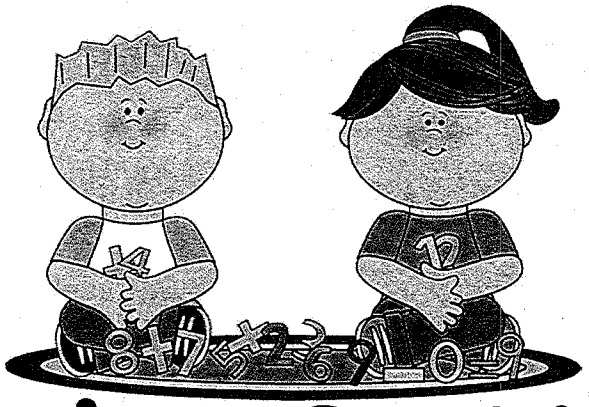


Grade 3 Math

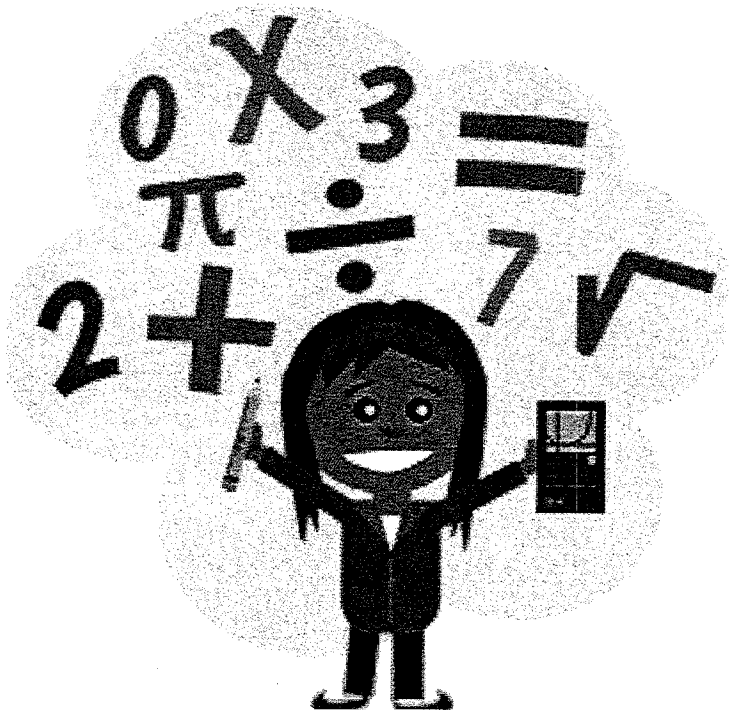
Day 6

Standard:

- 3.ATO.1 Use concrete objects, drawings, and symbols to represent multiplication facts of two single-digit whole numbers and explain the relationship between the factors(i.e., 0-10) and the product.

I CAN Statements:

- I can use drawings to represent multiplication facts
- I can explain how the factors and product are related.

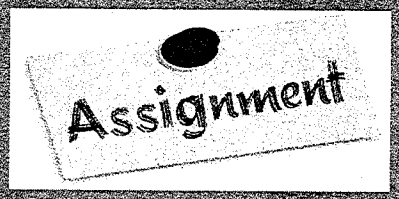


Activities

Grade 3 Problem of the Day:

Emma collected 18 eggs from the hen house. She wants to place them in cartons.

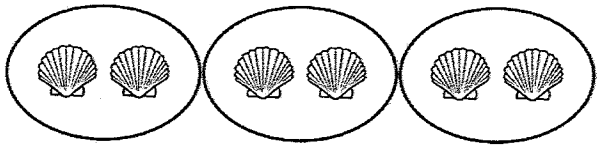
- Draw two different arrays to show how she could place them in cartons.
- Write a multiplication sentence to describe each array.



Justify your answer using pictures, words, and/or numbers.

Activity # 1 Standard Review

Multiplication involves working with equal groups of objects. For example:



3 groups of 2 shells is 6 shells in all.

Multiply: $3 \times 2 = 6$

The **product** tells how many in all.

The first **factor** tells how many groups.

The second **factor** tells how many in each group.

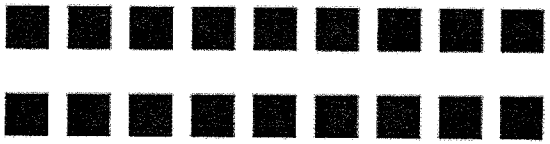
Your child is using arrays to show multiplication. An **array** is a set of objects arranged in equal rows and equal columns.

3 rows of 4 baseballs is 12 baseballs in all.

Multiply: $3 \times 4 = 12$

Activity #3

Look at the array below.



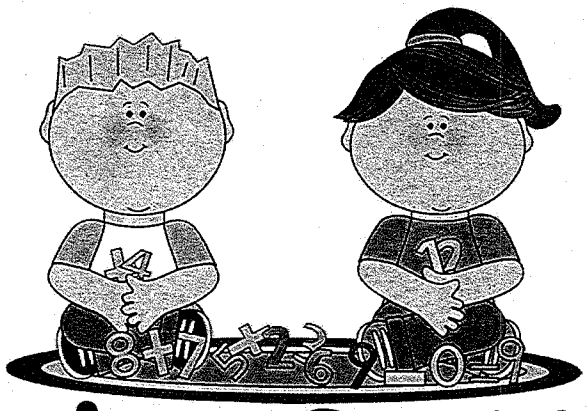
What multiplication equation can you write for this array? Explain what each number in the multiplication equation tells you.

_____

_____

If internet is available, please
login to Dreambox and work for 10 minutes.

dreambox
LEARNING



Grade 3 Math

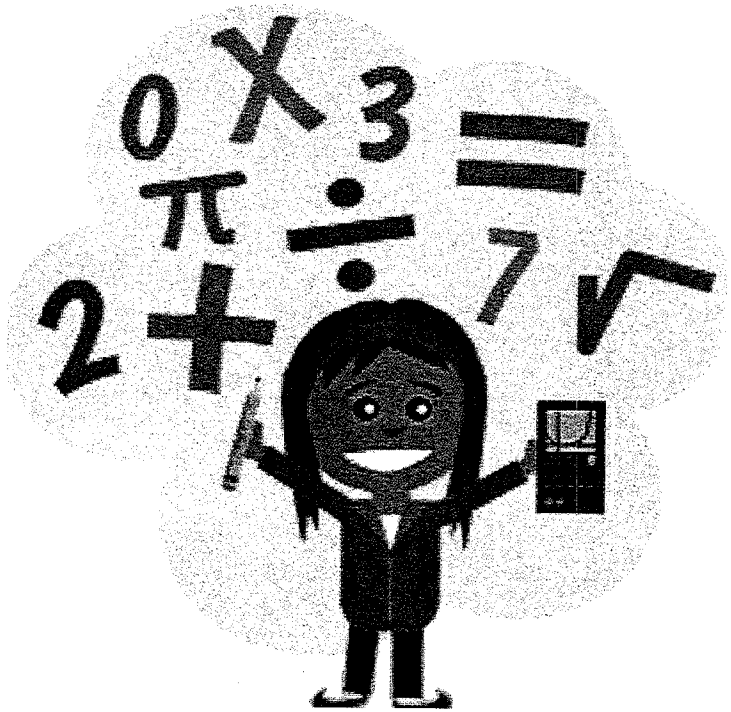
Day 7

Standard:

- 3.G.1 Understand that shapes in different categories (e.g., rhombus, rectangle, square, and other 4-sided shapes) may share attributes (e.g., 4-sided figures) and the shared attributes can define a larger category (e.g., quadrilateral). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.

