Addition and Subtraction within 1,000

GO MATH!

chapter 1

VOCAB CARDS, PRETESTS, AND JOURNAL PAGES

OA.8, OA.9, NBT.1, NBT.2

Addition and Subtraction within 1,000

After this subunit, students should be able to:

1. Round numbers to the nearest 10 and 100
2. Estimate sums or differences based on rounding
3. Add digits in each place value correctly
4. Subtract correctly without regrouping
5. Subtract correctly with regrouping

Student friendly I Can statements

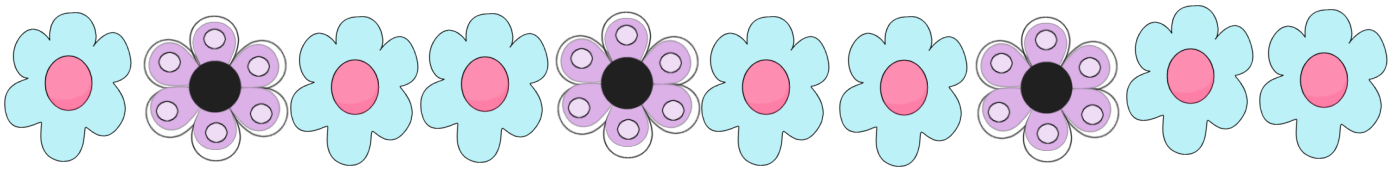
1. I can round numbers to the nearest 10
2. I can round numbers to the nearest 100
3. I can estimate the sum or difference of two numbers
4. I can add and subtract within 1,000

Vocabulary:

Pattern	Commutative property of addition
Estimate	Associative property of addition
Round	Identity property of addition
Compatible Numbers	

Pattern

An ordered set of numbers or objects in which the order helps you predict what will come next



