



Strategies for Numbers 1 (Understanding Numbers)

QLWG
Essential Life Skills
Unit 15

QLWG Skills for Life

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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 2. Around the Home 3. My Community 4. Being a Canadian Citizen 5. What’s for Dinner? 6. Managing My Money 7. Smart Shopping 8. My Health 9. All About Me 10. Communication Skills 11. Living in Quebec 12. Strategies for Reading 13. Strategies for Writing 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	18. My Hobbies and Leisure Time 19. Employment Skills 20. On the Job 21. My Family 22. Entertainment (music and film) 23. Fitness and the Great Outdoors 24. Getting Around (travel and transportation) 25. Career Exploration 26. Getting My Driver’s Licence 27. Learning in Quebec 28. Living Green 29. Handling Legal Concerns 30. The Retirement Years

QLWG *Skills for Life Series*

Strategies for Numbers 1: Understanding Numbers Unit # 15

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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!

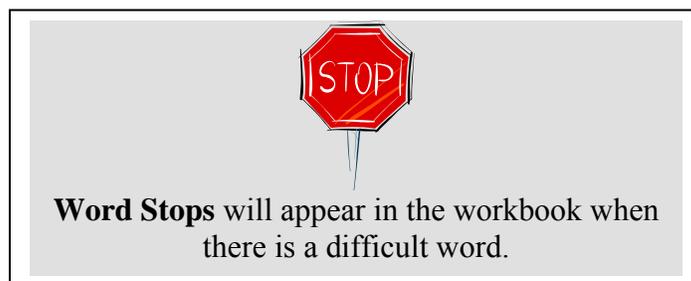
Things to Look for:

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.



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 1:

Understanding Numbers

'The essence of mathematics is not to make simple things complicated, but to make complicated things simple.' ~S. Gudder



Introduction:

Numbers can be scary. Many people get nervous when faced with everyday calculations. Despite this, basic Math is important for everyday life. In this unit, you will begin to develop strategies to handle and appreciate everyday Math.

In this unit, you will:

- learn some Math basics.
- learn how to form numbers.
- practice spelling numbers.
- develop practical Math skills.
- practice estimating and rounding numbers.

Understanding Numbers

Numbers can be written in different ways:

- Numerals: 1
- Written word for the number: One

Numerals and the written word mean the same thing:

ONE PLACE NUMBERS:

Numerals	Word
0	zero
1	one
2	two
3	three
4	four
5	five
6	six
7	seven
8	eight
9	nine

One-Place Numbers:

➤ One place numbers are the numbers from 1 to 9.

ACTIVITY: Count the number of objects in each box and then practice writing numerals and words for one place numbers.

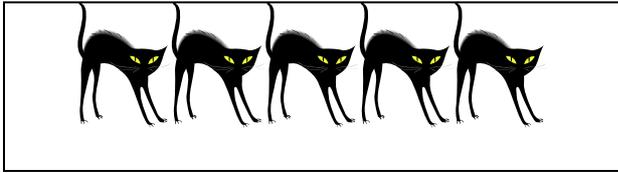
Example:

	<p>Numeral: <u>7</u></p> <p>Word: <u>seven apples</u></p>
---	---

1.

	<p>Numeral: _____</p> <p>Word: _____</p>
---	--

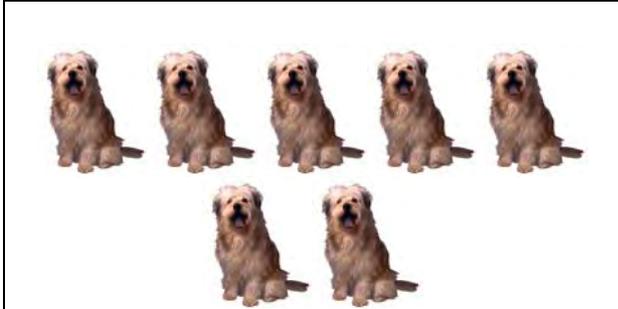
2.



