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1. Circle groups of two apples.

There are _____ groups of two apples.

2. Circle groups of three balls.

There are _____ groups of three balls.

3. Redraw the 12 oranges into 4 equal groups.

4 groups of _____ oranges

4. Redraw the 12 oranges into 3 equal groups.

3 groups of _____ oranges
Lesson 1: Use manipulatives to create equal groups.

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5. Redraw the flowers to make each of the 3 groups have an equal number.

3 groups of ______ flowers = _____ flowers

6. Redraw the lemons to make 2 equal size groups.

2 groups of _____ lemons = _____ lemons
1. Circle groups of 4 hats.

2. Redraw the smiley faces into two equal groups.

    2 groups of _____ = _____
1. Circle groups of two shirts.

There are _____ groups of two shirts.

2. Circle groups of three pants.

There are _____ groups of three pants.

3. Redraw the 12 wheels into 3 equal groups.

3 groups of _____ wheels

4. Redraw the 12 wheels into 4 equal groups.

4 groups of _____ wheels
5. Redraw the apples to make each of the 4 groups have an equal amount.

4 groups of ____ apples = ____ apples

6. Redraw the oranges to make 3 equal groups.

3 groups of ____ oranges = ____ oranges
Lesson 2 Problem Set

1. Write an addition sentence to show the number of objects in each group. Then find the total.

   a. 
   
   ____ + ____ + ____ = ____

   3 groups of _____ = ____

   b. 
   
   ____ + ____ + ____ + ____ = ____

   4 groups of _____ = ____

2. Show four more.

   ____ + ____ + ____ + ____ + ____

   5 groups of _____ = ____
3. Draw one more group of three. Then write an addition sentence to match.

[Image of three groups of three objects]

____ + ____ + ____ + ____ = ____

_____ groups of 3 = ____

4. Draw 2 more equal groups. Then write an addition sentence to match.

[Image of two groups of two objects]

____ + ____ + ____ + ____ + ____ = ____

_____ groups of 2 = ____

5. Draw 3 groups of 5 stars. Then write an addition sentence to match.
1. Draw 1 more equal group.

\[ \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ + \_\_ \]

4 groups of ____ = ____

2. Draw 2 groups of 3 stars. Then write an addition sentence to match.
1. Write an addition sentence to show the number of objects in each group. Then find the total.

   a. 
   
   _____ + _____ + _____ = _____
   
   3 groups of _____ = _____

   b. 
   
   _____ + _____ + _____ + _____ = _____
   
   4 groups of _____ = _____

2. Draw one more equal group.

   _____ + _____ + _____ + _____ + _____
   
   5 groups of _____ = _____
3. Draw one more group of four. Then write an addition sentence to match.

\[ \_\_\_\_ + \_\_\_\_ + \_\_\_\_ + \_\_\_\_ = \_\_\_\_ \]

\[ \_\_\_\_ \text{ groups of 4} = \_\_\_\_ \]

4. Draw 2 more equal groups. Then write an addition sentence to match.

\[ \_\_\_\_ + \_\_\_\_ + \_\_\_\_ + \_\_\_\_ + \_\_\_\_ = \_\_\_\_ \]

\[ \_\_\_\_ \text{ groups of 4} = \_\_\_\_ \]

5. Draw 4 groups of 3 circles. Then write an addition sentence to match.
1. Write an addition sentence to match the picture. Then bundle to show a more efficient way to add.

a.

\[ \_ + \_ + \_ + \_ = \_ \]
\[ \_ \ / \_ \ / \_ \ / \_ \]
\[ \_ + \_ = \_ \]

4 groups of _____ = 2 groups of _____

b.

\[ \_ + \_ + \_ + \_ = \_ \]
\[ \_ + \_ = \_ \]

4 groups of _____ = 2 groups of _____
Lesson 3 Problem Set

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Lesson 3: Use math drawings to represent equal groups, and relate to repeated addition.

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6.A.37

c.

___ + ___ + ___ + ___ + ___ + ___ + ___ + ___ = ___

___ + ___ + ___ + ___ = ___

8 groups of ____ = 4 groups of ____

2. Write a number sentence to match the picture. Then group addends into pairs and add to find the total.

a.

___ + ___ + ___ + ___ + ___ = ___

___ + ___ + 3 = ___

___ + 3 = ___

b.