Ex: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

Estimate

A number close to an exact amount

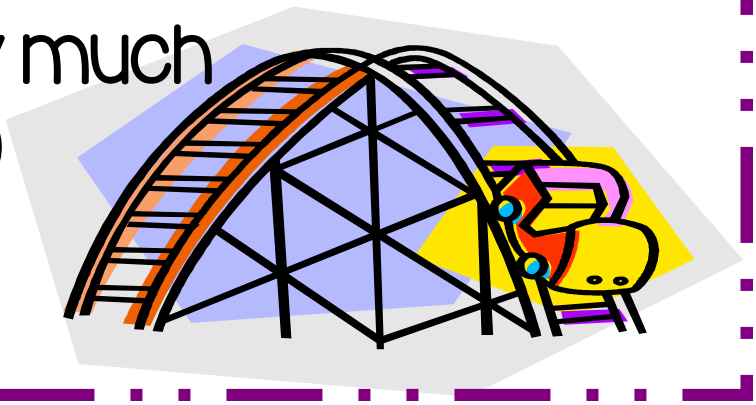
Jar = 27

Round

To replace a number with another number that tells about how many or how much

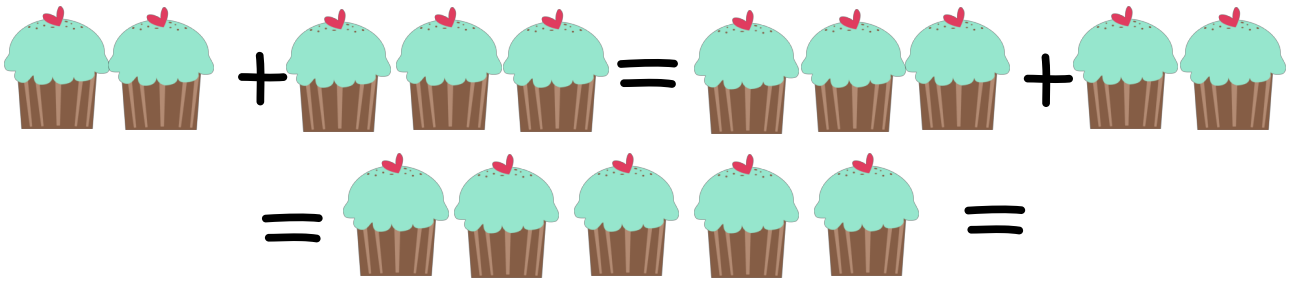
889 → 900

78 → 80



Commutative Property of Addition

You can add two or more numbers in any order and get the same sum



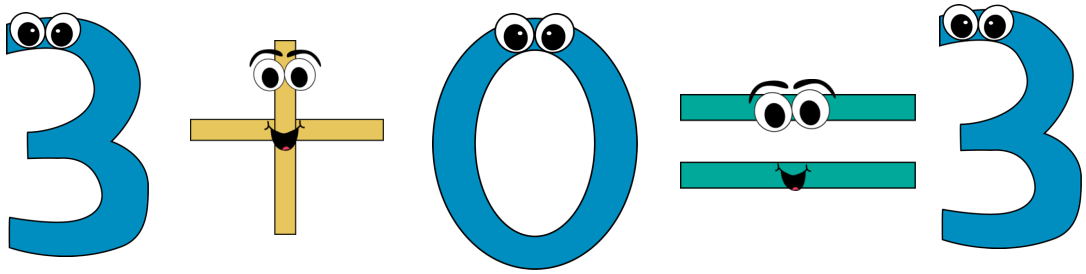
Associative Property of Addition

You can group addends in different ways and still get the same sums.

$$(5+3)+4 = (4+5)+3$$
$$(8)+4 = (9)+3$$
$$12 = 12$$

Identity Property of Addition

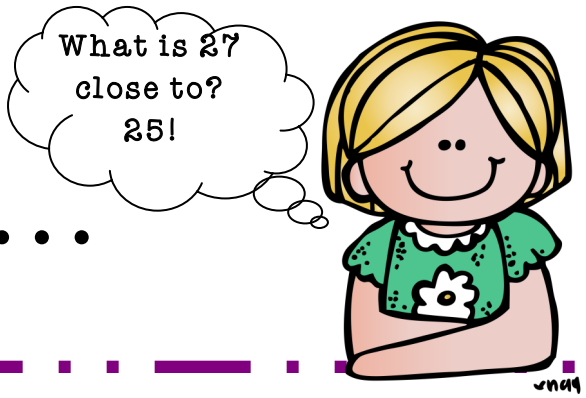
When you add zero to any number, the result is that number



Compatible Numbers

Numbers that are easy to compute mentally

27...



Addition and Subtraction to 1,000 Pretest

Name:_____

1. During back to school shopping Anita's mom noticed that there were 298 parking spots open at the store. There were 153 filled, how many total spots were in the lot?

A. 145 spots
B. 153 spots
C. 341 spots
D. 451 spots

2. The art class collected 197 pencils from second grade and 765 from third grade. How many pencils did the art class collect in all?

A. 962 pencils
B. 852 pencils
C. 568 pencils
D. 1,129 pencils

3. There were 450 nonfiction books and 861 fiction books in the library. How many more books were fiction than nonfiction?

A. 1,281 books
B. 411 books
C. 395 books
D. 512 books

4. Mr. Jones had 145 pizza slices to give out at lunch. If only 67 students wanted pizza, how many pizza slices would he have left?

A. 122 slices
B. 202 slices
C. 78 slices
D. 88 slices

5. Jacob has 753 baseball trading cards. His friend, Kevin, gives him 199 more for his birthday. How many baseball cards does Jacob have now?

A. 952 cards
B. 554 cards
C. 842 cards
D. 852 cards

6. To get to school, Samantha counts her steps. She takes 423 steps on Monday. She takes a different route to school on Tuesday and only counts 389 steps. How many more steps did she take Monday than Tuesday?

A. 812 steps
B. 166 steps
C. 134 steps
D. 34 steps

7. On Friday, 541 girls wore green to school and 349 boys wore green to school. How many more girls than boys wore green to school on Friday?

A. 208 girls
B. 192 girls
C. 890 girls
D. 92 girls

8. On the first week of school 385 students brought their lunch. On the second week of school, 193 students brought their lunch. What is the best estimate of how many students brought their lunch the first and second week of school?

A. 500 students
B. 600 students
C. 100 students
D. 200 students

9. The toy store is trying to sell all the dolls in the store. If they sold 329 dolls on Saturday, how many more do they need to sell to be out of their 489 total dolls?