Numeral: _____

Word: _____

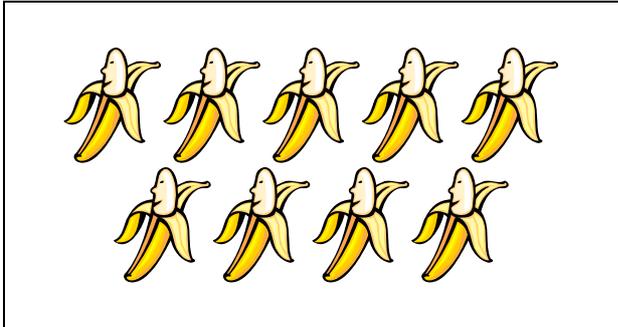
3.



Numeral: _____

Word: _____

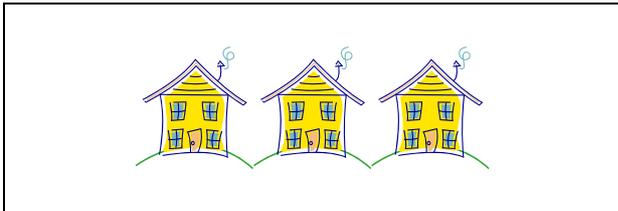
4.



Numeral: _____

Word: _____

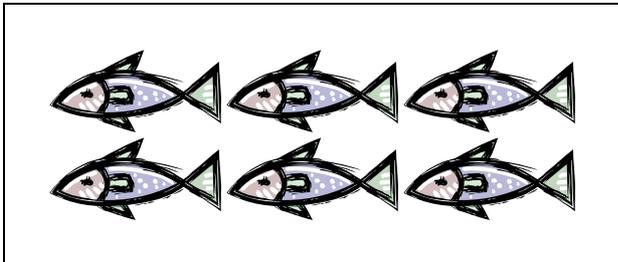
5.



Numeral: _____

Word: _____

6.



Numeral: _____

Word: _____

Two-Place Numbers:

One-place numbers are written with one number. Two-place numbers are written with two numbers.

- One (1) to nine (9) are one-place numbers.
- Ten (10) is a two-place number. It is written with two numbers (1 and 0).

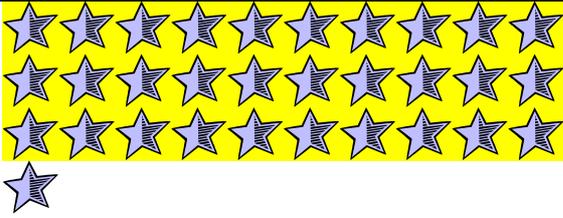
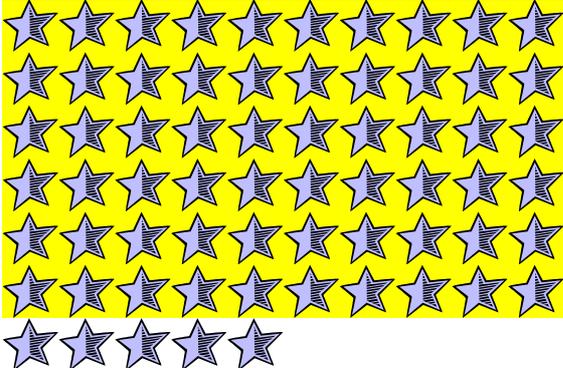
Two-place numbers tell you how many tens and ones the number has. For example, the number twelve (12) has one *ten* and two *ones*.

	Tens	Ones	Numeral
	1	1	11
	1	2	12
	1	3	13
	1	4	14
	1	5	15
	1	6	16
	1	7	17
	1	8	18
	1	9	19

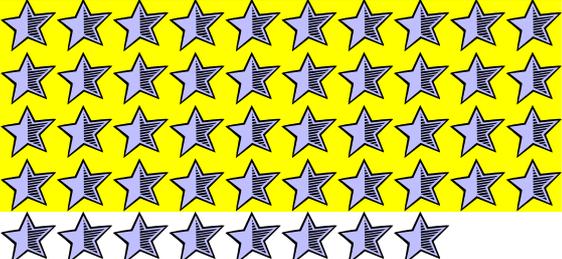
Two-Place Numbers from Ten to Ninety-Nine:

The first number depends on how many tens there are. The second number depends on how many ones there are.

