Important Concepts . . .

Preview Review

Mathematics Grade 5 TEACHER KEY

W1 - Lesson 4: Numbers with up to 2 Decimal Places

V5-07

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 W1 - Lesson 4 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

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Preview/Review Concepts for Grade Five Mathematics

TEACHER KEY

W1 - Lesson 4: Numbers with up to 2 Decimal Places

OBJECTIVES

By the end of this lesson, you should

- add and subtract large digit numbers, including decimals
- use three methods to estimate

Glossary of Terms

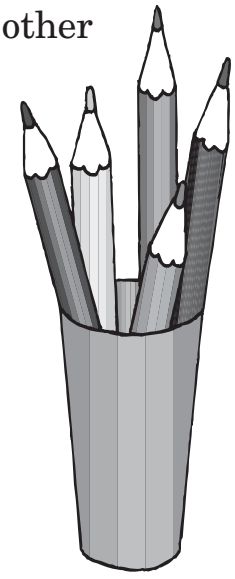
Compensating: Used in estimation, this is a strategy in which you pick numbers close to the number you need to add. When adding two numbers, you round one number up and the other number down.

Example: 547 + 469 = ?
using compatible numbers:
500 + 500 = 1000
(We rounded to the nearest 100.)
Therefore 547+469 = about 1 000

Estimation: A "good guess" is used as a quick way of finding the approximate answer. We can learn methods and tools to give us the "best guess".

Front–end Digits: This estimation strategy leaves the first digit of each number and makes all other digits in the number zeros.

Example: 547 + 469 =
using front–end digits:
500 + 400 = 900
(Remember, this is an estimate.)



Numeral: A number in symbol form is a numeral.

Example: 375 628

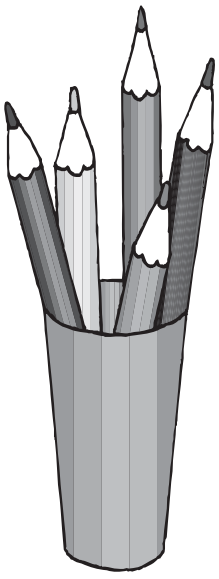
Place Value: Each digit of a number has a place. The place of the number tells the value of the number.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones
3	7	5	6	2	8

Rounding: Rounding is used for estimation. Numbers are given the closest estimation value.

Example: 547 + 469 = using front–end digits: 500 + 400 = 900 or 550 + 500 = 1 050. This is easy addition, but quick addition is the key.

Triad: When larger numbers are written, the digits are grouped in threes for easier reading. Each group of three is called a triad.



W1 - Lesson 4: Numbers with up to 2 Decimal Places

Concepts:

- 4 and 5-Digit Addition and Subtraction
- Adding and Subtracting with Decimals
- Estimating and Mental Math

4 and 5-Digit Addition and Subtraction

The key to addition and subtraction of large numbers is ORGANIZATION!
Suggestion: Use graph paper to help keep your numbers organized.

The most common mistakes in large digit addition and subtraction is sloppy numbers that do not line up. The grey shaded area in the following table represents the number *carried* or *regrouped*.

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	
1	1		1			carried or regrouped
6	8	4	5	5	5	
2	4	6	3	8	2	
9	3	0	9	3	7	Answer

Try the following questions. Remember to keep your work **NEAT!**

1. $\begin{array}{r} {\scriptstyle 1}\ {\scriptstyle 1}\ {\scriptstyle 1} \\ 25342 \\ +\ 58358 \\ \hline \boldsymbol{83\,700} \end{array}$

2. $\begin{array}{r} {\scriptstyle 2}\ {\scriptstyle 4} \\ 81\cancel{3}\,\cancel{5}\,{}^{1}4 \\ -\ 3958 \\ \hline \boldsymbol{77\,396} \end{array}$

3. $\begin{array}{r} {\scriptstyle 4}\ {\scriptstyle 12}\ {\scriptstyle 4} \\ 5\cancel{5}\,\cancel{3}\,\cancel{5}\,{}^{1}1 \\ -\ 9687 \\ \hline \boldsymbol{45664} \end{array}$

4. $\begin{array}{r} {\scriptstyle 1}\ {\scriptstyle 1}\ {\scriptstyle 1} \\ 4351 \\ +\ 4659 \\ \hline \boldsymbol{9\,010} \end{array}$

5. $\begin{array}{r} {\scriptstyle 1}\ \ {\scriptstyle 1} \\ 69429 \\ +\ 68354 \\ \hline \boldsymbol{137783} \end{array}$

6. $\begin{array}{r} {\scriptstyle 3}\ {\scriptstyle 12}\ {\scriptstyle 15} \\ 68\cancel{4}\,\cancel{3}\,\cancel{5} \\ -\ 10\ \ 56 \\ \hline \boldsymbol{673\ \ 79} \end{array}$

7. $\begin{array}{r} {\scriptstyle 6}\ {\scriptstyle 9}\ {\scriptstyle 11} \\ 68\cancel{7}\,\cancel{0}\,1 \\ -\ 3055 \\ \hline \boldsymbol{65\ \ 646} \end{array}$

8. $\begin{array}{r} {\scriptstyle 1}\ \ {\scriptstyle 1} \\ 3415 \\ +\ 9805 \\ \hline \boldsymbol{13\ \ 220} \end{array}$

Adding Several Numbers at One Time

The key to addition and subtraction of large numbers is ORGANIZATION!

Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	
2	1	2	1	1		carried or regrouped
3	5	4	7	2	8	
2	7	2	5	1	0	
	9	2	4	3	3	
		5	7	4	1	
7	2	5	4	1	2	Answer

Rewrite the following questions in column format then find the answer.

1. 684 + 6 814 + 25 + 453 =

	6	8	4
6	8	1	4
		2	5
	4	5	3
7	9	7	6

2. 222 + 3 487 + 42 210 =

		2	2	2
	3	4	8	7
4	2	2	1	0
4	5	9	1	9

3. 2 + 29 + 31 + 265 + 51 003 =

				2
			2	9
			3	1
		2	6	5
5	1	0	0	3
5	1	3	3	0

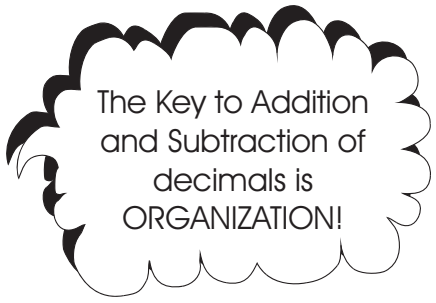
4. 2 003 + 5 789 + 55 + 4 =

2	0	0	3
5	7	8	9
		5	5
			4
7	8	5	1

Adding and Subtracting with Decimals

Always line up the decimals. Then add or subract as usual.

Thousands	Hundreds	Tens	Ones		Tenths	Hundredths
1	1	1	1		1	
5	6	9	7	●	4	2
	5	7	2	●	5	8
6	2	7	0	●	0	0



Complete the following questions.

1. $\begin{array}{r} {\scriptstyle 1\,1\quad 1} \\ 569.26 \\ +\ 52.67 \\ \hline \boldsymbol{621.93} \end{array}$

2. $\begin{array}{r} {\scriptstyle \quad 6\quad 10} \\ 65\not{7}.\not{1}{}^{1}5 \\ -\ 325.17 \\ \hline \boldsymbol{331.98} \end{array}$

3. $\begin{array}{r} {\scriptstyle \not{9}^{4}\quad 11} \\ 9\not{5}.\not{2}{}^{1}0 \\ -\ 94.35 \\ \hline \boldsymbol{00.85} \end{array}$

4. $\begin{array}{r} {\scriptstyle \quad 1} \\ 54.29 \\ +\ 46.59 \\ \hline \boldsymbol{100.88} \end{array}$

5. $\begin{array}{r} 69.42 \\ +\ 0.54 \\ \hline \boldsymbol{69.96} \end{array}$

6. $\begin{array}{r} {\scriptstyle \quad 7\quad 14} \\ 6\not{8}.\not{5}{}^{1}0 \\ -\ 1.56 \\ \hline \boldsymbol{66.94} \end{array}$

7. $\begin{array}{r} {\scriptstyle \not{6}^{5}\quad 9} \\ \not{6}.\not{0}{}^{1}1 \\ -\ 3.55 \\ \hline \boldsymbol{2.46} \end{array}$

8. $\begin{array}{r} 3.15 \\ +\ 98.50 \\ \hline \boldsymbol{101.65} \end{array}$

Rewrite the following questions in column format, then find the answer.

1. 6.84 + 681.4 + 2.5 + 4.53 =

		6	.	8	4
6	8	1	.	4	
		2	.	5	
		4	.	5	3
6	9	5	.	2	7

2. 2.22 + 3 487 + 422.10 =

			2	.	2	2
3	4	8	7	.		
	4	2	2	.	1	
3	9	1	1	.	3	2

Estimating and Mental Math

There are 3 quick and easy ways to estimate.

1. **Rounding**: tries to be most accurate

   Example: 375 628 can be rounded to 400 000 or 380 000 or 376 000 or 375 600 or 375 630

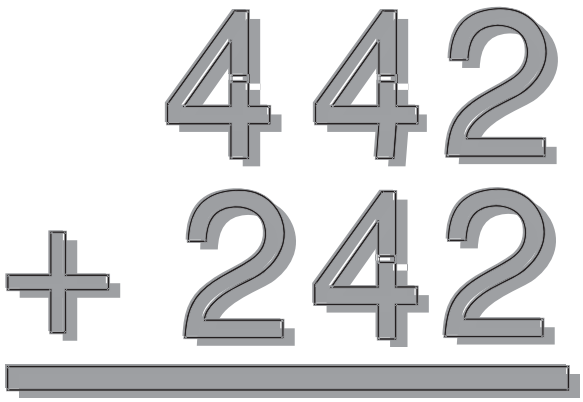
2. **Front-end digits**: easiest and quickest addition

   Example: 547 + 469 =
   using front-end digits: 500 + 400 = 900

3. **Compensating**: more accurate than front-end digits, but less than rounding (Round one number up - and the other number down.)