A. 160 dolls
B. 818 dolls
C. 60 dolls
D. 769 dolls

10. Bree got a score of 430 in Yatzee and Molly got a score of 221 in Yatzee. What is the best estimate of how many points Bree beat Molly by?

A. 100 points
B. 600 points
C. 200 points
C. 300 points

11-13 Match the correct letter of the definition with the correct term.

_____ Identity property	a. 5 + 3 = 3 + 5
_____ Associative property	b. 6 + 0 = 6
_____ Commutative property	c. (4 + 3) + 2 = 3 + (2 + 4)

14-16 Round the numbers to the nearest TEN

479 _____ 813 _____ 145 _____

17-20 Round the numbers to the nearest HUNDRED

932 _____ 712 _____ 155 _____

Workspace:

Key

Addition and Subtraction to 1,000 Pretest

1. During back to school shopping Anita's mom noticed that there were 298 parking spots open at the store. If 153 of them were filled, how many total spots were in the lot?

A. 145 spots
B. 153 spots
C. 341 spots
D. 451 spots

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B. 166 steps
C. 134 steps
D. 34 steps

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11-13 Match the correct letter of the definition with the correct term.

B	Identity property	a. 5 + 3 = 3 + 5
C	Associative property	b. 6 + 0 = 6
A	Commutative property	c. (4 + 3) + 2 = 3 + (2 + 4)

14-16 Round the numbers to the nearest TEN

479 480 813 810 145 150

17-20 Round the numbers to the nearest HUNDRED

932 900 712 700 155 200

Workspace:

Addition and Subtraction within 1,000

GO MATH!

chapter 1

JOURNAL

By: _____

Number patterns-1.1

Define the identity property of addition: _____

_____

_____

Define the commutative property of addition: _____

_____

_____

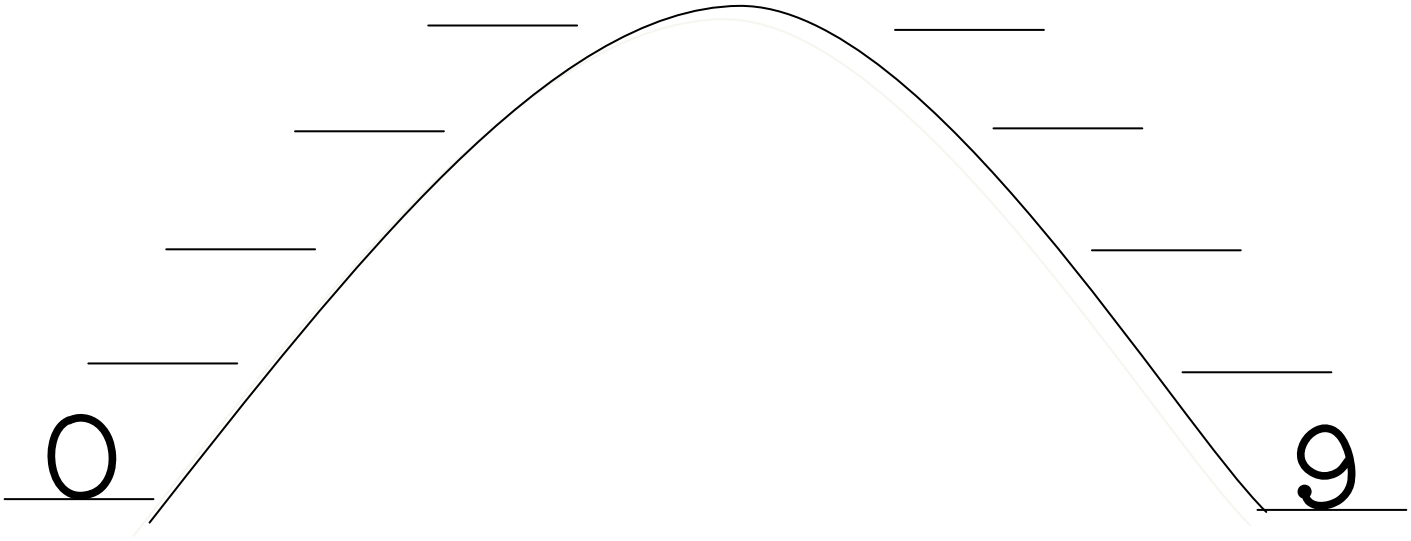
Write the commutative problem of each example below. Then solve the problem

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

Write 5 different equations that show the identity property of addition:

Rounding to the nearest 10 or 100- 1.2

Label the following rounding chart.



