\frac{2}{4} + \frac{4}{4} =$$

9.

$$\frac{5}{9} + \frac{4}{9} =$$

10.

$$\frac{6}{12} + \frac{4}{12} =$$

11.

$$\frac{1}{7} + \frac{5}{7} =$$

12.

$$\frac{3}{6} + \frac{1}{6} =$$

Subtracting Fractions
(With the Same Denominator)
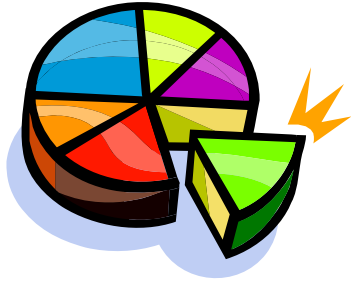
To subtract two fractions with the same denominator, subtract the numerators and write the difference over the common denominator.

EXAMPLE 1:

$$\frac{1}{2} \quad - \quad \frac{1}{2} \quad = \quad \frac{0}{2}$$
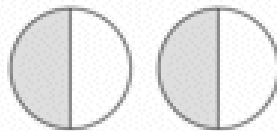
There are no halves left.

OR

There are ZERO halves.

EXAMPLE 2:

$$\frac{2}{8} \quad - \quad \frac{1}{8} \quad = \quad \frac{1}{8}$$
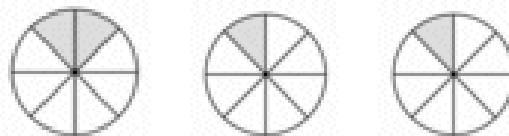
Just subtract the top numbers when you have the same denominator.

29

ACTIVITY: Practice subtracting fractions with the same denominator.

1.
$$\frac{2}{3} - \frac{1}{3} =$$

2.
$$\frac{8}{8} - \frac{1}{8} =$$

3.
$$\frac{7}{10} - \frac{2}{10} =$$

4.
$$\frac{6}{9} - \frac{3}{9} =$$

5.
$$\frac{5}{6} - \frac{3}{6} =$$

6.
$$\frac{6}{12} - \frac{4}{12} =$$

7.
$$\frac{1}{2} - \frac{1}{2} =$$

8.
$$\frac{2}{4} - \frac{1}{4} =$$

9.
$$\frac{8}{9} - \frac{2}{9} =$$

10.
$$\frac{6}{7} - \frac{2}{7} =$$

11.
$$\frac{12}{12} - \frac{5}{12} =$$

12.
$$\frac{3}{5} - \frac{2}{5} =$$

Identifying Fractions of the Same Value

Some fractions have the same value or represent the same part of an object, even though they are written differently. For example, if a pie is cut into two pieces, each piece is one-half of the pie. If a pie is cut into four pieces, then two pieces represent (2/4), still equalling the same amount of pie that 1/2 did.
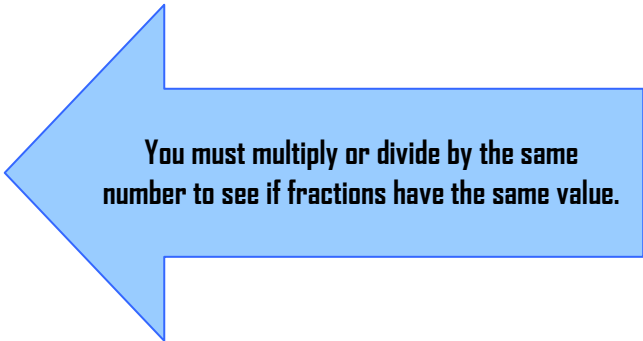
1/2 has the same value a 2/4.

To determine if fractions have the same value, multiply (or divide) the numerator and denominator of one fraction by the same number.

EXAMPLE:

$$\frac{1}{2} \times \frac{2}{2} = \frac{2}{4}$$

$$\frac{2}{4} \div \frac{2}{2} = \frac{1}{2}$$

You must multiply or divide by the same number to see if fractions have the same value.

ACTIVITY:

Decide whether the following fractions have the same value.

a)
$$\frac{2}{3} \quad \text{and} \quad \frac{6}{9}$$
Same Value? _____

b)
$$\frac{1}{3} \quad \text{and} \quad \frac{2}{5}$$
Same Value? _____

c)
$$\frac{2}{6} \quad \text{and} \quad \frac{4}{12}$$
Same Value? _____

d)
$$\frac{3}{9} \quad \text{and} \quad \frac{1}{3}$$
Same Value? _____

e)
$$\frac{1}{8} \quad \text{and} \quad \frac{2}{7}$$
Same Value? _____

f)
$$\frac{2}{8} \quad \text{and} \quad \frac{1}{4}$$
Same Value? _____

Would Bob still be hungry?