I CAN Statements:

- I can categorize shapes by using their shared attributes.
- I can identify quadrilaterals such as rhombuses, rectangles, and squares based on their attributes.
- I can draw examples of quadrilaterals that do not belong to any of the subcategories of rhombuses, rectangles, and squares.



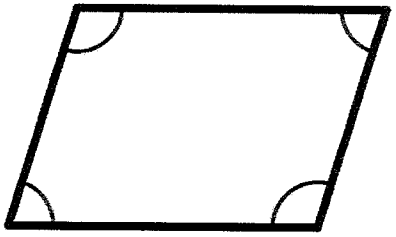
Activities

Grade 3 Problem of the Day:

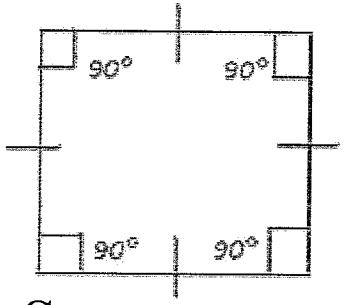
Mary is building a swimming pool in her backyard. The pool has four sides that are the same length. The sides of the pool form 90 degree angles. What shape is the outline of Mary's pool?

Activity # 1 Standard Review

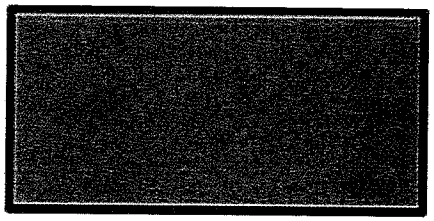
A **quadrilateral** is a closed figure made up of four straight sides and four corners, or angles.



Rhombus – a quadrilateral that has two pairs of parallel sides and at least 2 pairs of congruent angles



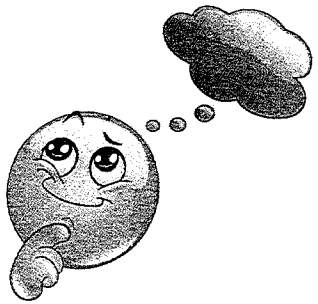
Square – a quadrilateral with 2 pairs of parallel sides that are all equal in length and four right angels.



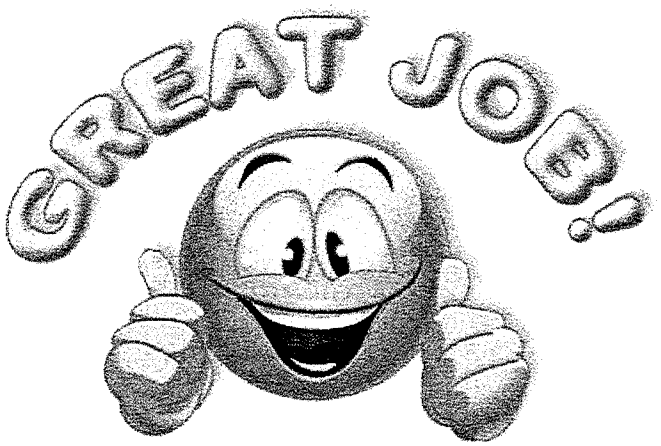
Rectangle- a quadrilateral with 2 pairs of parallel sides, opposite sides that are equal lengths, and four right angles

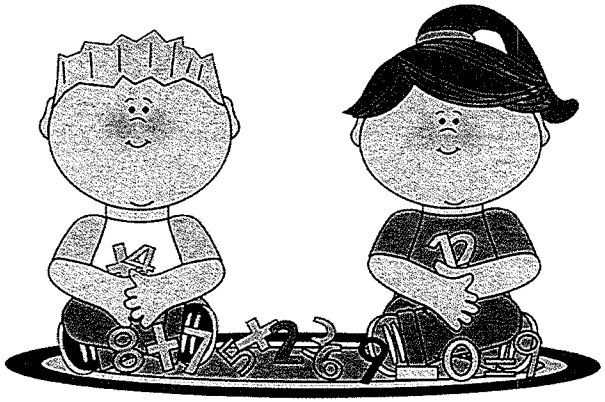
<u>Reflection:</u> Today you have reviewed recognizing quadrilaterals based upon their attributes. What was one thing you did well with today's lesson? What is one thing you need additional help with?

Write down the answers to these questions on a sheet of paper.



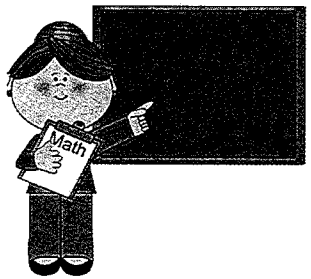
Great job, mathematicians! Please make sure you have written down your answers to each question from today's activities that are due and place your work in your book bag to give to your teacher when you return to school.

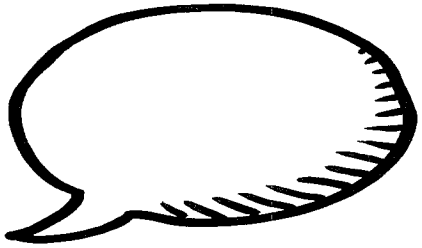




Grade 3 Math

Days 8-9





Hello!

In today's lesson you will review how to add and subtract fluently to 1,000. We will also look for patterns to solve problems. This lesson consists of an opening, a problem of the day, a math activity, a reflection, and Dreambox if internet is available.

All assignments that have this picture are due to your teacher.

I CAN Statements:

Standard:

3.NSBT.2

Add and subtract whole numbers fluently to 1,000 using knowledge of place value and properties of operations.

I can use multiple strategies to add and subtract within 1,000.

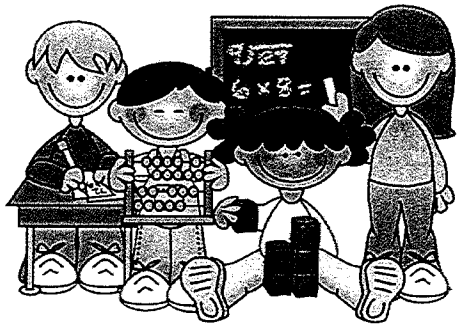
I can solve real-world problems or use problem solving tasks that involve adding and subtracting within 1,000.

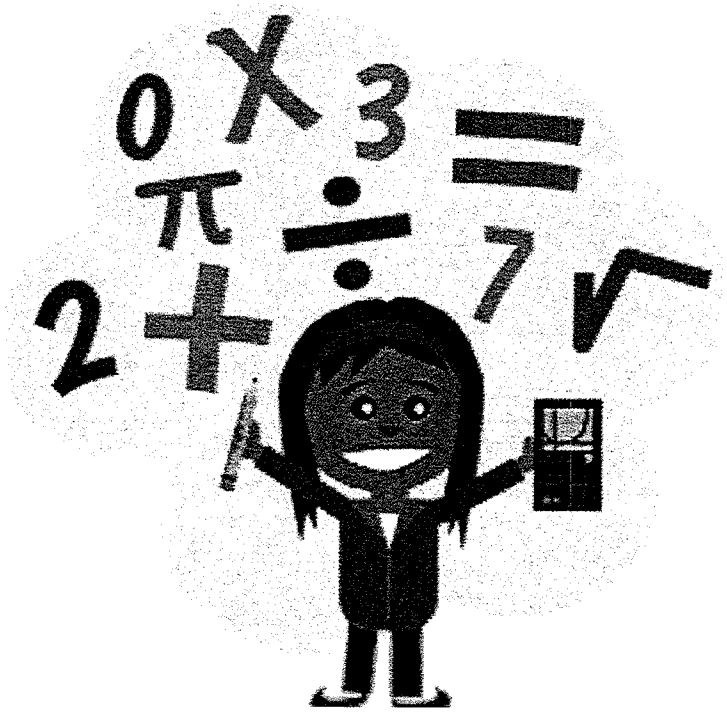
Essential Questions:

- How can knowing addition and subtraction facts help me?
- How can I use what I know about tens and ones to add and subtract two-digit numbers?
- What strategies do I use to find the sums or differences of two whole numbers up to 1,000?

