

lesson one - student resource sheet

Lesson Objective: Use estimation strategies for addition and subtraction.

Vocabulary Box

round — To change a number to a given place value. Examples: Rounding 67 to the nearest ten is 70; rounding 318 to the nearest hundred is 300.

estimate — To find an answer that is close to an exact answer. Examples: You can estimate the sum of $318 + 487$ to be about 800. The estimated difference of $67 - 51$ is about 20.

\approx — A symbol that indicates that the two sides are “about equal.” It is used instead of an equal sign ($=$) to show that an answer is estimated. Examples: $318 + 487 \approx 800$; $67 - 51 \approx 20$



Guided Practice

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

- I. Round each of the numbers in the following problems to the greatest place value. Then use those rounded numbers to estimate the sum or difference.

$$\begin{array}{rclcl} 1. & 125 & + & 668 & = \\ & \downarrow & & \downarrow & \\ & \underline{\quad\quad} & + & \underline{\quad\quad} & \approx \underline{\quad\quad\quad} \end{array}$$

$$\begin{array}{rclcl} 2. & 82 & - & 37 & = \\ & \downarrow & & \downarrow & \\ & \underline{\quad\quad} & - & \underline{\quad\quad} & \approx \underline{\quad\quad\quad} \end{array}$$

- II. Round each of the numbers in the following problems to the greatest place value. Rewrite the problem using your rounded numbers. Then use those rounded numbers to estimate the sum or difference.

1. $95 + 24 \approx$ _____

2. $679 - 452 \approx$ _____

3. $3,098 + 5,417 \approx$ _____

- III. Use estimation to check each exact sum or difference below. If you think the exact answer is reasonable, write *yes*. If you think the exact answer is probably wrong, write *no*. Please work independently and be prepared to explain your answers to your teacher.

1. $724 - 176 = 625$

2. $4,416 + 3,520 = 7,936$



Summary/Closure

A. Vocabulary Words

Use one word from the box below to complete each of the following sentences.

about

equal

estimate

round

1. When I _____ 437 to the nearest hundred, I change 437 to 400.
2. When I say an estimated answer, I must say the word _____ before I say the number answer.
3. When I _____ a sum or difference, I find an answer that is close to the exact sum or difference.
4. When I write an estimated answer, I must use the symbol \approx , which means "about _____ to."

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B. Summarize What We Have Learned Today

1. Write a sample estimation problem using addition.
2. Write a sample estimation problem using subtraction.
3. Explain how to use rounding to estimate sums and differences. You will use this explanation as a personal reminder.

lesson two - student resource sheet

Lesson Objective: Use estimation strategies for addition and subtraction.

Vocabulary Box

round — To change a number to a given place value. Examples: Rounding 67 to the nearest ten gives 70; rounding 318 to the nearest hundred gives 300.

estimate — To find an answer that is close to an exact answer. Examples: You can estimate the sum of $318 + 487$ to be about 800. The estimated difference of $67 - 51$ is about 20.

\approx — A symbol that indicates that the two sides are “about equal.” It is used instead of an equal sign ($=$) to show that an answer is estimated. Examples: $318 + 487 \approx 800$; $67 - 51 \approx 20$.



Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

- I. Round each of the following numbers to its greatest place value. Then write to which place value you rounded.

1. $64 \approx$ _____

2. $783 \approx$ _____

3. $3,521 \approx$ _____

4. $9,246 \approx$ _____

- II. Round each of the numbers in the following problems to the greatest place value. Rewrite each problem with the rounded numbers. Then use those rounded numbers to estimate the sum or difference.

1. $36 + 52 \approx$ _____

2. $91 - 27 \approx$ _____

3. $258 + 167 \approx$ _____

4. $727 - 418 \approx$ _____

5. $4,632 - 1,865 \approx$ _____

6. $6,056 + 2,894 \approx$ _____

III. Use estimation to check each exact sum or difference below. If you think the exact answer is reasonable, write *yes*. If you think the exact answer is probably wrong, write *no*. Be prepared to explain your answers to your teacher.

1. $67 + 21 = 110$ _____

2. $78 - 40 = 38$ _____

3. $476 + 294 = 770$ _____

4. $324 - 108 = 216$ _____

5. $5,165 - 1,823 = 4,724$ _____



Draw lines to match each problem below with its most reasonable estimated sum or difference.

1. $47 + 29 \approx$

A. 300

2. $372 - 168 \approx$

B. 70

3. $92 - 18 \approx$

C. 200

4. $554 + 279 \approx$

D. 80

5. $731 - 426 \approx$

E. 900

lesson two - student resource sheet

Problem **Solving**

Kendra works at the ticket office in the Movie Theater. The table below shows how many tickets Kendra sold each day that she worked last week.

Day	Tickets Sold
Monday	132
Thursday	175
Friday	254
Saturday	981

1. Last week, about how many more tickets did Kendra sell on Saturday alone than she sold on all the other days combined?

1) First, break down the problem into steps.

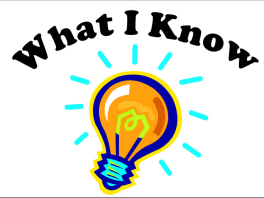
Step 1: Find about how many tickets she sold on all the days except Saturday.

$$132 + 175 + 254 \approx \underline{\hspace{2cm}}$$

Step 2: Find about how many more tickets she sold on Saturday than on all the other days combined.

2) Then, write your answer in a complete sentence, using words from the problem.