Place 4 different numbers in each box that would round to that number.

840	300
120	

Explain in your own words how to round to the nearest 10: _____

_____

Explain in your own words how to round to the nearest 100: _____

_____

Estimating sums - 1.3

Estimate the following answers by rounding to the nearest 100 and rounding to the nearest 10. Solve.

	Round to nearest 10	Round to nearest 100
756 +129		
546 +233		
198 +612		
599 +429		

How does estimating sums help you when doing math?

_____

_____

Why is this skill important?

_____

_____

_____

Mental Math Strategies- 1.4

Use the number line to count by tens and ones to find 45 + 32

Use the number line to count by tens and ones to find 36 + 26

Show 48 + 12 using compatible numbers	Show 57 + 18 using compatible numbers
Show 88 + 33 using compatible numbers	Show 16 + 27 using compatible numbers

Are compatible numbers or using a number line easier for you to understand? Explain:

_____

_____

_____

Using properties to add- 1.5

Define the associative property of addition:

_____

_____

Solve each problem. Then write Associative, Commutative, or Identity next to each problem.

(8 + 7) + 5 = _____
_____ property

10 + 0 = _____
_____ property

12 + 4 = 4 + 12 = _____
_____ property

(12 +4) + 3 = _____
_____ property

(16 + 9) + 4= _____
_____ property

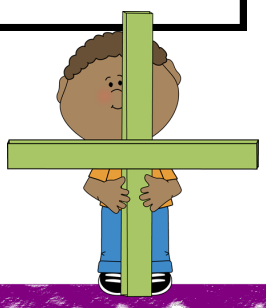
0 + 25 = _____
_____ property

18 + 4 = 4 + 18 = _____
_____ property

0 + 17 = _____
_____ property

(1 + 8) + 12 = _____
_____ property

13 + 10 = 10 + 13= _____
_____ property



Break apart strategy to add- 1.6

How do you break apart a three-digit number? _____

_____

_____

Solve by breaking apart the three-digit numbers and adding.

653 +450	____ + ____ + ____ +____ + ____ + ____
871 +649	____ + ____ + ____ +____ + ____ + ____
812 +782	____ + ____ + ____ +____ + ____ + ____
908 +537	____ + ____ + ____ +____ + ____ + ____

In the following problems, something went wrong! Fix the problems and explain how to correct them!

929
+452

900 + 200 + 90
+400 + 50 + 2

1300 + 250 + 92 = 1642

Fix It:

Explain what happened: _____

_____

_____

_____

399
+508

300 + 90 + 9
+500 + 80 + 0

800 + 170 + 9 = 870

Fix It:

Explain what happened: _____

_____

_____

_____

Adding using place value- 1.7

How do you know when to regroup when adding? _____

_____

_____

_____

Write three different addition problems that would require you to regroup in the tens or hundreds place. Then solve.

1.	2.	3.

Solve the following questions. Place a star next to the problems that required you to regroup.

182 +178	271 +428	885 +141
544 +352	391 +269	617 +435

Estimating differences- 1.8

Estimate the following answers by rounding to the nearest 100 and rounding to the nearest 10. Solve.

	Round to nearest 10	Round to nearest 100
459 - 340		
698 - 422		
673 - 589		
210 - 111		

How does estimating differences help you when doing math?

_____

_____

_____

Why is this skill important? _____

_____

_____

Mental Math for Subtraction- 1.9

Use the number line to count by tens and ones to find 65-18

Use the number line to count by tens and ones to find 72-39

Show 48 - 12 using compatible numbers	Show 57 - 18 using compatible numbers

Answer the following word problem:

Alex and his friend, Nathan, were playing with their toy cars. Alex had 349 cars and Nathan had 288 cars. How many more cars did Alex have than Nathan? _____

Show your work:

What KEY WORDS helped you know that you were supposed to subtract in this problem? _____

What other KEY WORDS are associated with subtraction? _____

_____

_____

Subtracting using place value- 1.10

How do you know when to regroup when subtracting? _____

_____

_____

_____

Write three different subtraction problems that would require you to regroup in the tens or hundreds place. Then solve.