   Example: 547 + 469 =
   using compatible numbers: 500 + 500 = 1000

As you learn to estimate, you will use all three ways depending on your purpose for estimating. Which method would you use for a contest? Which would you use to see if you have enough money to buy some items? How do you guess how many people there are at the football game?



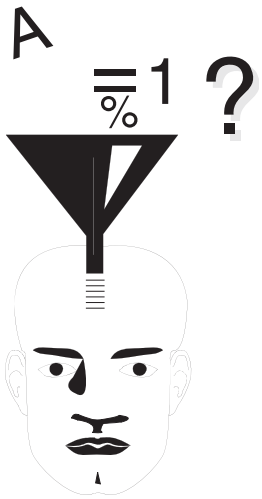
Use each of the **estimation** methods to estimate the following questions.

Question 254 + 996	Rounding 250 + 1 000 = 1 250	Front-End 200 + 900 = 1 100	Compensating 200 + 1 000 = 1 200
374 + 394 =	***370 + 400 = 770***	***300 + 300 = 600***	***300 + 400 = 700***
6 251 + 2 345 =	***6250 + 2350 = 8600***	***6000 + 2000 = 10000***	***6000 + 3000 = 9 000***
9 423 + 9 761 =	***9500 + 9800 = 19300***	***9000 + 9000 = 18000***	***9000 + 10000 = 19000***
973 + 321 =	***970 + 320 = 1290***	***900 + 300 = 1200***	***1000 + 300 = 1300***

Try the following questions in your head. Do not use paper; **ESTIMATE**!

1. Paul was building a house. Before he could choose his flooring, he needed to get an approximate area of four rooms. What is the approximate combined total of the following rooms: 32 m^2, 21 m^2, 23 m^2 and 78 m^2?

   150 m^2 ***Answers may vary!***



2. Pearl went to shop on "Save the GST" sale day. She wanted to buy a jar of pickles for $4.29, some pop for $1.99, a bag of chips for $1.98 and some ice cream for $8.39. Pearl brought $17.00 with her. Will she have enough money? What do you estimate her total cost to be?

   Yes, $16.50 **Answers may vary!**

3. Skateboard City was holding its annual skateboarding championships. The organizers expected approximately 33 000 people from Awesome Town, 8 000 people from Lazy Lake Community, and 2 000 people from Richman's Valley. Approximately how many out-of-town guests are expected?

   43 000 guests

4. Find the exact answers for the following. Do not use paper or fingers to determine the answers.

   9 + 8 + 7 + 6 = ***30***

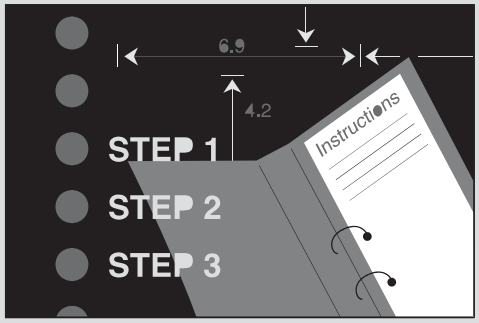
   4 + 5 + 6 = ***15***

   1 + 2 + 3 + 4 = ***10***

   22 + 44 + 58 + 76= ***200***

3–Step Problem-Solving Process

1. Write the problem in a number question: e.g., 4.5 + 7.2 =
2. Solve the problem. **Show your work.**
3. Write a sentence with the answer.



The Friesen family needed a new vehicle. After a lot of shopping, they narrowed their choices to two vehicles: a Jeep Liberty and a Dodge Dakota. The Jeep was $23 988.00, and the Dakota was $24 988.00. How much more money was the Dodge Dakota?

24 988.00
− 23 988.00
1 000.00

The Dodge Dakota was $1 000.00 more than the Jeep Liberty.

The Friesen family finally decided on the Liberty Jeep. The advertised special was $0.00 down, 0% interest. If the family pays $4,797.60 a year. How many years will it take to pay for the Jeep?

23 988.00 ÷ 4 797.60 = 5 years
It will take 5 years to pay for the Jeep.

Air–conditioning	$849.99	Power locks/windows	$672.99
Fog lights	$169.49	CD player	$390.49

If the Friesen's spent $1 019.48 on options, which options did they choose?

849.99
+ 169.49
1 019.48

If the Friesen's spent $1 019.48, they purchased air conditioning and fog lights.
OR
Accept a subtraction answer if a student chooses $1 019.48 - 849.99 = 169.99