___ + ___ + ___ = ___

___ + 3 = ___
1. Write an addition sentence to match the picture. Then rebundle to show a more efficient way to add.

\[
\begin{align*}
\text{_____ + _____ + _____ + _____} &= \text{_____} \\
\text{_____ + _____} &= \text{_____} \\
4 \text{ groups of _____} &= 2 \text{ groups of _____}
\end{align*}
\]
1. Write an addition sentence to match the picture. Then rebundle to show a more efficient way to add.

a. 

```
_____ + ____ + ____ + ____ = ____
\   /   \  /
______  +  ____ = ____
```

4 groups of _____ = 2 groups of _____

b. 

```
_____ + ____ + ____ + ____ = ____
_____ + ____ = ____
_____ + ____ = ____
```

4 groups of _____ = 2 groups of _____
Lesson 3 Homework

1. Use math drawings to represent equal groups, and relate to repeated addition.

   a. 
   
   
   
   __ ____ + ____ + ____ + ____ + ____ = ____
   ____ + ____ + ____ = ____
   4 groups of ____ = 2 groups of ____

2. Write a number sentence to match the picture. Then group addends into pairs and add to find the total.

   a. 
   
   
   
   __ ____ + ____ + ____ + ____ + ____ = ____
   ____ + ____ + ____ = ____
   _____ + 3 = ____
   _____ + 3 = ____

   b. 
   
   
   
   ____ + ____ + ____ + ____ + ____ = ____
   ____ + ____ + ____ = ____
   _____ + 2 = ____
   _____ + 2 = ____
1. Write a repeated addition sentence to find the total of each tape diagram.

   a. 
   
      _____ + _____ + _____ + _____ = _____
   
      4 groups of 2 = _____

   b. 
   
      _____ + _____ + _____ + _____ + _____ = _____
   
      5 groups of _____ = _____

   c. 
   
      _____ + _____ + _____ = _____
   
      3 groups of _____ = _____

   d. 
   
      _____ + _____ + _____ + _____ + _____ + _____ = _____
   
      _____ groups of _____ = _____
2. Draw a tape diagram to find the total.
   
a. $3 + 3 + 3 + 3 = \underline{12}$

b. $4 + 4 + 4 = \underline{12}$

c. 5 groups of 2

d. 4 groups of 4

e. 
[Diagram of tape diagram representing 4 groups of 4]
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Draw a tape diagram to find the total.

1. ★★★ ★★★ ★★★

2. 3 groups of 3

3. 2 + 2 + 2 + 2 + 2
1. Write a repeated addition sentence to find the total of each tape diagram.

a. 

_____ + _____ + _____ + _____ = _____

4 groups of 3 = _____

b. 

_____ + _____ + _____ + _____ + _____ = _____

5 groups of _____ = _____

c. 

4   4   4   4

_____ + _____ + _____ + _____ = _____

4 groups of _____ = _____

d. 

2   2   2   2   2   2

_____ + _____ + _____ + _____ + _____ + _____ = _____

_____ groups of _____ = _____
2. Draw a tape diagram to find the total.
   
   a. \( 5 + 5 + 5 + 5 = \) _____

   b. \( 4 + 4 + 4 + 4 + 4 = \) _____

   c. 4 groups of 2

   d. 5 groups of 3

   e. 

   ![Tape diagram with cars]
1. Circle groups of 4. Then draw the triangles into two equal rows.

2. Circle groups of 2. Redraw the groups of two as rows and then as columns.

3. Circle groups of 3. Redraw the groups of three as rows and then as columns.
4. Count the number of circles and stars as rows from left to right and then as columns from the bottom up.

a. 

b. 

5. Redraw the circles and stars as columns of 2.

6. Draw an array with 15 triangles.

7. Show a different array with 15 triangles.
Lesson 5 Exit Ticket

NYS COMMON CORE MATHEMATICS CURRICULUM

Lesson 5: Compose arrays from rows and columns, and count to find the total using objects.

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1. Circle groups of 3. Redraw the groups of three as rows and then as columns

    ___________________________

    ___________________________

    ___________________________

2. Complete the array by drawing more triangles. The array should have 12 triangles in all.

    △ △ △ △

    △ △

    △
1. Circle groups of 5. Then draw the clouds into two equal rows.

2. Circle groups of 4. Redraw the groups of four as rows and then as columns.

3. Circle groups of 4. Redraw the groups of four as rows and then as columns.
4. Count the objects in the arrays from left to right by rows and by columns.

a. 

b. 