EXAMPLES:

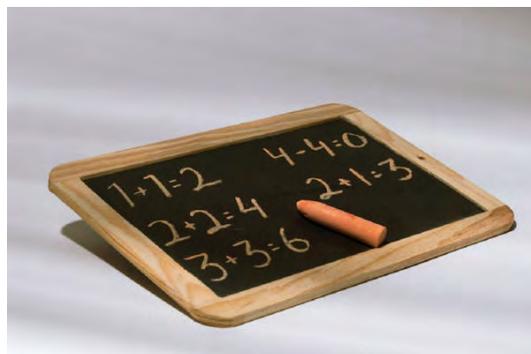
	Tens	Ones	Numeral
	3	1	31
	6	5	65
	2	0	20

ACTIVITY: Form the correct two-place number by counting the number of rows of tens and then adding the ones.

	Tens	Ones	Numeral
1. 			
2. 			

Spelling Two-Place Numbers:

Numeral	Word
1	one
2	two
3	three
4	four
5	five
6	six
7	seven
8	eight
9	nine
10	ten
11	eleven
12	twelve
13	thirteen
14	fourteen
15	fifteen
16	sixteen
17	seventeen
18	eighteen (only one "t")
19	nineteen
20	twenty
30	thirty
40	forty (no "u")
50	fifty (note "f", not "v")
60	sixty
70	seventy
80	eighty (only one "t")
90	ninety



Rule: When a number between twenty-one (21) and ninety-nine (99) has a second number that is not zero, the number should be written as two words separated by a **hyphen**:

21	twenty-one
25	twenty-five
32	thirty-two
58	fifty-eight
64	sixty-four
79	seventy-nine
83	eighty-three
99	ninety-nine



WORD STOP

1. **hyphen** (hy-fen): line that joins two words. Example: twenty-two

ACTIVITY: Practice writing the word for two-place numbers. Once you have completed the activity, check the answers provided in the ANSWER KEY at the back of this unit.

Numeral	Word
22	<i>twenty-two</i>
48	
62	
99	
32	
12	
55	
43	
31	
80	
18	

Three-Place Numbers:

After the number ninety-nine (99), there are three-place numbers. A hundred (100) is the first three-place number. The three places are hundred, tens, and ones. Each place tells you how many hundreds, tens, and ones there are.

One hundred has:

Hundreds	Tens	Ones
1	0	0

The biggest three-place number is nine hundred and ninety nine:

Hundreds	Tens	Ones
9	9	9

Spelling Three-Place Numbers:

100	one hundred	600	six hundred
200	two hundred	700	seven hundred
300	three hundred	800	eight hundred
400	four hundred	900	nine hundred
500	five hundred		

Rule: Write out the number and then add the two-place or one-place numbers that follow.

Example:

121 = one hundred twenty-one

Hundreds	Tens	Ones
1	2	1

ACTIVITY: Practice writing the words for three-place numbers. Once you have completed the activity, check the answers provided in the ANSWER KEY at the back of this unit.

Numeral	Word
322	<i>three hundred twenty-two</i>
218	
962	
599	
432	
112	
555	
902	
437	
800	
760	



“Go down deep enough into anything and you will find mathematics.”

~Dean Schlicter

Larger Numbers:

If you understand how to form two-place and three-place numbers, then you are ready to form larger numbers as well. Follow the same rules to write numbers in the thousands, ten thousands, hundred thousands and millions. The more places there are, the bigger the number.

A ten is 10 ones:

Tens	Ones
1	0

A hundred is 10 tens:

Hundreds	Tens	Ones
1	0	0

A thousand is 10 hundreds:

Thousands	Hundreds	Tens	Ones
1	0	0	0

Ten thousand is 10 thousands:

Ten thousands	Thousands	Hundreds	Tens	Ones
1	0	0	0	0

A hundred thousand is 10 ten thousands:

Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
1	0	0	0	0	0

A million is ten hundred thousands:

Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones
1	0	0	0	0	0	0

Spelling Larger Numbers:

1 000	one thousand
10 000	ten thousand
100 000	one hundred thousand
1 000 000	one million

Rule: Write out the numbers in the order that they appear.

Example:

10 232 = ten thousand two hundred thirty-two

Ten thousands	Thousands	Hundreds	Tens	Ones
1	0	2	3	2

ACTIVITY: Practice writing the word for the following large numbers. Once you have completed the activity, check the answers provided in the ANSWER KEY at the back of this unit.