Bob loves blueberry pie! His wife always cuts her blueberry pie into six parts. Two of these pieces always satisfy Bob. If Bob's wife cuts her pie into three parts, how many parts will Bob have to eat to be satisfied?

STEPS:

1. The pie is usually cut into six parts. Bob usually eats two of these pieces.

Bob usually eats **2** of the pie.
                6

2. If the pie is cut into three, the fraction looks like this:

3
3

3. If Bob eats one of the three pieces, it is the same as eating two out six pieces.

2 is the same as **1**
6   **3**
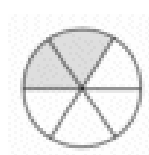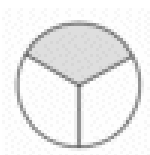
Math Skills for Everyday Life

Time:

➢ There are 60 minutes in an hour.
➢ There are 60 seconds in a minute.

The long thin hand is for seconds. It moves every second.

The long hand on the clock is for minutes.

The short thick hand is for the hours.
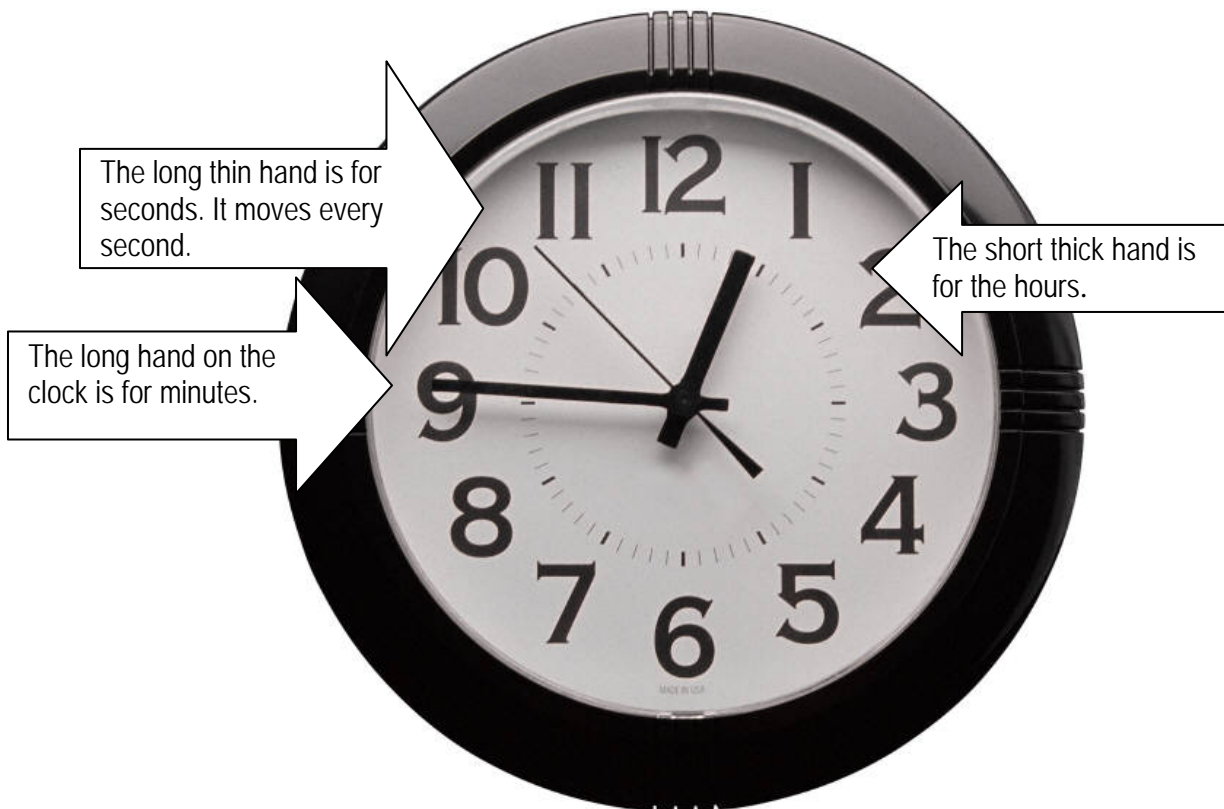
To find the time:

➢ Find the short thick hand - the number that it is past tells you what the hour is.

➢ Now find the long hand (the one that isn't moving). This tells you how many minutes have past. Each number on the clock represents five (5) minutes (5 x 12 = 60).