Materials and Resources:

- Paper and Pencil
- Dreambox (If internet is available)





Activities

<u>Opening</u>: Grade 3 Target Number

Find as many representations as you can using a multiplication or division number sentence for the target number:

24

3rd Grade Problem of the Day

The ice cream case at a store has 8 containers of ice cream. Each container holds 4 liters of ice cream. How many liters of ice cream are there in all?

Justify your answer using words, pictures, and/or numbers.

Activities

Day 8

#1 See next slide for standard review.

#2 Then complete Activity 2 on the slide following.

#3 Then answer the Problem Solving Questions as a review.

Activity # 1

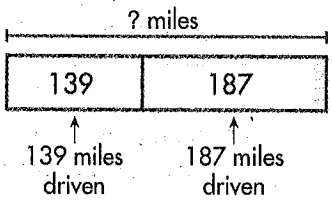
Standard Review

Please read over the lesson on the next page as a guide and answer the Convince Me! scenario at the bottom of the page.

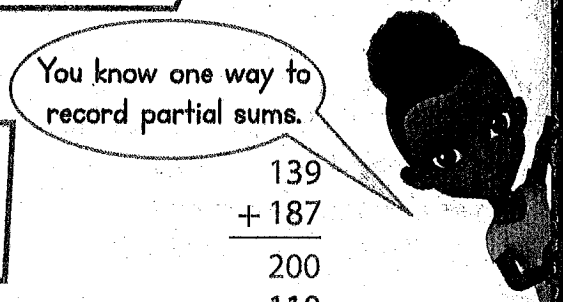
Essential Question: How Can You Use Regrouping to Solve Addition Problems?

A

Jason's family drove from Ocala, Florida to Miami. They drove 139 miles in the morning and 187 miles in the afternoon. How far did Jason's family drive? Find 139 + 187.



Estimate: 139 + 187 is about 100 + 200, or 300 miles.

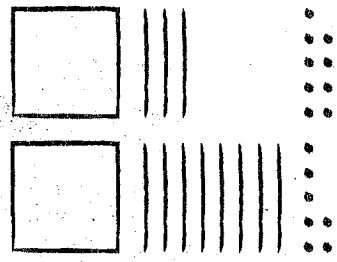


$$\begin{array}{r} 139 \\ +\ 187 \\ \hline 200 \\ 110 \\ +\ \ 16 \\ \hline 326 \end{array}$$

Jason's family drove 326 miles.

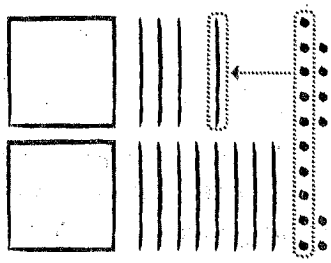
300 is close to 326, so the sum is reasonable.

B Here is another way. Write the partial sums.



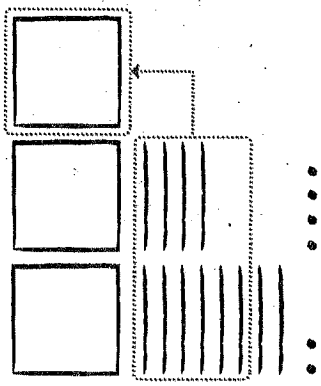
Hundreds	Tens	Ones
1	3	9
+ 1	8	7
2	11	16

Regroup the ones.
16 ones = 1 ten + 6 ones



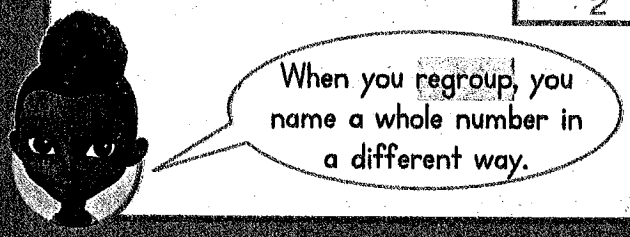
Hundreds	Tens	Ones
1	3	9
+ 1	8	7
2	11	~~16~~
2	12	6

Regroup the tens.
12 tens = 1 hundred + 2 tens



Hundreds	Tens	Ones
1	3	9
+ 1	8	7
2	11	~~16~~
2	~~12~~	6
3	2	6

139 + 187 = 326
Jason's family drove 326 miles.



Convince Me! Model with Math Show how to use place-value blocks to find 128 + 235 using regrouping.

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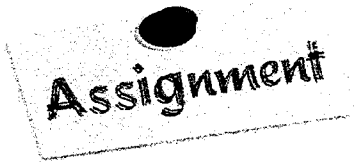
Activity # 2



- Complete the Guided Practice and Independent Practice questions on the next page and then continue with the Problem Solving questions.

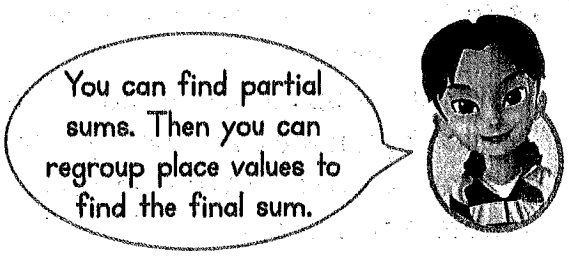
Name _____

Practice Tools Assessment

Another Example!

Find 154 + 163.

Hundreds	Tens	Ones
1	5	4
+ 1	6	3
2	++	7
3	1	7



Regroup the tens.
1 hundred + 1 ten = 11 tens

154 + 163 = 317

Guided Practice

Do You Understand?

1. When you add 3-digit numbers, how do you know if you need to regroup?

2. To add 546 + 327, would you need to regroup? Explain.

Do You Know How?

In **3** and **4**, estimate by rounding. Then find each sum. Use place-value blocks or drawings to help.

3. 538 + 429

4. 415 + 198

Independent Practice

In **5–12**, estimate and then find each sum.

5. 136 + 252

6. 678 + 129

7. 564 + 283

8. 118 + 335

9. 172 + 534

10. 324 + 508

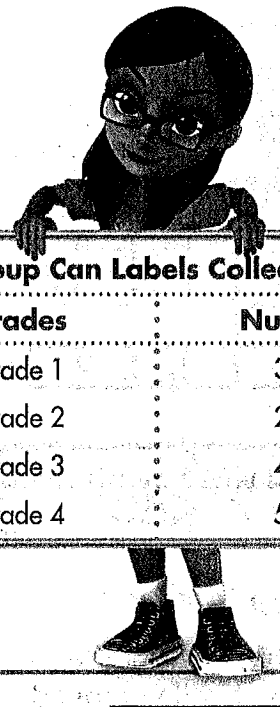
11. 582 + 230

12. 207 + 238

Problem Solving

In **13** and **14**, use the table at the right.

13. How many soup can labels did Grades 1 and 2 collect? Estimate by rounding to the nearest hundred. Then solve. Write an equation that represents the problem.



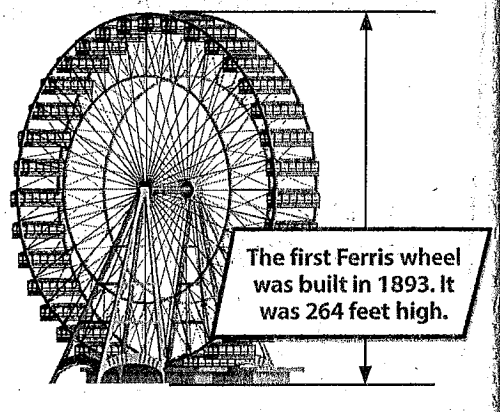
DATA

Soup Can Labels Collected

Grades	Number
Grade 1	385
Grade 2	294
Grade 3	479
Grade 4	564

14. Make Sense and Persevere Is your answer to Exercise 13 reasonable? Explain.

15. Number Sense The roller coaster Kingda Ka is 192 feet taller than the first Ferris wheel. Use the symbols < and > to compare the heights of the two rides in two different ways.



