LESSON 16

• Adding Three-Digit Numbers

Power Up

facts

Power Up 16

jump start

Count up by 10s from 100 to 200.
Count up by 100s from 0 to 1000.

Draw hands on your clock to show "quarter to 8." It is morning. Write the time in digital form.

Mark your thermometer to show 18°C.

mental math

a. Calendar: How many days are in 3 weeks?

b. Number Sense: 13 − 10

c. Time: What is the time 2 hours after midnight?

d. Number Sense: 9 + 8

problem solving

Draw the next two shapes in this pattern:

○, ○, △, △, ○, ○, △, △, ○, _____, _____, . . .

New Concept

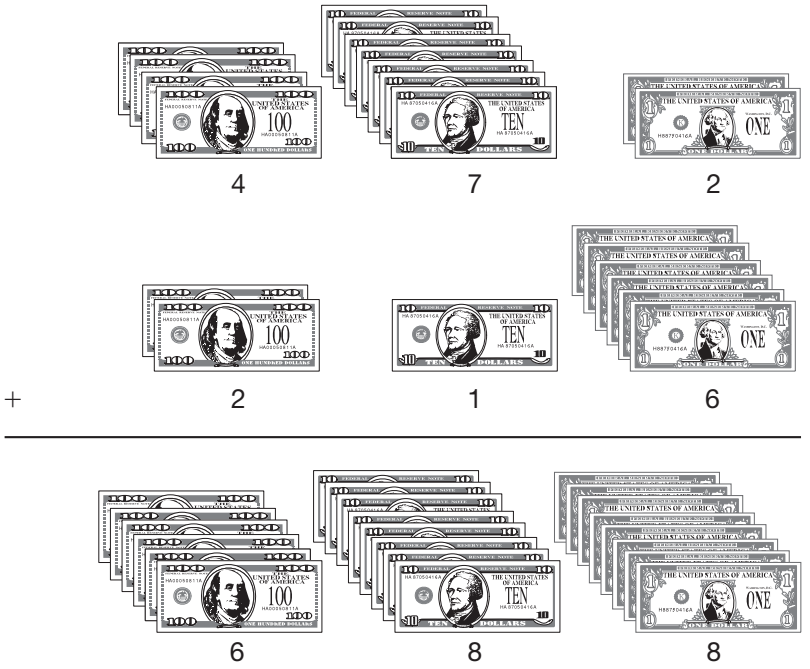
Visit www.SaxonMath.com/Int3Activities for a calculator activity.

In Lesson 13 we used money manipulatives to add two-digit numbers. In this lesson we will use money manipulatives to help us add three-digit numbers. We will use $100 bills to show digits in the hundreds place, $10 bills to show digits in the tens place, and $1 bills to show digits in the ones place.

Example 1

Use money manipulatives to add $472 and $216.

We show $472 and $216. Then we combine the $1 bills, $10 bills, and $100 bills.



The sum is 6 hundreds, 8 tens and 8 ones. That equals **$688.**

We can also use pencil and paper to calculate the sum. First we add the digits in the ones place. Then we add the digits in the tens place. Last we add the digits in the hundreds place.