1.	2.	3.

Do you need to regroup when subtracting 489 from 612? _____ How do you know?_____

_____

Suppose we have a new student in our classroom. **Show** and **explain** to this student how to subtract 659 from 811. Make sure to show ALL steps of your problem.

Using place value to subtract- 1.11

Estimate each answer, then solve

Estimate:_____

617
-542

Estimate:_____

815
-636

Estimate:_____

503
-228

Estimate:_____

313
-288

Steve was solving the following problem: Sam and John were running. Sam ran 973 feet and John ran 878 feet. How many more feet did Sam run than John?

Steve's work:

878
- 973
105

Was Steve correct? _____

Correct Steve's work:

Explain, in words, how you would teach Steve to do this problem: _____

_____

_____

Addition and Subtraction Problem Solving- 1.12

John solved the following problem: Jack and Jill took 195 steps up a hill and 789 steps down the other side of the hill. How many steps did they take in all?

John's Work:

789
- 195
614

Jack and Jill went 614 steps.

Is John correct? _____

Solve the problem fixing John's mistakes:

Solve:

Anna sold 182 CDs at her shop on Monday. She sold 78 fewer CDs on Tuesday. How many CDs did she sell on Tuesday?

Kathy went to the mall and bought a toy for $143 and then went to the amusement park and spent $388. How much money did Kathy spend at the mall and park combined?

Key

Number patterns-1.1

Define the identity property of addition:

If you add zero to any number you will be left with the same number you added to zero

Define the commutative property of addition: You can switch around the numbers in an addition problem and still get the same answer.

Write the commutative problem of each example below. Then solve the problem

5 + 7	7 + 5	12
8 + 2	2 + 8	10
5 + 9	9 + 5	14
1 + 3	3 + 1	4
4 + 7	7 + 4	11
2 + 1	1 + 2	3
8 + 4	4 + 8	12
9 + 6	6 + 9	15

Write 5 different equations that show the identity property of addition:

Possible answers:

8 + 0 = 8

0 + 12 = 12

20 + 0 = 20

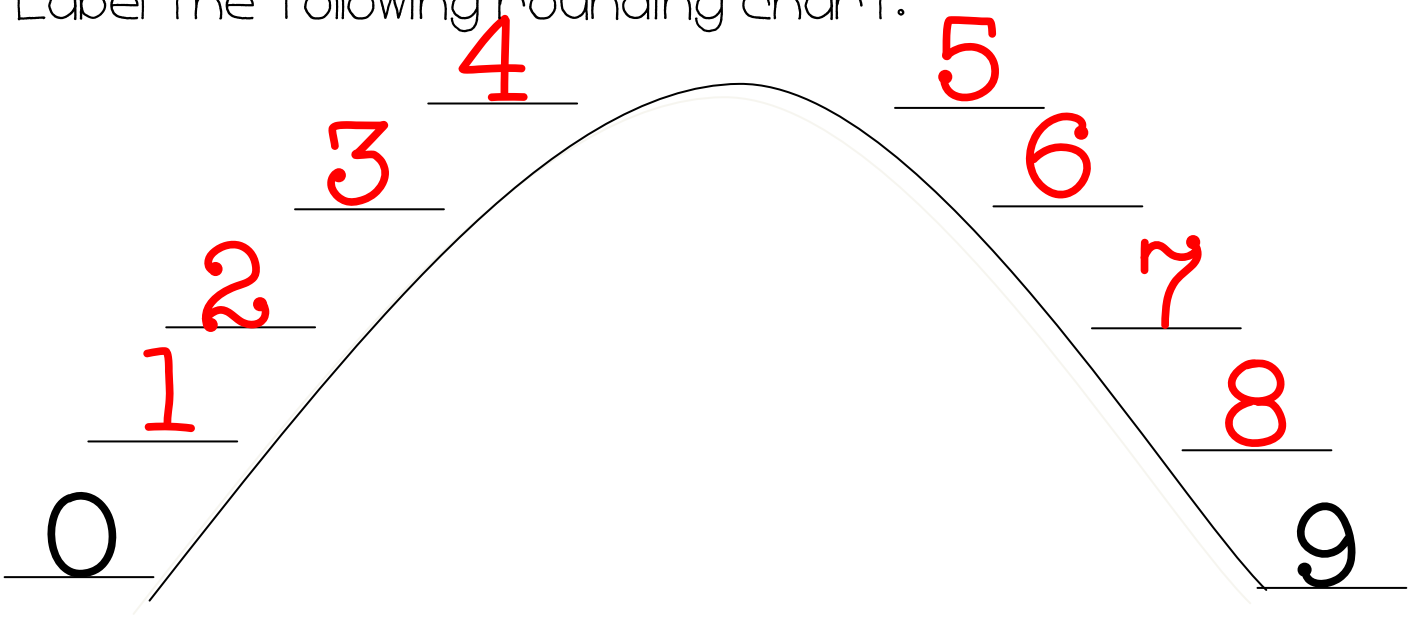
0 + 2 = 2

9 + 0 = 9

Key

Rounding to the nearest 10 or 100- 1.2

Label the following rounding chart.



Place 4 different numbers in each box that would round to that number.

840	300	120
841, 842, 839, 838, 843	302, 299, 301, 303, 304	119, 118, 117, 121, 122

Explain in your own words how to round to the nearest 10: You look at the number in the ones place. If it is over 4 you round up, if it is less than 5 you round down.

Explain in your own words how to round to the nearest 100: You look at the number in the tens place. If it is over 4 you round up, if it is less than 5 you round down.

Key

Estimating sums - 1.3

Estimate the following answers by rounding to the nearest 100 and rounding to the nearest 10. Solve.

	Round to nearest 10	Round to nearest 100
756 +129	760 +130 890	800 +100 900
546 +233	550 +230 780	500 +200 700
198 +612	200 +610 810	200 +600 800
599 +429	600 +430 1030	600 +400 1000

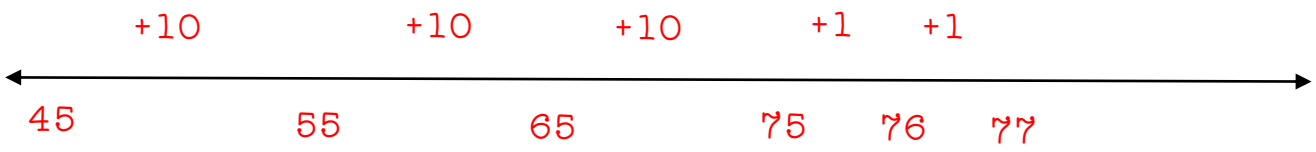
How does estimating sums help you when doing math? Possible Answer: It helps me to get an answer close to the answer so I can check my work

Why is this skill important? Possible answer: This skill is important so when I check my work I know if it is close to the correct answer. It also is important in the real world when I am trying to solve math problems quickly.

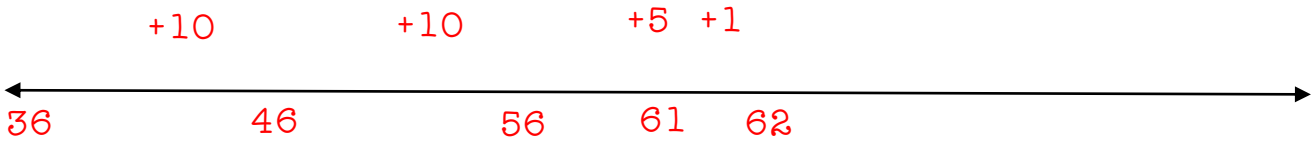
Key

Mental Math Strategies- 1.4

Use the number line to count by tens and ones to find 45 + 32



Use the number line to count by tens and ones to find 36 + 26



Show 48 + 12 using compatible numbers	Show 57 + 18 using compatible numbers
48 + 2 = 50 50 + 10 = 60	57 + 3 = 60 60 + 5 = 65 65 + 10 = 75

Show 88 + 33 using compatible numbers	Show 16 + 27 using compatible numbers
88 + 2 = 90 90 + 1 = 91 91 + 30 = 121	16 + 4 = 20 20 + 3 = 23 23 + 20 = 43

Are compatible numbers or number line easier for you to use? Explain:

Answers Vary

Key

Using properties to add- 1.5

Define the associative property of addition: You can switch the numbers around and still get the same answer

Solve each problem. Then write Associative, Commutative, or Identity next to each problem.