16. Higher Order Thinking Pete can run 178 yards in one minute. Sharon can run 119 more yards than Pete in one minute. How many yards can they both run in one minute?

17. Abi practiced her flute for 215 minutes last week and 178 minutes this week. How many minutes has Abi practiced?

Assessment Practice

18. What is 126 + 229?

Ⓐ 355
Ⓑ 345
Ⓒ 255
Ⓓ 245

19. What is the value of the unknown in 248 + ☐ = 521?

Ⓐ 248
Ⓑ 263
Ⓒ 273
Ⓓ 283

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Activities

Day 9

#1 See next slide for standard review.

#2 Then complete Activity 3 on the slide following.

#3 Then answer the Problem Solving Questions as a review.

Activity # 3

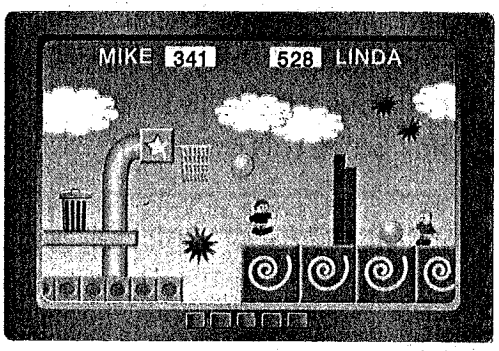
Standard Review

Please read over the lesson on the next page as a guide and answer the Convince Me! scenario at the bottom of the page.

Essential Question: How Can You Use Regrouping to Solve Subtraction Problems?

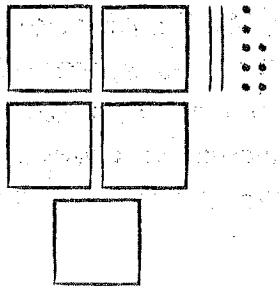
A

Mike and Linda play a game. Linda has 528 points. Mike has 349 points. How many more points does Linda have than Mike? Find 528 – 349.



Estimate:
528 – 349 = ?
530 – 350 = 180

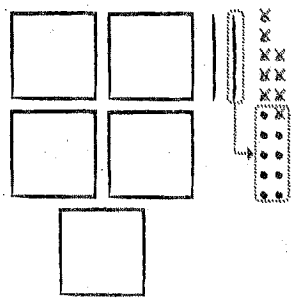
B Draw place-value blocks to show 528.



C Subtract 9 ones.

$$\begin{array}{r} 528 \\ -\ \ 8 \\ \hline 520 \end{array}$$ First subtract 8 ones.

Regroup 1 ten as 10 ones.

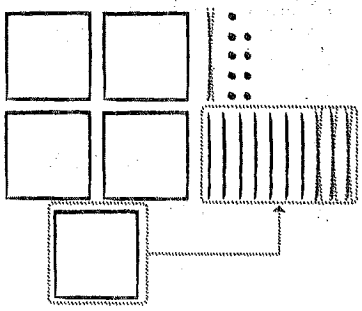


$$\begin{array}{r} 520 \\ -\ \ 1 \\ \hline 519 \end{array}$$ Then, subtract 1 one.

Subtract 4 tens.

$$\begin{array}{r} 519 \\ -\ 10 \\ \hline 509 \end{array}$$ First subtract 1 ten.

Regroup 1 hundred as 10 tens.

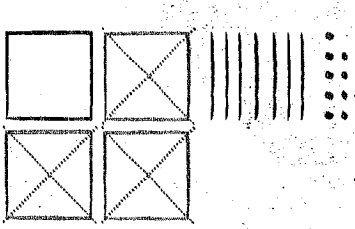


$$\begin{array}{r} 509 \\ -\ 30 \\ \hline 479 \end{array}$$ Then, subtract 3 tens.

You can use place value to regroup when subtracting.

Subtract 3 hundreds.

$$\begin{array}{r} 479 \\ -\ 300 \\ \hline 179 \end{array}$$ Subtract 3 hundreds.



$$\begin{array}{r} 528 \\ -\ \ 8 \\ \hline 520 \\ -\ \ 1 \\ \hline 519 \\ -\ 10 \\ \hline 509 \\ -\ 30 \\ \hline 479 \\ -\ 300 \\ \hline 179 \end{array}$$

Linda has 179 more points.

179 is close to the estimate. The answer is reasonable.

Convince Me! **Use Appropriate Tools** How could you use a tool to find 326 – 143?

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Activity # 4

- Complete the Guided Practice and Independent Practice questions on the next page and then continue with the Problem Solving questions.

Name _____

Practice Tools Assessment

Guided Practice

Do You Understand?

1. In the example on the previous page, explain how to decide if regrouping is necessary.

2. What strategies could you use to find 507 – 348?

Do You Know How?

In **3** and **4**, estimate each difference and then use partial differences to subtract.

3. 374
– 176

4. 856
– 219

Independent Practice

In **5–12**, estimate each difference and then use partial differences to subtract.

5. 431
– 145

6. 276
– 97

7. 516
– 402

8. 526
– 238

9. 574 – 86

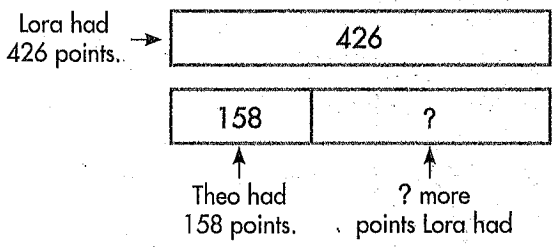
10. 629 – 453

11. 979 – 569

12. 764 – 237

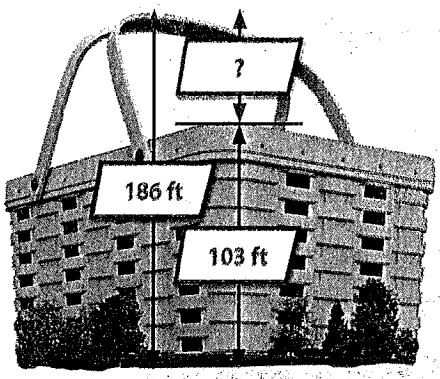
Problem Solving

13. At the end of their game, Lora had 426 points and Theo had 158 points. How many more points did Lora have than Theo?



14. Model with Math Zac and Malcolm each wrote short stories. Zac's story is 272 lines long. Malcolm's story is 145 lines longer than Zac's. How long is Malcolm's story? Explain how you can model with math to solve this problem.

15. The world's largest basket is 186 feet tall from the base to the top of the handles. What is the height of the handles?



16. Higher Order Thinking How many more swimmers signed up for the 1st session at Oak Pool than the 1st and 2nd sessions at Park Pool combined? Write an equation that represents the problem and includes the solution.