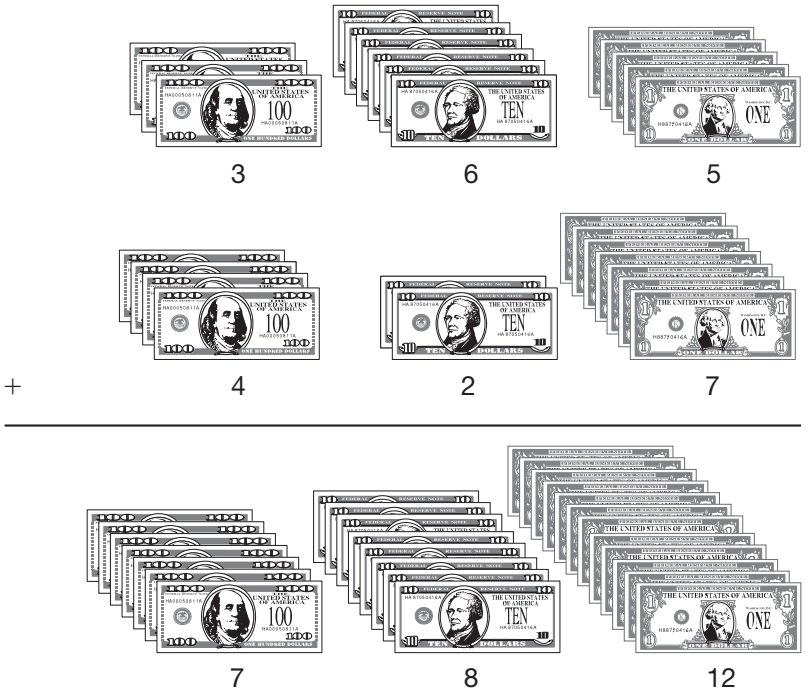
Add ones
Add tens
Add hundreds

$$\begin{array}{r} \$472 \\ +\ \$216 \\ \hline \mathbf{\$688} \end{array}$$

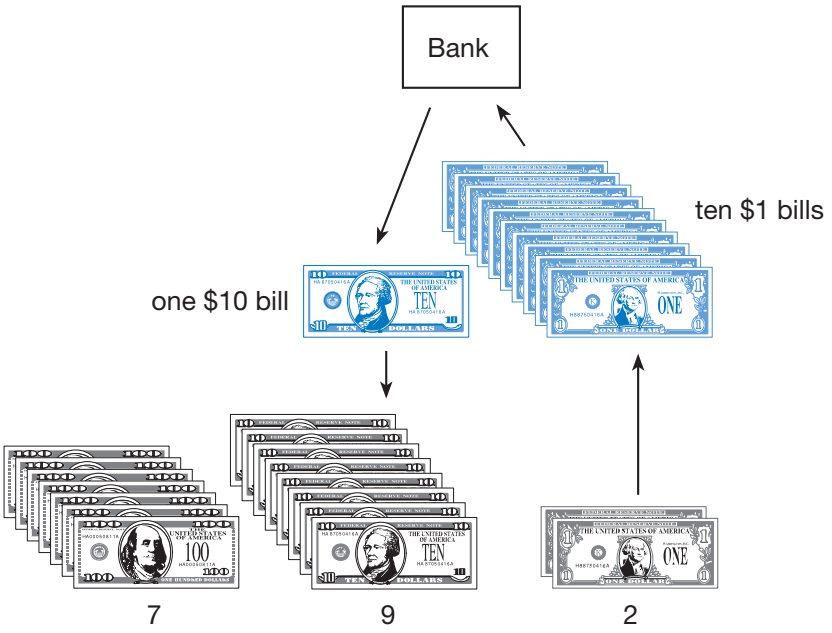
Example 2

Use money manipulatives to add $365 and $427.

We show $365 and $427. Then we combine the $1 bills, the $10 bills, and the $100 bills.



Since there are twelve $1 bills, we can regroup ten of the $1 bills into one $10 bill. Now we have 7 hundreds, 9 tens, and 2 ones. That equals **$792.**



We can also use pencil and paper to find the sum. First we add the digits in the ones place and get 12. Twelve ones is the same as 2 ones and 1 ten. We write 2 in the ones place and add the 1 ten to the other tens. Then we add the digits in the tens place and get 9. Last we add the digits in the hundreds place and get 7.

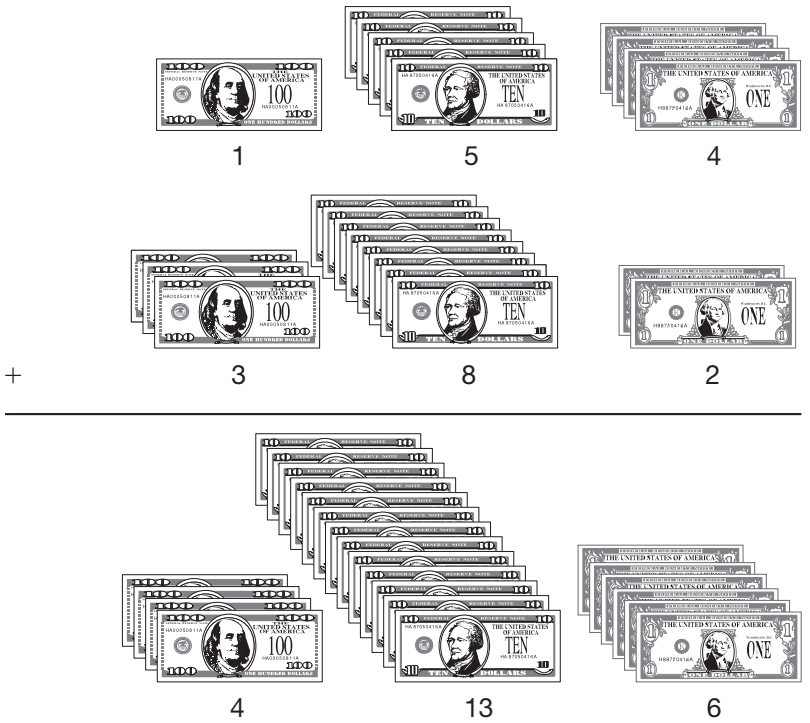
Add ones
Add tens
Add hundreds

$$\begin{array}{r} {\scriptstyle 1} \\ \$365 \\ +\,\$427 \\ \hline \mathbf{\$792} \end{array}$$