(8 + 7) + 5 = 20
Associative property

10 + 0 = 10
Identity property

12 + 4 = 4 + 12 = 16
Commutative property

(12 +4) + 3 = 19
Associative property

(16 + 9) + 4= 29
Associative property

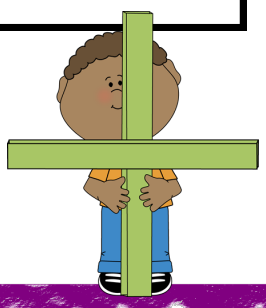
0 + 25 = 25
Identity property

18 + 4 = 4 + 18 = 22
Commutative property

0 + 17 = 17
Identity property

(1 + 8) + 12 = 21
Associative property

13 + 10 = 10 + 13= 23
Commutative property



Key

Break apart strategy to add- 1.6

How do you break apart a three-digit number? You take the hundreds, tens, and ones and split them into their own sections. Ex: 952 is 900 + 50 + 2

Solve by breaking apart the three-digit numbers and adding.

653 +450 1103	600 + 50 + 3 +400 + 50 + 0 1,000 + 100 + 3
871 +649 1,520	800 + 70 + 1 +600 + 40 + 9 1400 +110+10
812 +782 1594	800 + 10 + 2 +700 + 80 + 2 1500+ 90 + 4
908 +537 1445	900 + 00 + 8 +500 + 30 + 7 1400 +30 + 15

In the following problems, something went wrong! Fix the problems and explain how to correct them!

929
+452

900 + 200 + 90
+400 + 50 + 2

1300 + 250 + 92 = 1642

Fix It: 900 + 20 + 9
+400 + 50 + 2
1300 + 70 + 11= 1381

Explain what happened: The problem is wrong because the top tens place is marked as a hundred with two zeros when it only needs 1 zero to make it 20.

399
+508

300 + 90 + 9
+500 + 80 + 0

800 + 170 + 9 = 870

Fix It: 300 + 90 + 9
+500 + 00 + 8
800 + 90 + 17= 907

Explain what happened: The tens place in the bottom number should have been 0, not 80. The ones place marks the 8 instead of the tens place. They also added the numbers incorrectly when solvin the final problem.

Key

Adding using place value- 1.7

How do you know when to regroup when adding? You have to re-group when there is more than ten in one place value

Write three different addition problems that would require you to regroup in the tens or hundreds place. Then solve.

1.	2.	3.
Answers Vary	Answers Vary	Answers Vary

Solve the following questions. Place a star next to the problems that required you to regroup.

★
182
+178
360

271
+428
699

★
885
+141
1,026

544
+352
896

★
391
+269
660

★
617
+435
1,052

Key

Estimating differences- 1.8

Estimate the following answers by rounding to the nearest 100 and rounding to the nearest 10. Solve.

	Round to nearest 10	Round to nearest 100
459 - 340	460 - 340 120	500 - 300 200
698 - 422	700 - 420 280	700 - 400 300
673 - 589	670 - 590 80	700 - 600 100
210 - 111	210 - 110 100	200 - 100 100

How does estimating differences help you when doing math? Estimating helps by getting an about answer before trying to solve for the real answer. It helps you know if you are doing the problem correct or not

Why is this skill important? It's important to be able to check your work or tell your brain you did the problem incorrect. It also helps when doing real world math.

Key

Subtracting using place value- 1.10

How do you know when to regroup when subtracting? You re-group when subtracting when the top number is smaller than the bottom number

Write three different subtraction problems that would require you to regroup in the tens or hundreds place. Then solve.

1.	2.	3.
Answers Vary	Answers Vary	Answers Vary

Do you need to regroup when subtracting 489 from 612? Yes. How do you know? I know because the 9 is larger than the 2 in the ones place and the 8 is larger than the 1 in the tens place.

Suppose we have a new student in our classroom. Show and explain to this student how to subtract 659 from 811. Make sure to show ALL steps of your problem.

First set the problem up with the larger number on top

811

-659

Then borrow from the 8 making it a 7. Make the 1 in the tens place an 11 and then borrow again to make the tens place a 10 and the ones place 11.