DATA

Swim Class Enrollment

Pool	Number of Swimmers	
	1st session	2nd session
Oak	763	586
Park	314	179
River	256	163

Assessment Practice

17. Which shows the estimate of 627 − 441 by rounding to the nearest ten, and then the correct difference?

Ⓐ 200; 186 Ⓒ 190; 186
Ⓑ 200; 176 Ⓓ 190; 176

18. Which shows the estimate of 901 − 512 by rounding to the nearest ten, and then the correct difference?

Ⓐ 390; 389 Ⓒ 400; 389
Ⓑ 390; 379 Ⓓ 400; 379

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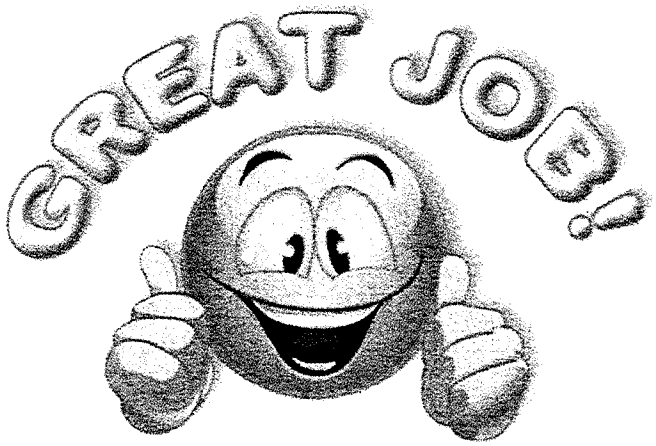
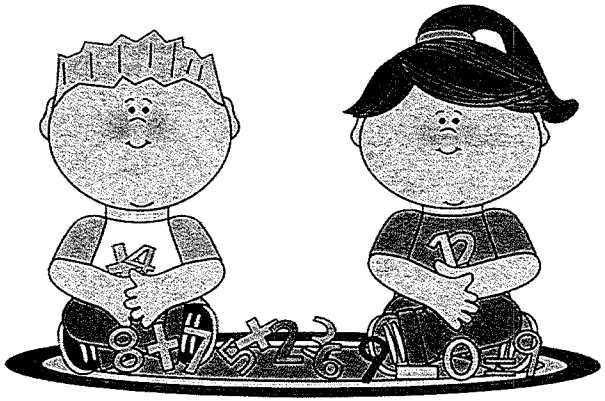
<u>Reflection:</u> Today you have reviewed adding and subtracting numbers fluently to 1,000. What was one thing you did well with today's lesson? What is one thing you need additional help with?

Write down the answers to these questions on a sheet of paper.

If internet is available, please
login to Dreambox and work for 10 minutes.

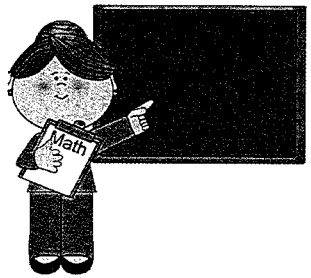
Great job, mathematicians! Please make sure you have written down your answers to each question from today's activities and place your work in your book bag to give to your teacher when you return to school.

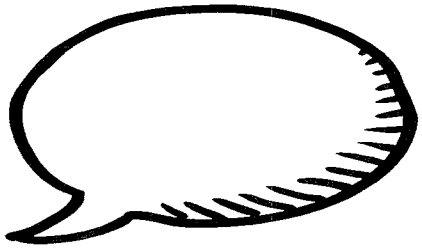




Grade 3 Math

Days 10-11





Hello!

In today's lesson you will review how to solve two step real world problems using addition, subtraction, multiplication, and division. We will also look for patterns to solve problems. This lesson consists of an opening, a problem of the day, a math activity, a reflection, and Dreambox if internet is available.

All assignments that have this picture are due to your teacher.

Standard:

3.ATO.8

Solve two-step real-world problems using addition, subtraction, multiplication, and division of whole numbers and having whole number answers. Represent these problems using equations with a letter for the unknown quantity.

I CAN Statements:

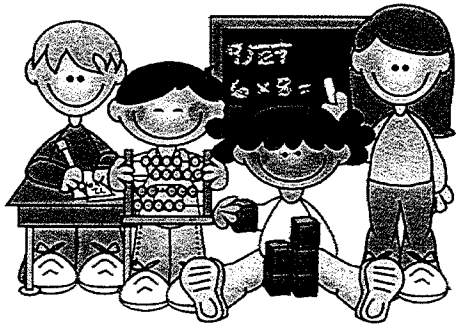
- I can determine the first and second step in a two-step word problem.
- I can represent a two-step word problem with models, pictures, and equations.
- I can solve two-step word problems that involve addition, subtraction, multiplication, and division.
- I can solve two-step word problems by writing an equation with a letter in the place of the number I don't know.

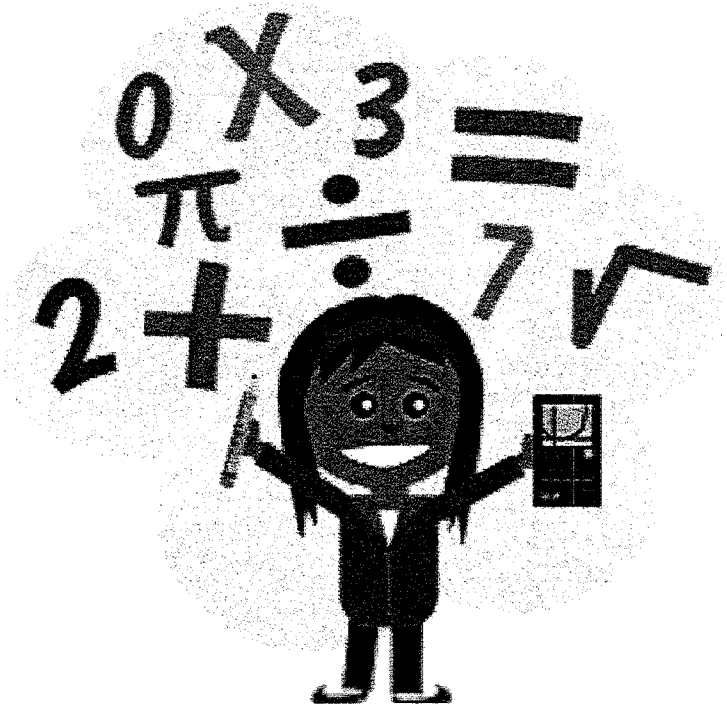
Essential Questions:

- How can knowing addition and subtraction facts help me?
- How can I use what I know about tens and ones to add and subtract two-digit numbers?
- What strategies do I use to find the sums or differences of two whole numbers up to 1,000?

Materials and Resources:

- Paper and Pencil
- Dreambox (If internet is available)





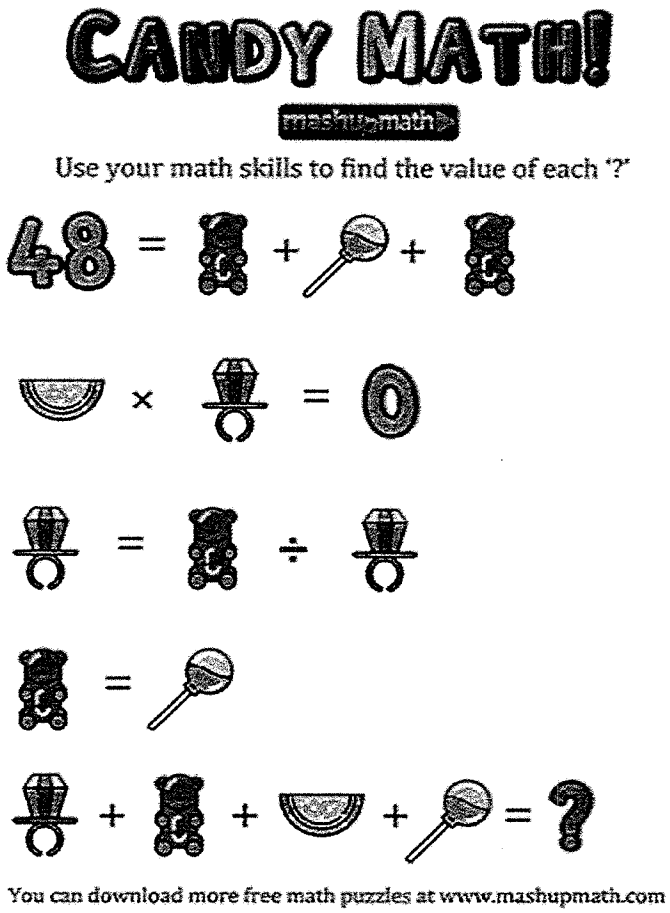
Activities

<u>Opening</u>: Grade 3 Math Puzzle

Look at the Math Puzzle to the right. Use what you know about the unknown to solve the answer to question number 4.