5. Redraw the smiley faces and triangles as columns of 3.

6. Draw an array with 20 triangles.

7. Show a different array with 20 triangles.
1. Complete each missing part describing the bear arrays.

   **Circle rows.**
   a. 
   b. 
   5 rows of _____ = _____  
   ___ + ___ + ___ + ___ + ___ = ____

   **Circle columns.**
   b. 
   c. 
   3 columns of _____ = _____  
   ___ + ___ + ___ = ____

   **Circle rows.**
   c. 
   d. 
   4 rows of _____ = _____  
   ___ + ___ + ___ + ___ = ____

   **Circle columns.**
   d. 
   5 columns of _____ = _____  
   ___ + ___ + ___ + ___ + ___ = ____
2. Use the array of triangles to answer the questions below.
   a. _____ rows of _____ = 12
   b. _____ columns of _____ = 12
   c. _____ + _____ + _____ = _____
   d. Add 1 more row. How many triangles are there now? ______
   e. Add 1 more column to the new array you made in 2(d). How many triangles are there now? ______

3. Use the array of squares to answer the questions below.
   a. _____ + _____ + _____ + _____ + _____ = _____
   b. _____ rows of _____ = _____
   c. _____ columns of _____ = _____
   d. Remove 1 row. How many squares are there now? ______
   e. Remove 1 column from the new array you made in 3(d). How many squares are there now? ______
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1. Use the array to answer the questions below.

   a. _____ rows of _____ = _____

   b. _____ columns of _____ = _____

   c. _____ + _____ + _____ + _____ = _____

   d. Add 1 more row. How many stars are there now? _____

   e. Add 1 more column to the new array you made in 1(d). How many stars are there now? _____
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1. **Complete each missing part describing each array.**

   **Circle rows.**
   
   a. 
   
   3 rows of _____ = _____
   ____ + ____ + ____ = ____

   **Circle columns.**
   
   b. 
   
   4 columns of _____ = _____
   ____ + ____ + ____ + ____ = ____

   **Circle rows.**
   
   c. 
   
   5 rows of _____ = _____
   ____ + ____ + ____ + ____ + ____ = ____

   **Circle columns.**
   
   d. 
   
   3 columns of _____ = _____
   ____ + ____ + ____ = ____
2. Use the array of smiley faces to answer the questions below.
   a. _____ rows of ____ = _____
   b. _____ columns of ____ = _____
   c. _____ + _____ + _____ + _____ = _____
   d. Add 1 more row. How many smiley faces are there now? _____
   e. Add 1 more column to the new array you made in 2(d). How many smiley faces are there now? _____

3. Use the array of squares to answer the questions below.
   a. _____ + _____ + _____ + _____ + _____ = _____
   b. _____ rows of ____ = _____
   c. _____ columns of ____ = _____
   d. Remove 1 row. How many squares are there now? _____
   e. Remove 1 column from the new array you made in 3(e). How many squares are there now? _____
Lesson 7 Problem Set

Name ________________________________ Date ______________

1. a. One row of an array is drawn below. Complete the array with X’s to make 3 rows of 4. Draw horizontal lines to separate the rows.

   \[ \begin{array}{cccc} 
   X & X & X & X \\
   \end{array} \]

b. Draw an array with X’s that has 3 columns of 4. Draw vertical lines to separate the columns. Fill in the blanks.

   \[ \begin{array}{ccc} 
   \_ & \_ & \_ \\
   \_ & \_ & \_ \\
   \_ & \_ & \_ \\
   \_ & \_ & \_ \\
   \end{array} \]

   \[ \_ + \_ + \_ = \_ \]

   3 rows of 4 = \_

   3 columns of 4 = \_

2. a. Draw an array of X’s with 5 columns of three.

   \[ \begin{array}{cccc} 
   X & X & X & X & X \\
   \end{array} \]

b. Draw an array of X’s with 5 rows of three. Fill in the blanks below.

   \[ \_ + \_ + \_ + \_ + \_ = \_ \]

   5 columns of three = \_

   5 rows of three = \_
In the following problems, separate the rows or columns with horizontal or vertical lines.

3. Draw an array of X’s with 4 rows of 3.

   _____ + _____ + _____ + _____ = _____

   4 rows of 3 = _____

4. Draw an array of X’s with 1 more row of 3 than the array in Problem 3. Write a repeated addition sentence to find the total number of X’s.

