Lesson 3 – Pre-Visit
Ballpark Prices

Objective: Students will be able to:

- Use decimal addition, subtraction, multiplication, and division to determine the cost of different combinations of goods at a ballpark.

Time Required: 1 class period

Materials Needed:

- Printed copies of the Ballpark Prices worksheet (included) for each student

Applicable Common Core State Standards:

CCSS.Math.Content.3.OA.A.1 Interpret products of whole numbers.

CCSS.Math.Content.3.NBT.A.2 Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.

CCSS.Math.Content.3.OA.A.2 Interpret whole-number quotients of whole numbers.

CCSS.Math.Content.4.OA.A.3 Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

CCSS.Math.Content.4.NBT.B.4 Fluently add and subtract multi-digit whole numbers using the standard algorithm.

CCSS.Math.Content.4.NBT.B.5 Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

CCSS.Math.Content.4.NBT.B.6, 5.NBT.B6 Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.

CCSS.Math.Content.5.NBT.B5 Fluently multiply multi-digit whole numbers using the standard algorithm.

CCSS.Math.Content.5.NBT.B7 Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Lesson

1. Open the lesson by discussing that a day at the ballpark is always a lot of fun. It's great to sit in the stands and watch the game, eat peanuts, and sing "Take Me Out to the Ballgame" during the 7th Inning Stretch.

2. A day of fun at the ballpark can also be expensive. Ask students, "Have any of you been to a game at a major or minor league park?" "What did you (or did you want to) buy while you were there?"

3. Allow students to provide some examples, then point out that the costs of tickets, snacks, and souvenirs can really add up. Students will now determine what it costs to spend a day at a ballgame.

4. Beginners: Introduce students to the decimal point and the rules it follows during arithmetic. Assure the students that if they can add and subtract whole numbers, then they can add and subtract numbers with decimals.

   To add decimal numbers:

   - Line up the numbers you are going to add so that all the decimal points are in a straight line.
   - Add each column of digits, starting on the right and working left. If the sum of a column is more than ten, "carry" digits to the next column on the left.
   - Place the decimal point in the answer directly below the decimal points in the terms.

   To subtract decimal numbers:

   - Put the numbers in a vertical column, aligning the decimal points.
   - Subtract each column, starting on the right and working left. If the digit being subtracted in a column is larger than the digit above it, "borrow" a digit from the next column to the left.
   - Place the decimal point in the answer directly below the decimal points in the terms.

5. To practice, do some problems together using the example of adding money.

6. Advanced: Review addition and subtraction of decimals with students. For additional practice, use some of the problems from the **Ballpark Prices Addition/Subtraction** worksheet. Then introduce the procedure for multiplying with decimals.

   To multiply decimal numbers:

   - Line up the numbers on the right, but do not align the decimal points.
   - Starting on the right, multiply each digit in the top number by each digit in the bottom number, then add the products - just as with whole numbers.
   - Determine the proper location of the decimal point by starting at the right and moving the point the number of places equal to the sum of the decimal places in both numbers multiplied.

7. If the students understand the concept after several practice questions, move on to decimal division.

   To divide a decimal number by a whole number:

   - Use long division (ignoring the decimal point).
   - Put the decimal point in the same spot as the dividend.

   If the divisor is not a whole number:

   - Move the decimal point in the divisor all the way to the right (to make it a whole number).
   - Move the decimal point in the dividend the same number of places.

   - Divide as usual. If the divisor doesn't go into the dividend evenly, add zeroes to the right of the last digit in the dividend and keep dividing until it comes out evenly or a repeating pattern shows up.
   - Position the decimal point in the result directly above the decimal point in the dividend.
   - Check your answer: Use a calculator or multiply the quotient by the divisor. Does it equal the dividend?

Activity

1. Give each student a copy of the Ballpark Prices worksheet.
    - Depending on the skill level of the students, use Addition/Subtraction or Multiplication/Division.

Note There is an additional page with images of the items listed in the worksheet. Students may cut out these images and use them as visual aids when completing the worksheet problems.

Name _____

Ballpark Prices

Addition and Subtraction

Write your answers in the column on the right. Be sure to show your work!

Tickets		Food	Souvenirs
Child Ticket	$10.00	Soda $4.75	Souvenir Program $13.00
Adult Ticket	$20.00	Water $3.50	T-shirt $17.00
		Popcorn $4.25	Cap $12.50
		Hot Dog $5.50	
		Peanuts $4.00	

1. Jamie has $5.00 and Matt has $6.00. If they put their money together, will they be able to buy a souvenir program?	
2. After buying some peanuts, Abby has $2.00 left. How much money did she have to begin with?	
3. After buying a hot dog, Daniel has $3.25 left. How much did Daniel have to begin with?	
4. Lily's friend gives her $8.00 to buy snacks. If her friend started with $20.00, how much money does he have now?	
5. Nikki has $12.00 and Justin has $9.00. How much more does Nikki have than Justin?	
6. David starts with $25.00 and buys a child's ticket. How much money does he have left to buy snacks and souvenirs?	