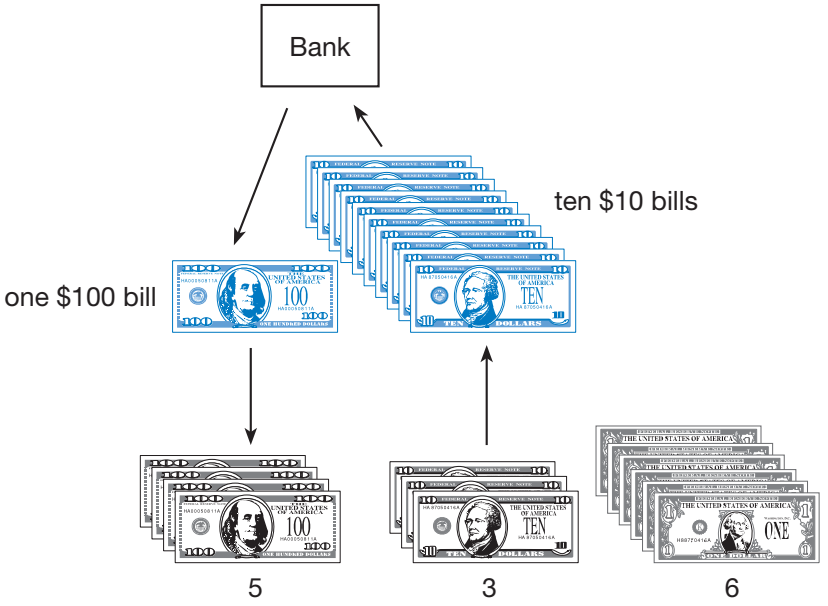
Example 3

Use money manipulatives to add $154 and $382.

We show $154 and $382. Then we combine the $1 bills, the $10 bills, and the $100 bills.



There are a total of six $1 bills so we do not regroup in the ones place. Since there are thirteen $10 bills, we can regroup ten of the $10 bills into one $100 bill.



Now we have **5 hundreds, 3 tens** and **6 ones.** That equals **$536.**

We can also use pencil and paper to find the sum. First we add the digits in the ones place. Then we add the digits in the tens place. Last we add the digits in the hundreds place. The sum in the tens column, 13, is the same as 3 tens and 1 hundred. We write 3 in the tens place and add 1 hundred to the other hundreds. Then we add the digits in the hundreds place and get 5.

Add ones
Add tens
Add hundreds

$$\begin{array}{r} {\scriptstyle 1} \\ \$154 \\ +\ \$382 \\ \hline \mathbf{\$536} \end{array}$$

Discuss You will find that some 3-digit addition problems need regrouping in the ones place and the tens place. How could you show regrouping for both columns?

Lesson Practice

Model Use your money manipulatives to add:

a. $430 + $120

b. 123 + 245

c. 249 + 325

d. $571 + $364

e. How much money is five $100 bills, three $10 bills and thirteen $1 bills?

Add:

f. 431 + 263 **g.** $648 + $237 **h.** 362 + 194

Written Practice

Distributed and Integrated

1. Use manipulatives to find the sum of $162 and $253.
(16)

2. Use words to write $444.
(12)

3. Miguel had five $10 bills. How much money did Miguel have?
(11)

4. Write 560 in expanded form.
(11)

Conclude What are the next four numbers in each sequence?