5. Draw an array of X’s with 1 less column of 5 than the array in Problem 4. Write a repeated addition sentence to find the total number of X’s.
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Use horizontal or vertical lines to separate the rows or columns.

1. Draw an array of X's with 3 rows of 5.

   ___ + ___ + ___ = ___

   3 rows of 5 = ____

2. Draw an array of X's with 1 more row than the above array. Write a repeated addition sentence to find the total number of X's.
Name _______________________________ Date ________________

1.  
   a. One row of an array is drawn below. Complete the array with X's to make 4 rows of 5. Draw horizontal lines to separate the rows.
      
      \[
      X \ X \ X \ X \ X
      \]

   b. Draw an array with X's that has 4 columns of 5. Draw vertical lines to separate the columns. Fill in the blanks.
      
      \[
      \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_
      \]

      4 rows of 5 = _____
      4 columns of 5 = _____

2.  
   a. Draw an array of X's with 3 columns of 4.

   b. Draw an array of X's with 3 rows of 4. Fill in the blanks below.
      
      \[
      \_\_\_ + \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_
      \]

      3 columns of 4 = _____
      3 rows of 4 = _____
In the following problems, separate the rows or columns with horizontal or vertical lines.

3. Draw an array of X’s with 3 rows of 3.

   \[ \_\_\_ + \_\_\_ + \_\_\_ = \_\_\_ \]

   3 rows of 3 = _____

4. Draw an array of X’s with 2 more rows of 3 than the array in Problem 3. Write a repeated addition sentence to find the total number of X’s.

5. Draw an array of X’s with 1 less column than the array in Problem 4. Write a repeated addition sentence to find the total number of X’s.
Lesson 8 Problem Set

1. Create an array with the squares.

2. Create an array with the squares from the set above.

3. Use the array of squares to answer the questions below.
   a. There are ____ squares in each row.
   b. _____ + _____ = _____
   c. There are ____ squares in each column.
   d. _____ + _____ + _____ + _____ + _____ = _____
4. Use the array of squares to answer the questions below.

- [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]
  - a. There are _____ squares in one row.
  - b. There are _____ squares in one column.
  - c. _____ + _____ + _____ = _____
  - d. 3 columns of _____ = _____ rows of ___ = ___ total

5.
   a. Draw an array with 8 squares that has 2 squares in each column.

   b. Write a number sentence to match the array.

6.
   a. Draw an array with 20 squares that has 4 squares in each column.

   b. Write an addition number sentence to match the array.

   c. Draw a tape diagram to match your addition sentence and array.
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1. Use the array of squares to answer the questions below.

   a. There are ____ squares in one row.
   b. There are _____ squares in one column.
   c. _____ + _____ + _____ = ______
   d. 3 columns of ____ = ____ rows of ___ = ___ total

2. a. Draw an array with 10 squares that has 5 squares in each column.

   b. Write a number sentence to match the array.
1. Create an array with the squares.

2. Create an array with the squares from the set above.

3. Use the array of squares to answer the questions below.

   a. There are ____ squares in each row.

   b. _____ + _____ + _____ = _____

   c. There are ____ squares in each column.

   d. _____ + _____ + _____ + _____ + _____ = _____
4. Use the array of squares to answer the questions below.

   □ □ □
   □ □ □
   □ □ □
   □ □ □

   a. There are ____ squares in one row.
   b. There are _____ squares in one column.
   c. _____ + _____ = _____
   d. 2 columns of ____ = ____ rows of ___ = ____ total

5. a. Draw an array with 15 squares that has 3 squares in each column.

   b. Write a number sentence to match the array.

6. a. Draw an array with 20 squares that has 5 squares in each column.

   b. Write an addition number sentence to match the array.

   c. Draw a tape diagram to match your addition sentence and array.
Draw an array for each word problem. Write an addition number sentence to match each array.

1. Jason collected some rocks. He put them in 5 rows with 3 stones in each row. How many stones did Jason have altogether?

2. Abby made 3 rows of 4 chairs. How many chairs did Abby use?

3. There are 3 wires and 5 birds sitting on each of them. How many birds in all are on the wires?

4. Henry’s house has 2 floors. There are four windows on each floor that face the street. How many windows face the street?
Draw a tape diagram for each word problem. Write an addition number sentence to match each tape diagram.