Remember to explain/ justify your answer.

***Hint: Since the gummy bear and lollipop are equal to each other, then they are interchangeable.*
Gummy bear=16



3rd Grade Problem of the Day

A number line is shown below.

What is 470 rounded to the nearest hundred? Explain your answer.

A. 400 because 470 is closer to 400 than 500
B. 450 because on the number line 470 is closer to 450 than 500.
C. 470 because on the number line 470 is itself rounded to nearest ten.
D. 500 because 470 is closer to 500 than 400.

Justify your answer using words, pictures, and/or numbers.

Activities:

Day 10

#1 See next slide for standard review.

#2 Then complete Activity 2 on the slide following.

#3 Then answer the Problem Solving Questions as a review.

Activity # 1

Standard Review

Please read over the lesson on the next page as a guide and answer the Convince Me! scenario at the bottom of the page.

Video

Name _____ Activity

Lesson 11-1
Solve 2-Step Word Problems: Addition and Subtraction

I can ...
draw diagrams and write equations to show how the quantities in a problem are related.

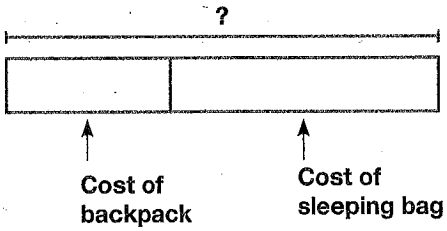
I can also reason about math.

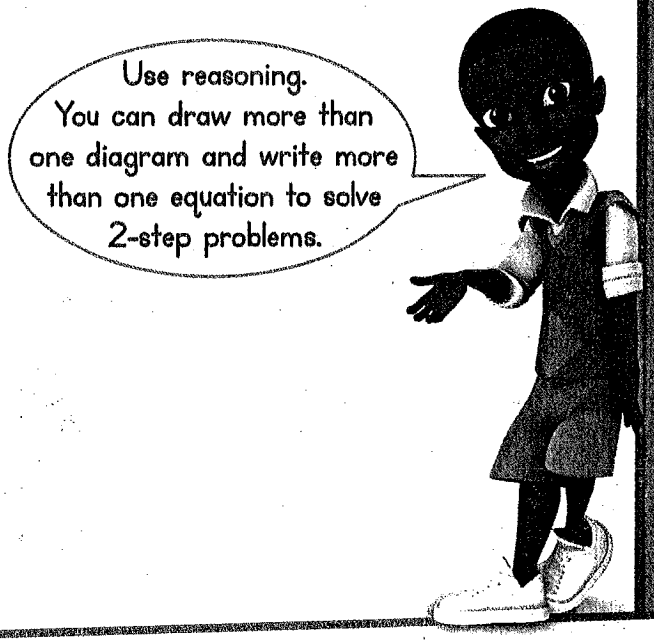
Solve & Share

Jen buys a backpack and a sleeping bag. She gets $10 off if the total is more than $200. What is the final cost of Jen's order? Complete the bar diagram below. Then draw another diagram to solve the problem.

DATA

Item	Price
Grill	$138
Backpack	$89
Lantern	$78
Sleeping Bag	$128





Look Back! How can you use an estimate to show that the final cost of the backpack and sleeping bag you found makes sense?

Essential Question: How Can You Use Diagrams to Solve 2-Step Problems?

A

The results of a car survey are shown in the table. How many fewer cars in the survey have poor fuel efficiency than have either good or average fuel efficiency? Use estimation to check the answer.

DATA

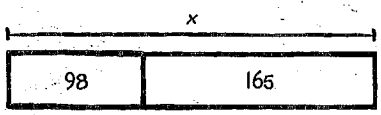
Survey of Fuel-Efficient Cars

Fuel Efficiency	Number of Cars
Good	98
Average	165
Poor	224

You can draw bar diagrams to help. You can use a letter to stand for the unknown quantity.

B **Find and answer the hidden question.**

How many total cars in the survey have either good or average fuel efficiency?



x is the unknown total.

$x = 98 + 165$

$+2 \quad -2$

$= 100 + 163$

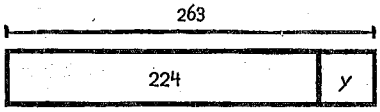
$= 263$

263 cars have good or average fuel efficiency.

You can round 98 to 100 to estimate: 100 + 165 = 265. 265 is close to 263. The answer is reasonable.

C **Answer the original question.**

How many fewer cars in the survey have poor fuel efficiency?



y is the unknown difference.

$y = 263 - 224$

$263 - 200 = 63$

$63 - 20 = 43$

$43 - 3 = 40$

$40 - 1 = 39$

39 fewer cars have poor fuel efficiency.

You can round 263 − 234 to 260 − 230 to estimate. 30 is close to 39. The answer is reasonable.

Convince Me! Critique Reasoning Jane used estimation to check the reasonableness of the work above. Explain whether Jane's work makes sense.

165 and 98 is about 200.
224 minus 200 equals 24, which is close to 39.

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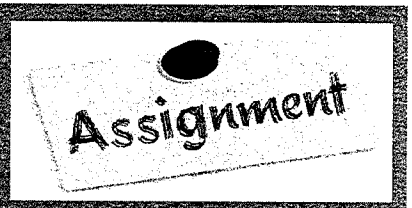
Activity # 2



- Complete the Guided Practice and Independent Practice questions on the next page and then continue with the Problem Solving questions.

Name _____

Practice Tools Assessment

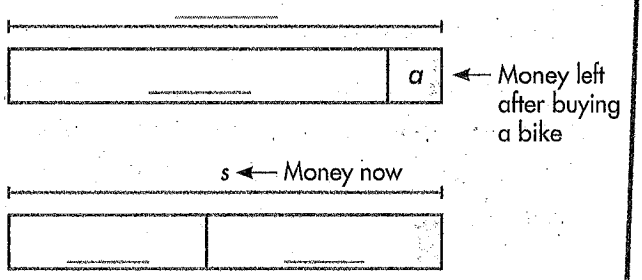
Guided Practice

Do You Understand?

1. How do the bar diagrams help you write equations for the problem on the previous page?

Do You Know How?

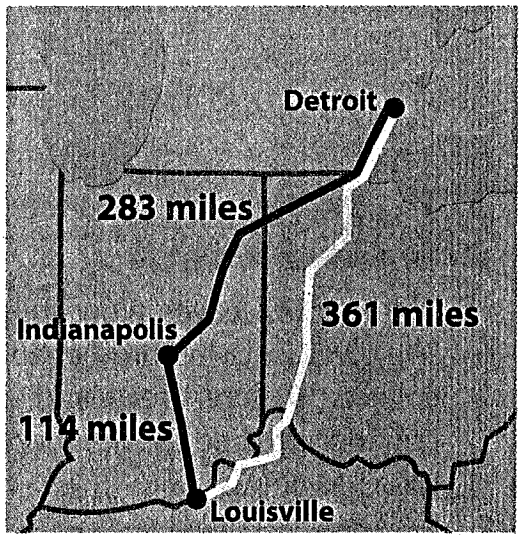
2. Josie has $145. She buys a bike for $127. The next week she saves $15. How much money does Josie have now? Complete the bar diagrams and write equations to solve.