Numeral	Word
2222	<i>two thousand two hundred twenty-two</i>
4683	
1001	
13 342	
9 000 000	
6 232 100	

When to Spell a Number:

When the number begins a sentence.

- Fifty people were laid off. CORRECT! ☺
- 50 people were laid off. INCORRECT ☹

When the number has only one or two words.

- You can do this in twelve easy steps. CORRECT! ☺
- You can do this in 12 easy steps. INCORRECT ☹

NOTE: Form the plural of numbers by adding "s" or "ies."

- My grandmother is in her eighties.
- The Beatles have been popular since the sixties.
- Hundreds of people showed up for the concert.



“Pure mathematics is, in its way,
the poetry of logical ideas.”

~Albert Einstein

When to Use the Numeral Form:

When a number has more than two words:

- The population of Springfield is 876.

For addresses:

- I live at 25 Elm Street.

For dates:

- I was born on October 8, 1975.

For exact times of day:

- It's 12:30 p.m.

For exact amounts of money:

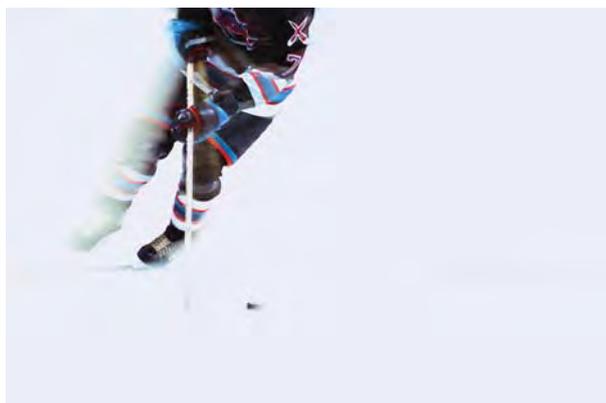
- It will cost \$53.00.

For decimals and fractions:

- Add 8.5 litres.
- Add $\frac{1}{2}$ cup of flour.

Percentages, scores or statistics:

- They saved 40% of their income.
- The Canadiens won 8-1.



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?*)

Comparing Numbers:

You compare numbers to find out which one is the greatest.

Scenario:

- John has collected 1232 stamps.
- Bob has collected 1201 stamps.

Who has collected more stamps?

In order to decide who has the greater number of stamps, you need to:

1. begin with the largest number (the one that the number starts with).
2. compare each place of the numbers.

John's Collection:

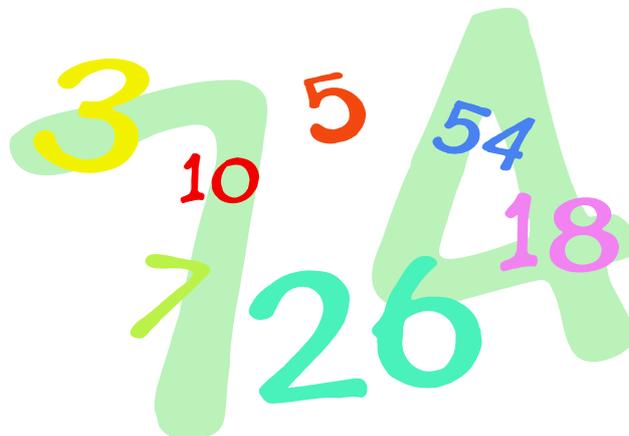
Thousands	Hundreds	Tens	Ones
1	2	3	2

Bob's Collection:

Thousands	Hundreds	Tens	Ones
1	2	0	1

- ✓ The thousands are the same.
- ✓ The hundreds are the same.
- ✓ The tens are not the same. John has three (3) tens, Bob has zero (0).