5. Each of Maria’s 4 friends has 5 markers. How many markers do Maria’s friends have in all?

6. Maria also has 5 markers. How many markers do Maria and her friends have in all?

Draw a tape diagram and array. Then write an addition number sentence to match.

7. In a card game, 3 players get 4 cards each. One more player joins the game. How many total cards should be dealt now?
Draw a tape diagram or an array for each word problem. Then write an addition number sentence to match.

1. Joshua cleans 3 cars every hour at work. He worked 4 hours on Saturday. How many cars did Joshua clean on Saturday?

2. Olivia put 5 pictures on each page in her sticker album. She filled 5 pages with stickers. How many stickers did Olivia use?
Lesson 9 Homework

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Draw an array for each word problem. Write an addition number sentence to match each array.

1. Melody stacked her blocks in 3 columns of 4. How many blocks did Melody stack in all?

2. Marty arranged 5 desks into 5 equal rows. How many desks were arranged?

3. The baker made 5 trays of muffins. Each tray makes 4 muffins. How many muffins did the baker make?
4. The library books were on the shelf in 4 stacks of 4. How many books were on the shelf?

Draw a tape diagram for each word problem. Write an addition number sentence to match each tape diagram.

5. Mary placed stickers in columns of 4. She made 5 columns. How many stickers did she use?


7. The game William bought came with 3 bags of marbles. Each bag had 3 marbles inside. How many total marbles came with the game?
Use your square tiles to construct the following rectangles with no gaps or overlaps on your work mat. Write a repeated addition sentence to match each construction.

1. a. Construct a rectangle with 2 rows of 3 tiles.
   
   ____________________________

   b. Construct a rectangle with 2 columns of 3 tiles.

   ____________________________

2. a. Construct a rectangle with 5 rows of 2 tiles.

   ____________________________

   b. Construct a rectangle with 5 columns of 2 tiles.

   ____________________________
3.
   a. Construct a rectangle of 9 tiles so that the rows are the same size as the columns.

   _______________________________________

   b. Construct a rectangle of 16 tiles that has equal rows and columns.

   _______________________________________

4.
   a. What shape is the array pictured below? _________________________

   ![Array Picture]

   b. Redraw the above shape with one column removed in the space below.

   c. What shape is the array now? _________________________
Use your square tiles to construct the following arrays with no gaps or overlaps on this sheet. Write a repeated addition sentence to match your construction.

1.  
   a. Construct a rectangle with 2 rows of 5 tiles.
   b. Write the repeated addition sentence: ___________________________

2.  
   a. Construct a rectangle with 5 columns of 2 tiles.
   b. Write the repeated addition sentence: ___________________________
Cut out the square tiles below and construct the following arrays with no gaps or overlaps. Write a repeated addition sentence to match each construction on the line.

1. a. Construct a rectangle with 2 rows of 4 tiles.  
_________________________  

   b. Construct a rectangle with 2 columns of 4 tiles.  
_________________________  

2. a. Construct a rectangle with 3 rows of 2 tiles.  
_________________________  

   b. Construct a rectangle with 3 columns of 2 tiles.  
_________________________  

3. a. Construct a rectangle using 10 tiles.  
_________________________  

   b. Construct a rectangle using 12 tiles.  
_________________________  

Use square tiles to compose a rectangle, and relate to the array model.

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4. 
   a. What shape is the array pictured below? ___________________________.

   ![Array Picture]

   b. Redraw the above shape with one more column in the space below.

   c. What shape is the array now? _________________________________.

   d. Draw a different array of tiles that is the same shape as 4(c).
Use your square tiles to construct the following arrays with no gaps or overlaps on your work mat. Write a repeated addition sentence to match each construction.

1. a. Place 8 square tiles in a row.

    b. Construct an array with the 8 square tiles.

    c. Write a repeated addition sentence to match the new array.

        ______________________________

2. a. Construct an array with 12 squares.

    b. Write a repeated addition sentence to match the array.

        ______________________________

    c. Rearrange the 12 squares into a different array.

    d. Write a repeated addition sentence to match the new array.