7. Nadia buys popcorn and a soda. How much money did she spend on snacks?	
8. Brett has $2.50 and Jacob has $1.50. If they put their money together, will they have enough to buy some peanuts?	
9. Keith had $5.00, and then he bought a soda. How much money does Keith have left over?	
10. Tina and Sam have $30.00. If Tina buys a cap and Sam buys a program how much money will they have left over?	
11. Dillon's friend started with $16.00. She gave Dillon $8.00. Does she have enough left over to buy a hot dog?	
12. After buying a t-shirt, Michael has $5.50 left over. How much money did Michael have to begin with?	
13. Kyle bought a hot dog and popcorn. He has $3.00 left over. How much money did Kyle have to begin with?	
14. Ashley and Kevin have $15.00 together. If Ashley buys peanuts and Kevin buys water, how much money will they have left over?	
15. Javier buys a cap and a hot dog. How much money did he spend?	

Name _____

Ballpark Prices

Multiplication and Division

Write your answers in the column on the right. Be sure to show your work!

Tickets		Food	Souvenirs
Child Ticket	$10.00	Soda $4.75	Souvenir Program $13.00
Adult Ticket	$20.00	Water $3.50	T-shirt $17.00
		Popcorn $4.25	Cap $12.50
		Hot Dog $5.50	
		Peanuts $4.00	

1. How many peanuts can Tammy buy if she has $12.00?	
2. Jackson spent $8.50 on popcorn. How many boxes of popcorn did Jackson buy?	
3. How many hot dogs can Roberto buy if he has $25.00?	
4. How much do 4 bottles of water cost?	
5. How much do 3 children's tickets cost?	
6. Anna and Steve have $55.00. How many t-shirts can they buy?	
7. Kate buys caps for herself, her sister, and her brother. How much money does Kate spend?	

8. Andre spent $19.00 on sodas. How many sodas did Andre buy?	
9. Olivia has $35.00. How many programs can she buy?	
10. If Ian has $45.00, does he have enough to buy 2 t-shirts?	
11. Max bought 2 sodas and 2 hot dogs. How much money did Max spend on snacks?	
12. Ginny bought 5 boxes of popcorn. How much money did Ginny spend on popcorn?	
13. Will bought 3 bags of peanuts and 3 waters. How much money did Will spend on snacks?	
14. Madeline's family buys 2 children's tickets and 2 adult tickets. How much money does Madeline's family spend on tickets?	
15. Felipe's family goes to the baseball park. His family buys 3 children's tickets and 2 adult tickets. Then they buy 5 sodas and 5 hot dogs. How much money does Felipe's family spend all together?	

Ball Park Prices Answer Key:

Addition and Subtraction:

1. No
2. $6.00
3. $8.75
4. $12.00
5. $3.00
6. $15.00
7. $9.00
8. Yes
9. $0.75
10. $4.50
11. Yes
12. $22.50
13. $12.75
14. $7.50
15. $18.00

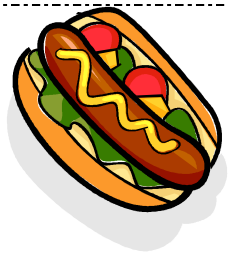
Multiplication and Division

1. 3
2. 2
3. 4
4. $14.00
5. $30.00
6. 3
7. $37.50
8. 4
9. 2
10. Yes
11. $20.50
12. $21.25
13. $22.50
14. $60.00
15. $121.25

Cut along the dotted lines to make cards.

$20.00

$4.75



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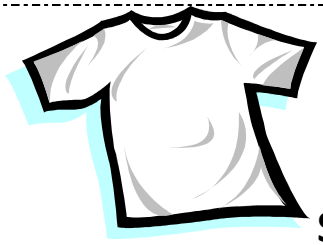

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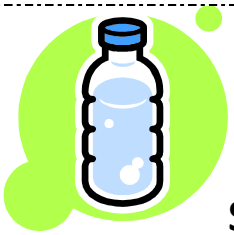

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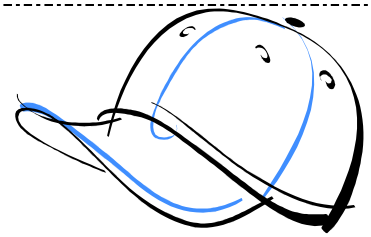

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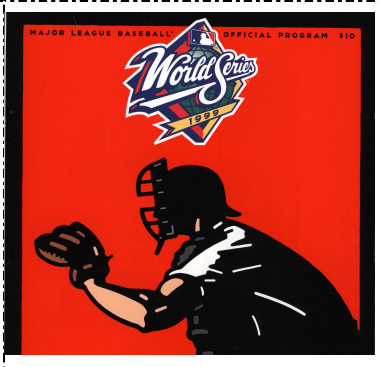

$13.00