1. THIS MEANS John has more stamps than Bob.



When comparing numbers, you can use these symbols:

Symbol	When it's used	Example
$>$	To show that the first number is greater than the second number. Hint: The lines open towards the larger number.	$10 > 7$
$<$	To show that the second number is greater than the first number.	$32 < 43$
$=$	To show that the two numbers are equal (same value).	$30 = 30$

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

1. Compare the following numbers using $>$, $<$ or $=$.

a) $22 \underline{\hspace{1cm}} 25$

b) $63 \underline{\hspace{1cm}} 43$

c) $800 \underline{\hspace{1cm}} 792$

d) $220 \underline{\hspace{1cm}} 231$

e) $507 \underline{\hspace{1cm}} 570$

f) $3\,232 \underline{\hspace{1cm}} 3\,233$

g) $673\,323 \underline{\hspace{1cm}} 673\,320$

h) $413\,123 \underline{\hspace{1cm}} 413\,123$

i) $31\,100 \underline{\hspace{1cm}} 32\,100$

j) $31\,230 \underline{\hspace{1cm}} 31\,200$

k) $45\,564 \underline{\hspace{1cm}} 46\,000$

l) $65\,401 \underline{\hspace{1cm}} 65\,400$

m) $15\,104 \underline{\hspace{1cm}} 15\,674$

n) $15\,401 \underline{\hspace{1cm}} 14\,999$

o) $9\,999 \underline{\hspace{1cm}} 10\,000$

p) $87\,001 \underline{\hspace{1cm}} 87\,000$

2. Mrs. Smith has baked 230 cookies for the church fundraiser. Mr. Johnson has baked 280 for the same fundraiser. Who has baked the most cookies?

3. Tony has counted 230 flowers in his garden. Ahmed has counted 320 flowers in his garden. Who has the most flowers?

4. In the last election, John Smith got 3213 votes. Sherry Murphy got 3283 votes. Who had the most votes?

5. Patricia has collected 872 stamps. Henry has collected 837 stamps. Who has the most stamps?



Rounding Numbers:

Rounding numbers means to change a number to the nearest ten, hundred, or thousand.

- ✓ Rounded numbers are not exact.
- ✓ An exact answer generally cannot be obtained using rounded numbers.
- ✓ Use rounding to get an answer that is close but that does not have to be exact.

EXAMPLES:

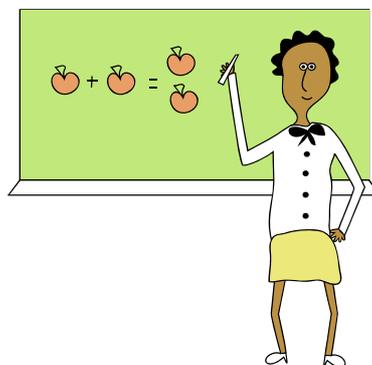
1. 53 becomes 50 (rounded down)
2. 430 becomes 400 (rounded down)
3. 6 700 becomes 7 000 (rounded up)

Why rounding numbers is useful:

- ✓ Rounding makes numbers easier to work with in your head.

We often round numbers to:

1. say how much something costs.
2. say how much there is of something.
3. say the time.



How to Round Numbers:

ROUNDING UP: If the number you are rounding is followed by 5, 6, 7, 8 or 9, round the number up.

Example: 48 rounded to the nearest ten is 50.

ROUNDING DOWN: If the number you are rounding is followed by 0, 1, 2, 3 or 4, round the number down.

Example: 23 rounded to the nearest ten is 20.

ANOTHER EXAMPLE:

Exactly fifty-three (53) new books have been donated to the library. Because the exact number is not important, the librarian tells her staff that *roughly fifty (50) books have been donated*.

➤ **The number 53 was rounded down to the nearest 10, which is 50.**



ACTIVITY: Practice rounding numbers to the nearest ten, hundred and thousand. Once you have completed the activity, you can check the answers provided in the ANSWER KEY at the back of this unit.