Independent Practice

In **3**, use the map. Draw diagrams and write equations to solve. Use letters to represent unknown quantities.

3. Manuel's family drove from Louisville to Indianapolis to Detroit and then directly back to Louisville. How much farther did they drive going to Detroit than returning from Detroit?



4. How can you estimate to check if your answer above is reasonable? Explain.

Problem Solving

5. Write equations to find how many more tickets were sold for the roller coaster on Saturday than for the swings on both days combined. Use letters to represent the unknown quantities. You can draw diagrams to help.

DATA

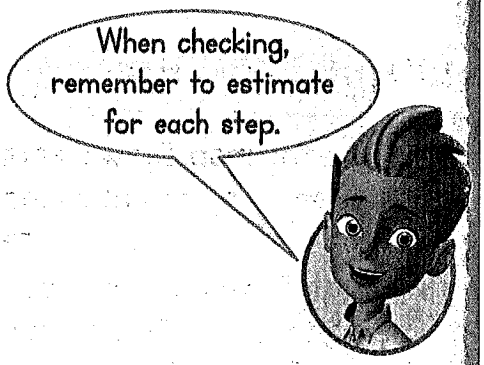
Number of Tickets Sold

Ride	Saturday	Sunday
Ferris Wheel	368	302
Roller Coaster	486	456
Swings	138	154

6. **Higher Order Thinking** Write a two-step problem about buying or selling books that can be solved using addition or subtraction. Solve your problem.

7. **enVision®** STEM Lindsay has 6 boxes of toothpicks. There are 80 toothpicks in each box. Lindsay uses all of the toothpicks to build a model bridge. How many toothpicks does Lindsay use in all?

8. **Model with Math** Matt had 327 plastic bottles for recycling. He recycled 118 bottles on Monday. He recycled 123 bottles on Tuesday. How many bottles does Matt have left to recycle? Use representations such as bar diagrams or equations to model with math. Use letters to represent the unknown quantities. Estimate to check your work.



Assessment Practice

9. Ukie has 142 leaves in her collection. She gives 25 to her brother and then collects 19 more. Create and solve equations to find the number of leaves Ukie has now.

10. Richard had $236 in his savings account. He got $45 for his birthday and saved all but $16 of it. Create and solve equations to find the amount in Richard's savings account now.

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Activities:

Day 11

#1 See next slide for standard review.

#2 Then complete Activity 3 on the slide following.

#3 Then answer the Problem Solving Questions as a review.

Activity # 3

Standard Review

Please read over the lesson on the next page as a guide and answer the Convince Me! scenario at the bottom of the page.

Name _____

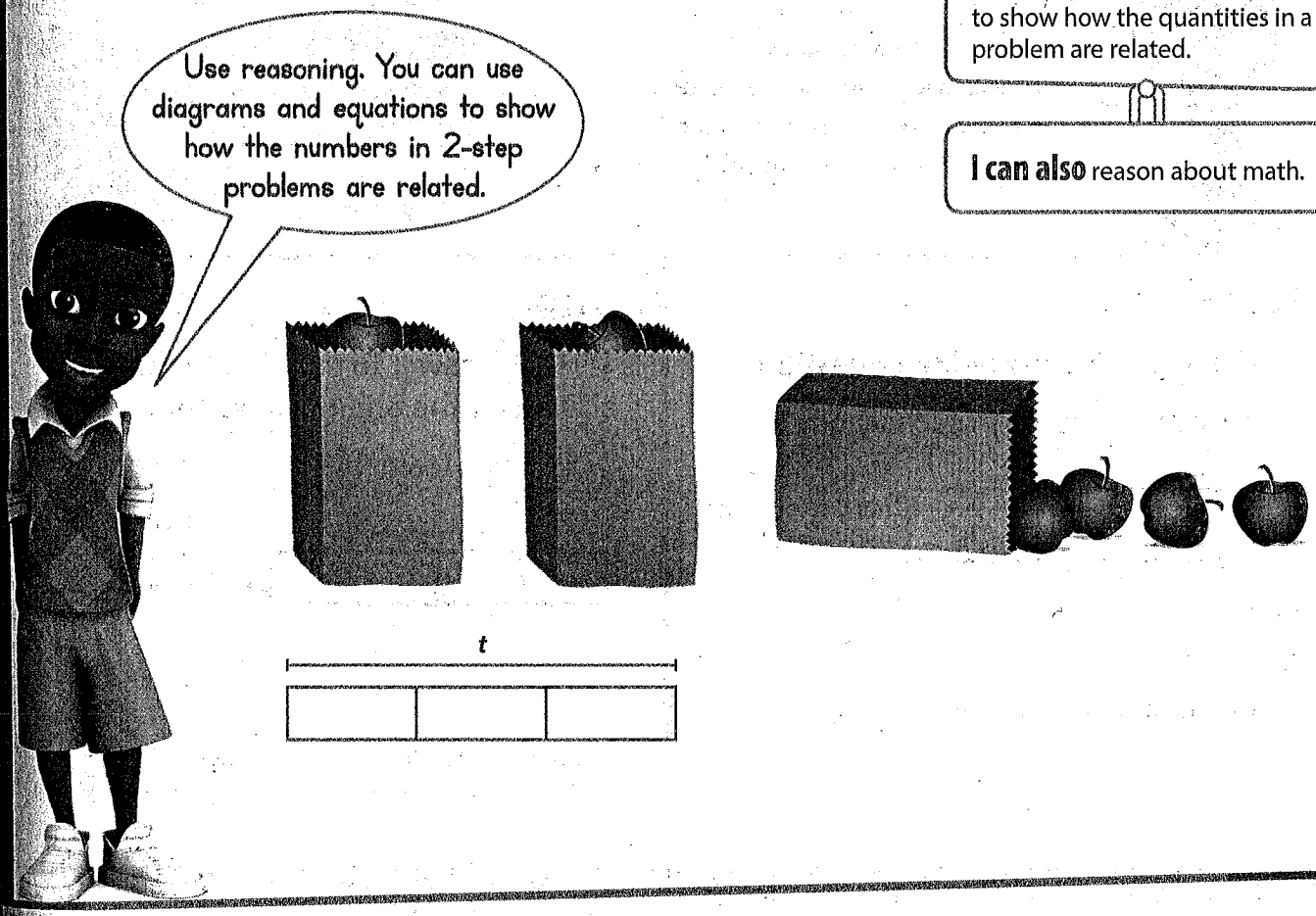
Activity

Lesson 11-2
Solve 2-Step Word Problems: Multiplication and Division

I can ...
draw diagrams and write equations to show how the quantities in a problem are related.

I can also reason about math.

Solve & Share Two friends decide to share equally all of the apples they picked. They filled the bags shown with 4 apples in each bag. How many apples will each friend get?

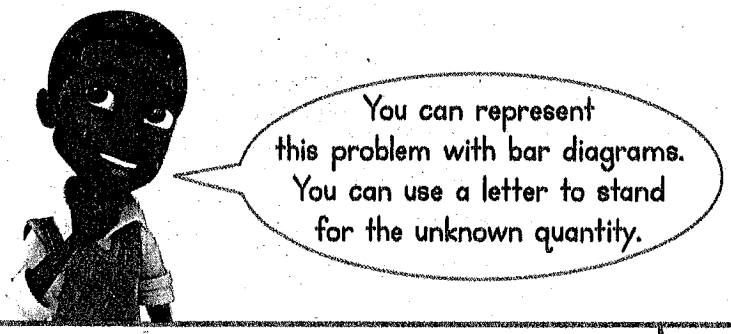


Look Back! Tell why multiplication can be used to find the total number of apples.

Essential Question: How Can You Use Diagrams to Solve 2-Step Problems?