The time on this clock is 12:45.

1. What time is it?

It is _____.

2. What times is it?

It is _____.

Time Words

"O'clock": When the time is exactly on the hour (no minutes), we say "o'clock". For example: "11:00" is "11 o'clock".

A.M.: The morning hours (midnight to noon).

P.M.: The afternoon and evening hours (noon to midnight).

ACTIVITY: How much time?

Use your number skills to do the following exercises. For each exercise, indicate what you will do: **add, subtract, multiply or divide**. Once you have completed the activity, you can check the answers provided in the ANSWER KEY at the back of this unit.

1.   *It is 1:00 o'clock. You will meet a friend for coffee at 2:30 p.m. How much time do you have before you meet your friend?*

    a.   **What will you do? Add, subtract, multiply or divide?**
        I will _____

    b.   **Now figure out how much time you have:**

2.   *You are making spaghetti sauce. Usually, you cook your spaghetti sauce for 2 hours and 30 minutes. Today, you will cook it 30 minutes longer. How long will you let your spaghetti sauce cook?*

    a.   **What will you do? Add, subtract, multiply or divide?**
        I will _____

    b.   **Now figure out how long you cook your spaghetti sauce:**

3.   *It has been a lazy Sunday! You have watched four 30-minute programs on TV this afternoon. How long have you watched TV?*

    a.   **What will you do? Add, subtract, multiply or divide?**
        I will _____

    b.   **Now figure out how long you watched TV:**

4. *You have an interview at 10:00 a.m. You want to give yourself 45 minutes to get ready. It will take 15 minutes to get to your interview. At what time should you start getting ready?*

    a.   What will you do? Add, subtract, multiply or divide?
    I will _____

    b.   Now figure when you should start getting ready:

5. *You are doing your homework. You have ten (10) exercises to do. It will take you five (5) minutes to do each exercise. How long will it take you to do all the exercises?*

    a.   What will you do? Add, subtract, multiply or divide?
    I will _____

    b.   Now figure out how long it will take you to do the exercises:

"Lost time is never found again."
~Benjamin Franklin

Recipes:

In Canada, we usually use the metric system when we measure things. In the United States, the imperial system is used. Recipes use either of the two systems. The tables below explain the relationship between the two systems.

VOLUME MEASURES
(Metric amounts are rounded)

Imperial	Metric
1 teaspoon	5 millilitres
1 tablespoon	15 millilitres
2 tablespoons	30 millilitres
¼ cup	60 millilitres
1 cup	250 millilitres
2 cups = 1 pint	500 millilitres
2 pints = 1 quart	950 millilitres (.95 litre)
4 quarts = 1 gallon	4 litres

WEIGHT MEASURES
(Metric amounts are rounded)

Imperial	Metric
¼ ounce	8 grams
½ ounce	15 grams
1 ounce	30 grams
4 ounces	115 grams
½ pound	225 grams
1 pound	450 grams
2 pounds	900 grams
2¼ pounds	1 kilogram

Weight and volume are different:

- **Weight** is measured in ounces, pounds, grams or kilograms.
- **Volume** is measured in fluid ounces, pints, millilitres and litres.

37

ACTIVITY:

Your family loves cookies! The next time you make cookies, you will double your batch so they last a little longer.