5. 3, 6, 9, 12, _____, _____, _____, _____, . . .
(2)

6. 6, 12, 18, 24, _____, _____, _____, _____, . . .
(2)

7. **Analyze** Jess had one $100 bill, three $10 bills, and nine $1 bills. Gayle had four $100 bills, two $10 bills, and three $1 bills. How much money did Jess and Gayle have altogether?
(11, 16)

8. Round these amounts to the nearest hundred:
(15)
a. $872 **b.** $463

9. Round these numbers to the nearest ten:
(15)
a. 81 **b.** 16

10. The bus arrives each morning at a quarter to eight. The minute hand of a clock points to what number when the bus arrives?
(3, 5)

11. **Multiple Choice** Which expression below is equal to the number of minutes in a quarter of an hour plus the number of minutes in a half hour?
(5, 6)
A 4 + 30 **B** 25 + 30 **C** 15 + 30 **D** 25 + 50

Add or subtract, as shown:

12. $16 − $5
(14)

13. 58 + 10
(13)

14. 8 + 8 + 8
(10)

15. $25 − $17
(14)

16. 127 + 631
(16)

17. $58 − $30
(14)

Find the missing addend:

18. $35 + m = 55$
(9)

19. $100 = \square + 30$
(9)

20. Brock wrote the addition fact 8 + 2 = 10. Use the numbers 8, 2, and 10 to write one more addition fact and two subtraction facts.
(8)

Early Finishers
Real-World Connection

Fernanda's school was having a carnival to raise money for a new playground. Fernanda was in charge of collecting money at the ticket booth. When the carnival was over she had collected twelve $10 bills and seven $1 bills. Name the amount that Fernanda collected twice, once using words and once using a dollar sign and digits.

LESSON 17

• Comparing and Ordering, Part 1

Power Up

facts

Power Up Worksheet 17

jump start

Count up by 2s from 0 to 30.
Count up by 5s from 0 to 60.

Draw hands on your clock to show "quarter after 8." It is evening. Write the time in digital form.

Mark your thermometer to show the freezing point of water.

mental math

a. Number Sense: 13 − 9

b. Number Sense: 16 − 9

c. Money: $3 + $9

d. Money: Find the value of these coins:

problem solving

Use your money manipulatives to help you act out this problem:

Darrin had $25. He went to the carnival and spent some of the money. After the carnival, Darrin had $10. How much money did Darrin spend at the carnival?

New Concept

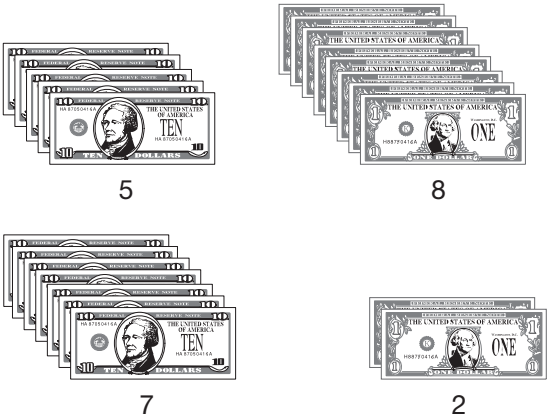
Sometimes we need to compare the costs of different items to find the lowest price. In this lesson we will compare amounts of money and arrange amounts of money in order.

We can use **comparison symbols** to show how we compare money. If two amounts are equal, we write an equal sign between the two numbers. If the amounts are not equal, we write < or > so that the small end points to the number that is less. We read the symbol > as "**greater than**." We read the symbol < as "**less than**."

Example 1

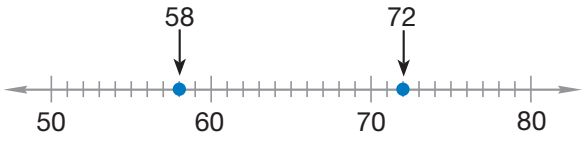
Samantha saved her birthday money to buy new skates. She found skates she liked at The Super Store for $58. She found the same skates at Bob's Sporting Goods for $72. Write the two prices with a comparison symbol. Where should Samantha buy her skates?

Samantha wants to buy the skates that cost less. We can use money to compare the two prices.



First we will look at the $10 bills. There are five $10 bills in $58 and seven $10 bills in $72. Since five is less than seven, we know that $58 is less than $72. We write $58 < $72.

We can also use a number line to compare 58 and 72. Remember that a number line shows numbers on a line in counting order.



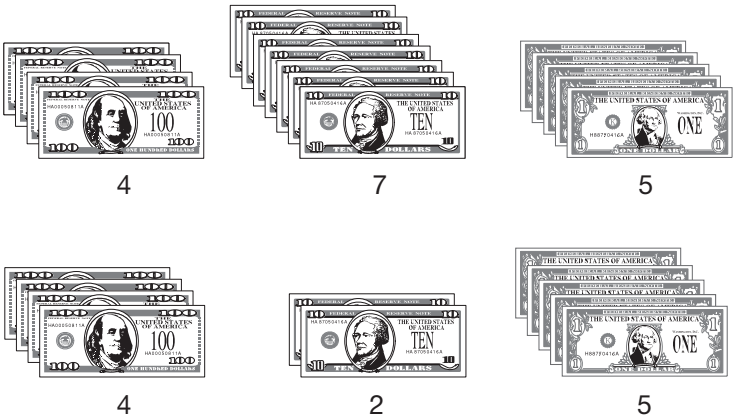
We see on the number line that 58 comes before 72. We say that 58 is less than 72. We write 58 < 72. Since $58 is less than $72, Samantha should buy her skates at **The Super Store.**