1. Round to the nearest 10:

- | | | | | | |
|-------|-----------|-------|-------|-------|-------|
| a) 33 | <u>30</u> | b) 43 | _____ | c) 88 | _____ |
| d) 25 | _____ | e) 12 | _____ | f) 97 | _____ |
| g) 56 | _____ | h) 76 | _____ | i) 72 | _____ |
| j) 92 | _____ | k) 7 | _____ | l) 53 | _____ |
| m) 61 | _____ | n) 88 | _____ | o) 44 | _____ |

2. Round to the nearest hundred:

- | | | | | | |
|--------|------------|--------|-------|--------|-------|
| a) 343 | <u>300</u> | b) 222 | _____ | c) 688 | _____ |
| d) 235 | _____ | e) 120 | _____ | f) 897 | _____ |
| g) 186 | _____ | h) 712 | _____ | i) 675 | _____ |
| j) 123 | _____ | k) 598 | _____ | l) 321 | _____ |
| m) 871 | _____ | n) 232 | _____ | o) 454 | _____ |

3. Round to the nearest thousand:

- | | | | | | |
|---------|-------------|---------|-------|---------|-------|
| a) 2343 | <u>2000</u> | b) 7182 | _____ | c) 3388 | _____ |
| d) 1235 | _____ | e) 1578 | _____ | f) 1597 | _____ |
| g) 7186 | _____ | h) 8700 | _____ | i) 8751 | _____ |
| j) 1203 | _____ | k) 6198 | _____ | l) 9211 | _____ |
| m) 3429 | _____ | n) 2002 | _____ | o) 4120 | _____ |

REFLECTION:

When could rounding numbers be useful?

Example: *Rounding numbers can be useful when grocery shopping.*



"Wherever there is number,
there is beauty." ~Proclus

Strategies for Numbers 1:

Understanding Numbers

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 know what a numeral is.		
2. I can write number words from one to a hundred.		
3. I can form one-place numbers.		
4. I can form two-place numbers.		
5. I can form three-place numbers.		
6. I can form large numbers.		
7. I can identify numbers in the thousands.		
8. I can identify numbers in the ten thousands.		
9. I can identify numbers in the hundred thousands.		
10. I can identify numbers in the millions		
11. I can write the words for large numbers.		
12. I know when to spell numbers.		
13. I can compare numbers.		

COMPETENCIES What I can do.	IN PROGRESS	ACHIEVED
14. I can use the symbols $>$ and $<$ to show greater value.		
15. I can explain what a rounded number is.		
16. I can say when rounding numbers is useful.		
17. I can round numbers.		

Strategies for Numbers 1

ANSWER KEY

Strategies for Numbers 1: Understanding Numbers

Page	Activity	Answer
3	1.	4, four oranges
4	2. 3. 4. 5. 6.	5, five cats 7, seven dogs 9, nine bananas 3, three houses 6, six fish
6	1. 2.	Tens: 1, Ones: 5, Numeral: 15 Tens: 4, Ones: 8, Numeral: 48
Page	Numeral	Answer
8	(48) (62) (99) (32) (12) (55) (43) (31) (80) (18)	forty-eight sixty-two ninety-nine thirty-two twelve fifty-five forty-three thirty-one eighty eighteen
10	(218) (962) (599) (432) (112) (555) (902) (437) (800) (760)	two hundred eighteen nine hundred sixty-two five hundred ninety-nine four hundred thirty-two one hundred twelve five hundred fifty-five nine hundred two four hundred thirty-seven eight hundred seven hundred sixty
12	(4683) (1001) (13 342) (9 000 000) (6 232 100)	four thousand six hundred eighty-three one thousand one thirteen thousand three hundred forty-two nine million six million two hundred thirty-two thousand one hundred

Page	Activity	Answer	Page	Activity	Answer
17	1. a) b) c) d) e) f) g) h) i) j) k) l) m) n) o) p)	22 < 25 63 > 43 800 > 792 220 < 231 507 < 570 3 232 < 3 233 673 323 > 673 320 413 123 = 413 123 31 100 < 32 100 31 230 > 31 200 45 564 < 46 000 65 401 > 65 400 15 104 < 15 674 15 401 > 14 999 9 999 < 10 000 87 001 > 87 000	21	3. b) c) d) e) f) g) h) i) j) k) l) m) n) o)	7000 3000 1000 2000 2000 7000 9000 9000 1000 6000 9000 3000 2000 4000
18	2. 3. 4. 5.	Mr. Johnson Ahmed Sherry Murphy Patricia			
21	1. b) c) d) e) f) g) h) i) j) k) l) m) n) o) 2. b) c) d) e) f) g) h) i) j) k) l) m)	40 90 30 10 100 60 80 70 90 10 50 60 90 40 200 700 200 100 900 200 700 700 100 600 300 900			

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