#1 Cookies

240 grams of butter

220 grams of white sugar

220 grams of brown sugar

2 large eggs

10 ml of vanilla extract

350 grams of white flour

4 ml of baking soda

4 ml of salt

200 grams of chocolate chips
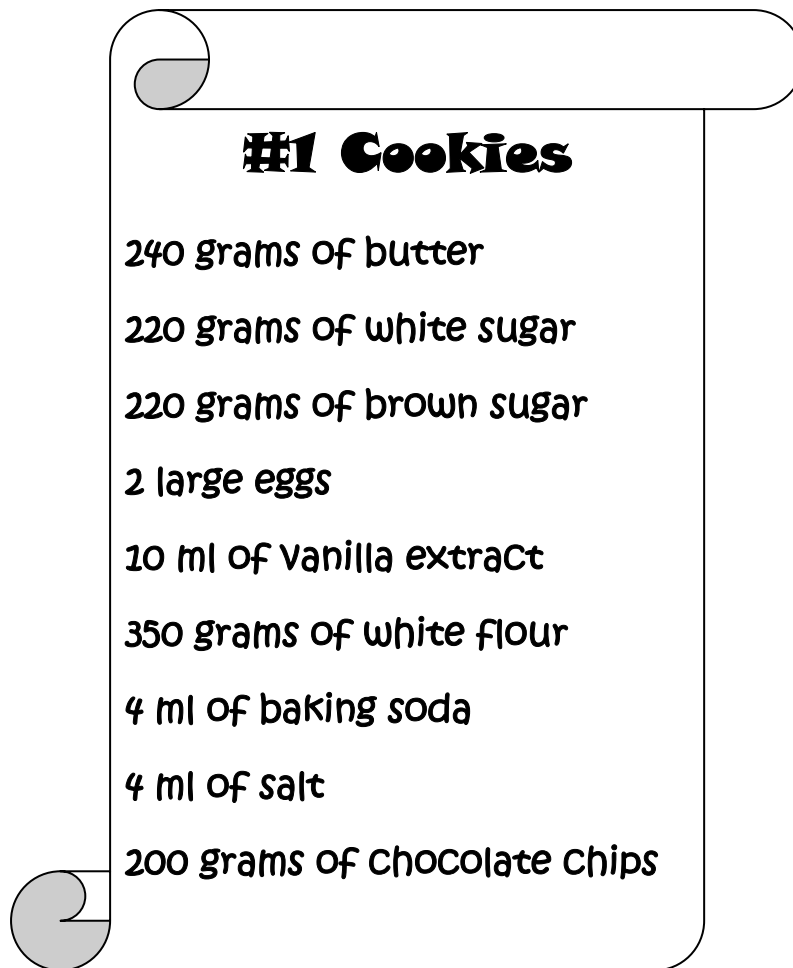
To double your batch, you must multiply each ingredient by two. How much will you need of each ingredient? Write the amount next to the each ingredient. Once you have completed the activity, you can check the answers provided in the ANSWER KEY at the back of this unit.

Butter:
White sugar:
Brown sugar:
Eggs:
Vanilla extract:
White flour:
Baking soda:
Salt:
Chocolate chips:

REFLECTION:

You have just completed a series of activities on basic Math. Now it is time to think about how these Math basics may be used in your everyday life.

Take some time to think about how Math is used around you and then provide examples of how you can use Math strategies in your everyday life.

EXAMPLE:

Strategy: *adding numbers*

How I can use it: *I can use it to add up my bills.*

1. Strategy:
▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬

How I can use it:
_____

_____

2. Strategy:
▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬

How I can use it:
_____

_____

3. Strategy:
▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬▬

How I can use it:
_____

_____

Math and Me

Now that you have practiced using numbers in different ways, you are ready to think about how numbers play a role in your everyday life.

ACTIVITY:

Pay close attention to the world around you to find examples of when numbers are used.

STEP 1:

Reflect on what you know about numbers.

STEP 2:

Observe what happens around you for a few days to see how numbers play a role in your life and the lives of those around you.

STEP 3:

Answer the questions on the following page. Provide solid examples of what you observed about numbers (or Math).

PURPOSE:

Learning is most valuable when you can apply it to your own life.

Where to find real-life examples:

1. Take note of every time you use numbers or Math.

2. Look at people around you and consider how Math is used in their lives.

3. Observe how you handle numbers with shopping, time, baking, paying bills, etc.
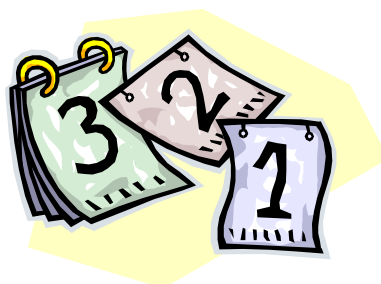
Math and Me

REFLECTION

Provide solid examples of what you have observed in the past few days. When do you use Math and numbers in your everyday life?

_____

_____

_____

_____

_____

_____

_____

_____

_____

What I Know Now

Go back to the beginning of this unit and look at the list of things you knew before you started. Describe what you know now. What have you learned?

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Strategies for Numbers:
Multiplying, Dividing & Fractions

Learning Checklist

Check off each item on this list that you can do as "ACHIEVED". If you feel that you have to improve on something, check "IN PROGRESS". Review your Learning Checklist with your tutor.

COMPETENCIES **What I can do.**	IN PROGRESS	ACHIEVED
1. I can say what multiplication is.		
2. I can multiply one digit by one digit.		
3. I can multiply two-place numbers with one-place numbers.		
4. I can multiply two-place numbers with two-place numbers.		
5. I can multiply money.		
6. I can say what division is.		
7. I can say how to divide.		
8. I can say what a fraction is.		
9. I can write fractions.		
10. I can say what a numerator is.		
11. I can say what a denominator is.		
12. I can add fractions.		
13. I can subtract fractions.		
14. I can identify fractions of the same value.		