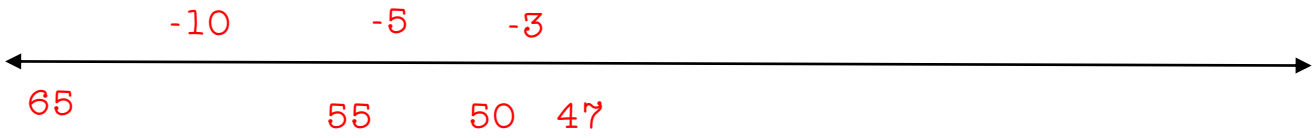
11-9 =2 (ones place), 10-5= 5 (tens place), and 7-6=1 (hundreds place)

152 is the answer

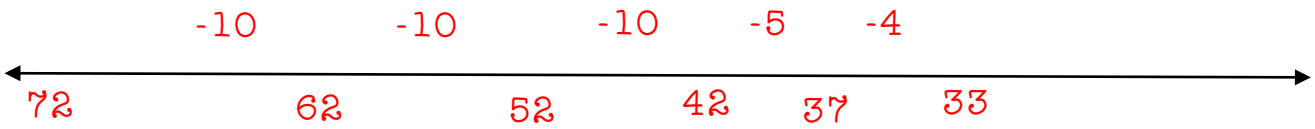
Key

Mental Math for Subtraction- 1.9

Use the number line to count by tens and ones to find 65–18



Use the number line to count by tens and ones to find 72–39



Show 48 - 12 using compatible numbers

48 – 10 = 38

38 - 2 = 36

Show 57 - 18 using compatible numbers

57– 10 = 47

47– 7 = 40

40– 1 = 39

Answer the following word problem:

Alex and his friend, Nathan, were playing with their toy cars. Alex had 349 cars and Jason had 288 cars. How many more cars did Alex have than Jason? 61 cars

Show your work:

What KEY WORDS helped you know that you were supposed to subtract in this problem? How many more

What other KEY WORDS are associated with subtraction? Minus, subtract, take away, left, still, leave, fewer, decrease, difference

Key

Using place value to subtract- 1.11

Estimate each answer, then solve

Estimate:_100

617
-542
75

Estimate:_200

815
-636
179

Estimate:_300

503
-228
275

Estimate:_50

313
-288
25

Steve was solving the following problem: Sam and John were running. Sam ran 973 feet and John ran 878 feet. How many more feet did Sam run than John?

Steve's work:

878
- 973
105

Was Steve correct? No

Correct Steve's work: 973-878= 95

Explain, in words, how you would teach Steve to do this problem: Steve needs to put the larger number on the top, then subtract. He needs to borrow from the hundreds place to complete his problem.

Key

Addition and Subtraction Problem Solving- 1.12

John solved the following problem: Jack and Jill took 195 steps up a hill and 789 steps down the other side of the hill. How many steps did they take in all?

John's Work:

789
-195
614

Jack and Jill went 614 steps.

Is John correct? No

Solve the problem fixing John's mistakes:

789
-195

600 180
~~700~~ + ~~80~~ + 9
-100 + 90 + 5
500 + 90 + 4 = 594

Solve:

Anna sold 182 CDs at her shop on Monday. She sold 78 fewer CDs on Tuesday. How many CDs did she sell on Tuesday?

182 – 78 = 104

Kathy went to the mall and bought a toy for $143 and then went to the amusement park and spent $388. How much money did Kathy spend at the mall and park combined?

143 + 388 = 531

MATH JOURNAL RUBRIC

Earn 4 Stars

☆ I solved my problem using an effective strategy

☆ My explanation was very clear. It included my **work and what I did**

☆ I explained **why** I chose the operation or strategy I used

☆ I effectively used math words

	Score
1.1– Number Patterns	
1.2– Round to the Nearest Ten or Hundred	
1,3– Estimate Sums	
1.4– Mental Math Strategies for Addition	
1.5– Use Properties to Add	
1.6– Use the Break Apart Strategy to Add	
1.7– Use Place Value to Add	
1.8– Estimate Differences	
1.9– Mental Math Strategies for Subtraction	
1.10– Use Place Value to Subtract	
1.11– Combine Place Values to Subtract	
1.12– Model Addition and Subtraction	

THANK YOU

I hope you and your students enjoy using this product. Thanks a bunch!

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