A

The teams for the City Baseball Tournament are divided equally into 3 leagues. Each league is divided into 2 regions with the same number of teams in each region. How many teams are in each region?

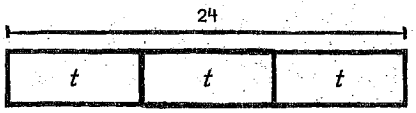


B

Step 1

Find and answer the hidden question.

How many teams are in each league?



t is the unknown number of teams in each league.

$t = 24 \div 3$

$t = 8$

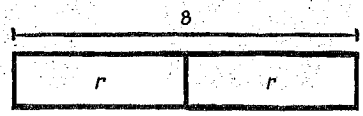
There are 8 teams in each league.

C

Step 2

Use the answer to the hidden question to answer the original question.

How many teams are in each region?



r is the unknown number of teams in each region.

$r = 8 \div 2$

$r = 4$

There are 4 teams in each region.

Convince Me! Make Sense and Persevere Another tournament has 2 leagues with 9 teams in each league. An equal number of teams will play on each of the 3 days of the tournament. Each team will play once. How many teams will play on each day?

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Activity # 4

Assignment

- Complete the Guided Practice and Independent Practice questions on the next page and then continue with the Problem Solving questions.

Name _____

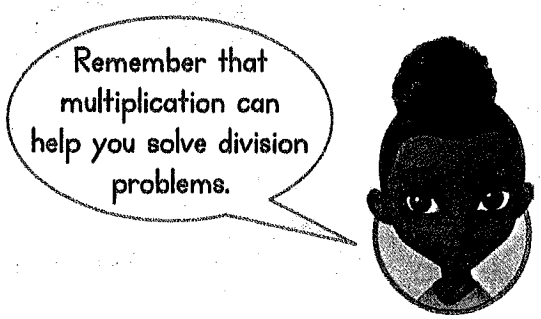
Practice Tools Assessment

Guided Practice

Do You Understand?

1. Why do you need to solve the hidden question first for the problem in Box A on the previous page?

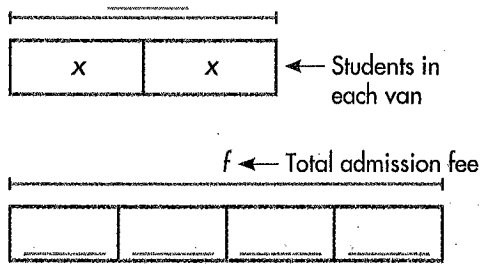
2. What multiplication equation could be written for the bar diagram in Box C on the previous page?



Do You Know How?

In **3**, complete the bar diagrams and write equations to solve.

3. There are 8 students in 2 school vans with the same number of students in each van. The admission fee for each student is $5. What is the total admission fee for all of the students in one van?



Independent Practice

In **4**, draw diagrams and write equations to solve. Use letters to represent the unknown quantities.

4. Arif saves $4 each week. After 6 weeks, he spends all the money he saved on 3 items. Each item costs the same amount. How much does each item cost?

5. Georgia says that because she knows $5 \times 4 = 20$, she knows Arif will have saved more than $20. Is Georgia correct? Explain.

Problem Solving

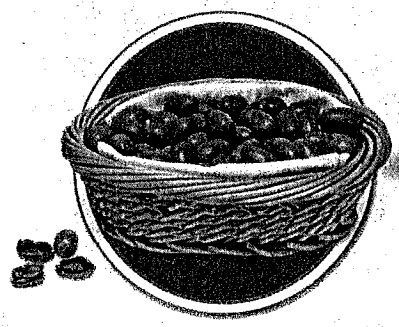
6. **Be Precise** One Grade 3 class collected 86 pounds of newspaper. The other Grade 3 class collected 65 pounds of newspaper. Which grade collected the greatest number of pounds of newspaper?

DATA

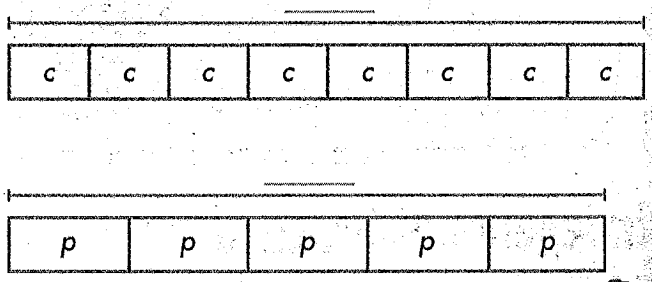
Pounds of Newspaper Collected

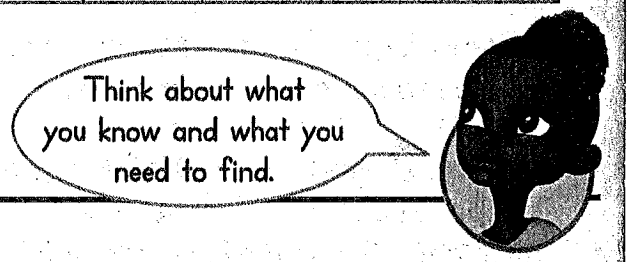
Grade	Pounds of Newspaper
3	?
4	75
5	125

7. Six pounds of pecans are shared equally between 2 friends. Each pound has 60 pecans. How many pecans does each friend get? Write equations to solve. Use letters to represent the unknown quantities.



8. **Higher Order Thinking** A store can buy boxes of 8 calculators each for $32 or boxes of 5 calculators each for $30. How much less is each calculator if the store buys boxes of 8 calculators each instead of boxes of 5 calculators each? Complete the bar diagrams and solve.





Assessment Practice

9. In a basketball game, Morgan made 9 shots, each worth 2 points. Jim scored the same number of points in the game. Jim's shots were worth 3 points each. How many shots did Jim make?

Ⓐ 4 shots Ⓒ 8 shots
Ⓑ 6 shots Ⓓ 9 shots

10. Mia saved an equal amount of money each week for 6 weeks. Heather saved $3 a week for 8 weeks. Mia and Heather saved the same total amount. Which equation could you use to help find how much Mia saved each week?

Ⓐ $s = 8 \times 6$ Ⓒ $s = 6 \div 3$
Ⓑ $s = 6 \times 3$ Ⓓ $s = 24 \div 6$

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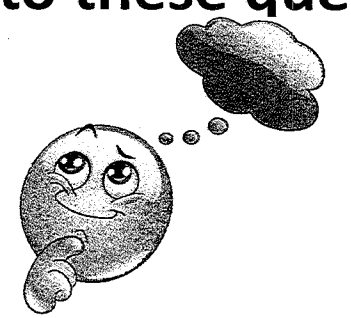
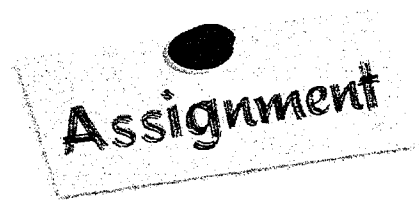
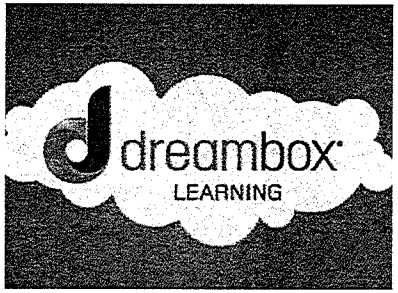
<u>Reflection:</u> Today you have reviewed solving two step real world problems using addition, subtraction, multiplication, and division. What was one thing you did well with today's lesson? What is one thing you need additional help with?

Write down the answers to these questions on a sheet of paper.





If internet is available, please
login to Dreambox and work for 10 minutes.



Great job, mathematicians! Please make sure you have written down your answers to each question from today's activities and place your work in your book bag to give to your teacher when you return to school.