COMPETENCIES What I can do.	IN PROGRESS	ACHIEVED
15. I can tell time.		
16. I can calculate time.		
17. I can read a recipe.		
18. I can double a recipe.		
19. I can explain the difference between metric and imperial measurements.		
20. I can explain the difference between weight and volume.		
21. I can use what I have learned in the future.		

Strategies for Numbers 3

ANSWER KEY

Strategies for Numbers 3: Multiplying, Dividing & Fractions

Page	Activity	Answer	Page	Activity	Answer	Page	Activity		Answer
5		2 X 4 = 8							
		6 X 6 = 36							
		10 X 0 = 0							
		6 X 7 = 42							
		3 X 3 = 9							
		9 X 9 = 81							
7	1.	192	9	1.	4752	12	1)	a)	$43.40
	2.	532		2.	7372			b)	$29.75
	3.	36		3.	996			c)	$3.60
	4.	828		4.	2668			d)	$55.50
	5.	90		5.	2340			e)	$57.00
	6.	99		6.	6633			f)	$50.83
	7.	329		7.	1649			g)	$17.46
	8.	315		8.	6958			h)	$325.65
	9.	153		9.	3139			i)	$61.30
	10.	208		10.	6840			j)	$45.98
	11.	136		11.	684			k)	$417.24
	12.	686		12.	2523			l)	$689.70
	13.	108		13.	144			m)	$411.25
	14.	112		14.	3034			n)	$3224.16
	15.	156		15.	2331			o)	$71.04
	16.	108		16.	2745			p)	$3581.60
	17.	801		17.	864			q)	$8723.44
	18.	161		18.	3397			r)	$4830.03
	19.	510		19.	3132			s)	$934.72
	20.	160		20.	1936			t)	$622.50
	21.	348							
	22.	112							
	23.	585							
	24.	273							
	25.	819							
	26.	196							
	27.	100							
	28.	485							

Page	Activity	Answer	Page	Activity	Answer	Page	Activity	Answer
13	2) 1. 2. 3.	12x$1.75=$21.00 25x$0.75=$18.75 10x$2.25=$22.50	20	1. 2. 3. 4. 5.	10 5 9 3 8	21	1. 2. 3. 4. 5.	8 50 9 21 63
16	1.	5 cards		6. 7.	3 5		6. 7.	3 3
17	2. 3.	2 hamburgers 5 chocolate bars		8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20.	8 10 3 5 6 9 6 3 5 7 7 10 4		8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20.	36 6 5 15 25 56 8 27 40 5 72 100 49
18	1. 2. 3.	2 3 4 5 6 7 8 9 10 2 3 4 5 6 7 2 3 4 5 6 7						

Page	Activity	Answer	Page	Activity	Answer	Page	Activity	Answer
26	1. 2. 3. 4. 5. 6. 7.	1/8 1/5 1/4 2/5 1/2 1/6 2/8	28	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	3/3 2/3 7/10 10/8 6/6 7/8 11/10 6/4 9/9 10/12 6/7 4/6	30	1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12.	1/3 7/8 5/10 3/9 2/6 2/12 0/2 1/4 6/9 4/7 7/12 1/5

Page	Activity	Answer
31	a) b) c) d) e) f)	Yes No Yes Yes No Yes
34	1. 2.	10:25 2:23
35	1. a. b. 2. a. b. 3. a. b.	subtract 1 h 30 min add 3 hours multiply 2 hours
36	4. a. b. 5. a. b.	subtract 9:00 a.m. multiply 50 minutes
38	Butter White sugar Brown sugar Eggs Vanilla White flour Baking soda Salt Chocolate chips	480 g 440 g 440 g 4 eggs 20 ml 700 g 8 ml 8 ml 400 g

The

QLWG Skills for Life Series

was made possible through funding from a joint
IFPCA funding initiative of the
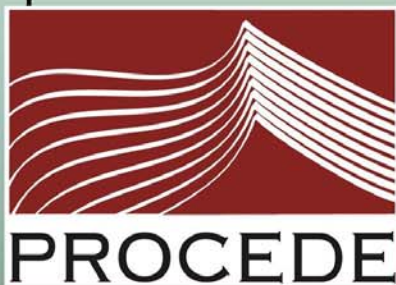
Office of Literacy and Essential Skills

and the

Direction de l'éducation des adultes et de l'action communautaire

with the collaboration of

A *production of*

PROCEDE

Provincial Organisation of Continuing Education Directors — English