Example 2

Mr. Jung is shopping for an airline ticket. A ticket from Blue Skies Airline costs $475. A ticket from World Wide Airlines costs $425. Which ticket costs more? Write < or > in the circle to complete the comparison.

$475 ◯ $425

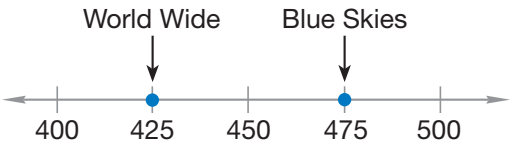
We will use money to compare $475 and $425.



First we will look at the $100 bills. There are four $100 bills in $475 and four $100 bills in $425. Since the $100 bills in each number are the same, we look next at the $10 bills. There are seven $10 bills in $475 and two $10 bills in $425. We know that 7 is more than 2, so $475 is greater than $425.

$475 > $425

We can also use the number line below to compare 475 and 425.



We see that 475 comes after (is farther right than) 425 on the number line. So 475 is greater than 425.

$475 > $425

Example 3

Columbus Elementary School third graders sold magazines to raise money for their school. The three students who raised the most money won prizes. Li raised $261. Bud raised $172. Ashley raised $285. Show the total raised by each of these students in order from least to greatest.

We will use money manipulatives to find the order of these three amounts. Show $261, $172, and $285 on your desk using money from the money kit.

Li	2	6	1
Bud	1	7	2
Ashley	2	8	5

We will look at the $100 bills first. Since one $100 bill is less than two $100 bills, we know that $172 is the least number.

Now we will compare $261 and $285. In $261 and $285 the number of $100 bills is equal, so we look at the $10 bills. Since six $10 bills are less than eight $10 bills, $261 is less than $285.

The total amount of money raised by each student in order from least to greatest is **$172, $261, $285.**

Analyze Which has the greater value, two $10 bills or four $1 bills?

Lesson Practice

a. Choose < or > to compare $29 and $57.

b. Which costs less, a basketball for $15 or a baseball bat for $30?

c. Choose < or > to compare $193 and $163.

d. Write these numbers in order from least to greatest: 273, 615, 480

Written Practice

Distributed and Integrated

1. Add $524 and $112. *(16)*

2. Which is greater, $432 or $423? *(17)*

3. Use words to write $405. *(12)*

4. (12, 15) **Analyze** Round three hundred forty-seven dollars to the nearest hundred.

5. (16) Add $119 and $119.

Conclude What are the next four numbers in each sequence?

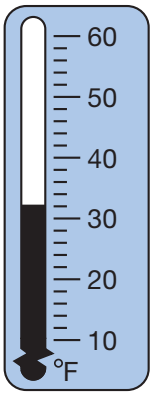
6. (2) 6, 12, 18, 24, _____, _____, _____, _____, . . .

7. (2) 60, 70, 80, 90, _____, _____, _____, _____, . . .

8. (15) Round these numbers to the nearest ten:
a. 92 **b.** 68

9. (15) Round these amounts to the nearest hundred:
a. $438 **b.** $398

10. (4) **Analyze** Gia checked the outside thermometer while getting ready for school. Should she wear a T-shirt or a sweater? Explain your choice.



Add or subtract, as shown. Use manipulatives for problem **11:**

11. (16) $248 + $300

12. (14) $36 − $12

13. (10) 7 + 7 + 7

14. (14) 36 − 34

15. (13) 52 + 28

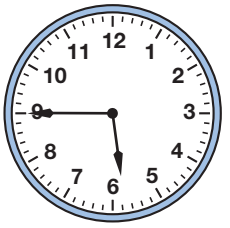
16. (14) $26 − $23

Find the missing addend:

17. (9) $25 + m = 100$

18. (9) $\square + 36 = 66$

19. (3, 5) It is almost time for dinner. What time is shown on this clock? Write the time twice, once using digits and once using words.



20. (1, 13) **Multiple Choice** Altogether, how many days are in December and January?
A 60 days **B** 61 days **C** 62 days