2. What is the approximate total number of tickets Kendra sold last week?
3. Kendra counted an exact total of 1,200 tickets sold last week. Is this a reasonable sum? Explain your answer.



1. 4,268 rounded to the nearest thousand is about _____.
2. $89 - 45 \approx$ _____
3. $335 + 576 - 45 \approx$ _____

lesson three - student resource sheet

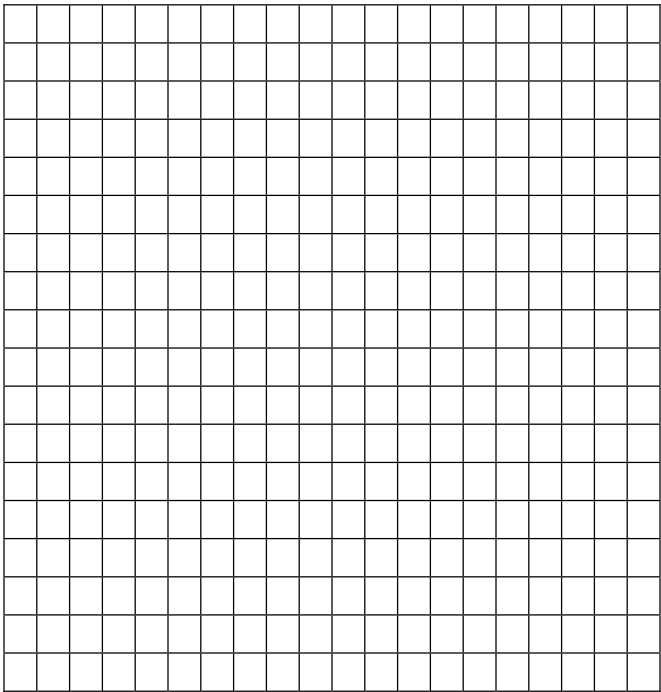
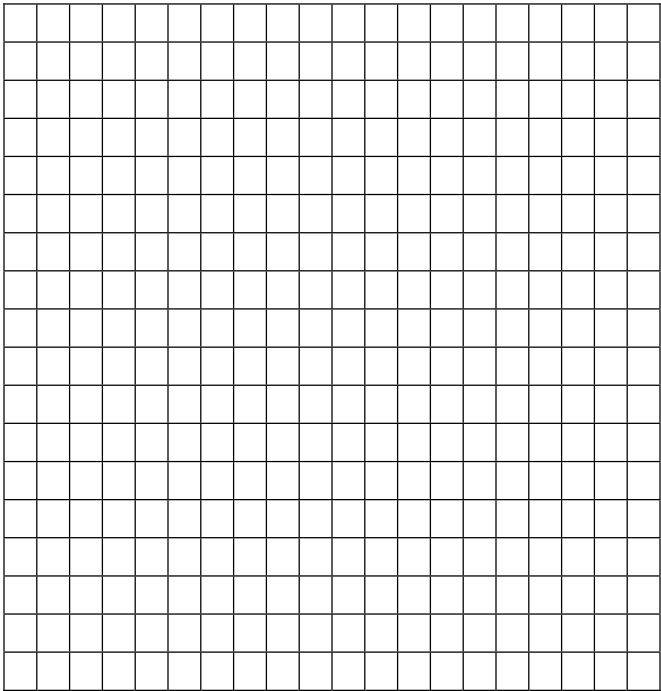
Lesson Objective: Multiply a two-digit number by a two-digit number with no regrouping

Vocabulary Box

multiply — To combine the number of items from equal-sized groups to find the total number of items. Example: 3×5 means to combine three equal groups of five.

product — The answer to a multiplication problem. Example: The product of 3×5 is 15. $3 \times 5 = 15$.

partial products — The smaller products found when multiplying a number to the ones and tens of a two-digit number. The sum of the two partial products is the total product. Example: $34 \times 5 = (30 \times 5) + (4 \times 5) = 150 + 20 = 170$; the 150 and 20 are the two partial products.



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Guided Practice

Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

- I. Solve each of the following problems. Use a rectangle model on grid paper to solve the first problem. Use partial products to solve the second problem.

1. $25 \times 11 =$ _____

2. $32 \times 20 =$ _____ or
$$\begin{array}{r} 20 \\ \times 32 \\ \hline \end{array}$$

Partial Products:

$30 \times 20 =$ _____

$2 \times 20 =$ _____

Total Product:

$32 \times 20 =$ _____

- II. Solve the following problems using partial products. Please work independently.

1. $14 \times 32 =$ _____ or
$$\begin{array}{r} 32 \\ \times 14 \\ \hline \end{array}$$

2. $54 \times 20 = \underline{\hspace{2cm}}$ or $\begin{array}{r} 20 \\ \times 54 \\ \hline \end{array}$

3. $13 \times 22 = \underline{\hspace{2cm}}$ or $\begin{array}{r} 22 \\ \times 13 \\ \hline \end{array}$

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Summary/Closure

A. Vocabulary Words

Use the vocabulary words in the box to label each part of the problem below.

multiply	partial products	product
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$$\begin{array}{r} 30 \\ \times 42 \\ \hline 60 \\ +1,200 \\ \hline 1,260 \end{array}$$

B. Summarize What We Learned Today

Write and solve a sample problem in which you multiply a two-digit number by 20. Then explain words how to use a rectangle picture and partial products to multiply a two-digit number by a two-digit number. You will use this explanation as a personal reminder.