        ______________________________
3.  
   a. Construct an array with 20 squares.
   b. Write a repeated addition sentence to match the array.
      __________________________
   c. Rearrange the 20 squares into a different array.
   d. Write a repeated addition sentence to match the new array.
      __________________________

4. Construct 2 arrays with 6 squares.
   a. 2 rows of _____ = _____
   b. 3 rows of _____ = 2 rows of _____

5. Construct 2 arrays with 10 squares.
   a. 2 rows of _____ = _____
   b. 5 rows of _____ = 2 rows of _____
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a. Construct an array with 12 square tiles.

b. Write a repeated addition sentence to match the new array.

_______________________________
1.
   a. Construct an array with 9 square tiles.
   b. Write a repeated addition sentence to match the new array.

   ___________________________

2.
   a. Construct an array with 10 squares.
   b. Write a repeated addition sentence to match the array.

   ___________________________
   c. Rearrange the 10 squares into a different array.
   d. Write a repeated addition sentence to match the new array.

   ___________________________

Cut out each square tile and use to construct the arrays in Problems 1-4.
3.
   a. Construct an array with 12 squares.
   b. Write a repeated addition sentence to match the array.

___________________________

c. Rearrange the 12 squares into a different array.
d. Write a repeated addition sentence to match the new array.

___________________________

   a. 2 rows of _____ = _____

   b. 2 rows of _____ = 7 rows of _____
1. Draw without using a square tile to make an array with 2 rows of 5.

2 rows of 5 = ______

   ____ + ____ = ____

2. Draw without using a square tile to make an array with 4 columns of 3.

4 columns of 3 = ______

   ____ + ____ + ____ + ____ = _____
3. Complete the following arrays without gaps or overlaps. The first tile has been drawn for you.

a. 3 rows of 4

b. 5 columns of 3

c. 5 columns of 4
1. Draw an array of 3 columns of 3 starting with the square below without gaps or overlaps.
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1. Cut out and trace the square tile to draw an array with 2 rows of 4.

2 rows of 4 = ______

_____ + _____ = _____

2. Trace to make an array with 3 columns of 5.

3 columns of 5 = ______

_____ + _____ + _____ = ______
3. Complete the following arrays without gaps or overlaps. The first tile has been drawn for you.

   a. 4 rows of 5
      [ ]

   b. 5 columns of 2
      [ ]

   c. 4 columns of 3
      [ ]

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Lesson 13 Problem Set

Use your square tiles and work mat. Follow the instructions.

Problem 1

Step 1: Construct a rectangle with 4 columns of 3.
Step 2: Separate 2 columns of 3.
Step 3: Write a number bond to show the whole and two parts.

Step 4: Write a repeated addition sentence to match each part of the number bond.

Problem 2

Step 1: Construct a rectangle with 5 rows of 2.
Step 2: Separate 1 row of 2.
Step 3: Write a number bond to show the whole and two parts.

Step 4: Write a repeated addition sentence to match each part of the number bond.

Problem 3

Step 1: Construct a rectangle with 5 columns of 3.
Step 2: Separate 3 columns of 3.
Step 3: Write a number bond to show the whole and two parts.

Step 4: Write a repeated addition sentence to match each part of the number bond.
4. Use your square tiles to construct a rectangle with 12 squares with 3 rows.
   a. _____ rows of _____ = 12
   b. Remove 1 row. How many squares are there now? _____
   c. Remove 1 column from the new rectangle you made in 4(b). How many squares are there now? _____

5. Use your square tiles to construct a rectangle with 20 squares.
   a. _____ rows of _____ = _____
   b. Remove 1 row. How many squares are there now?
   c. Remove 1 column from the new rectangle you made in 5(b). How many squares are there now?

6. Use your square tiles to construct a rectangle with 16 squares.
   a. _____ rows of _____ = _____
   b. Remove 1 row. How many squares are there now?
   c. Remove 1 column from the new rectangle you made in 6(b). How many squares are there now?
Lesson 13 Exit Ticket

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Use your square tiles to complete the steps for each problem.

Step 1: Construct a rectangle with 3 columns of 4.
Step 2: Separate 2 columns of 4.
Step 3: Write a number bond to show the whole and two parts.

Step 4: Write a repeated addition sentence to match each part of the number bond.
Cut out and use your square tiles to complete the steps for each problem.

Problem 1

Step 1: Construct a rectangle with 5 rows of 2.
Step 2: Separate 2 rows of 2.
Step 3: Write a number bond to show the whole and two parts.

Step 4: Write a repeated addition sentence to match each part of your number bond.

Problem 2

Step 1: Construct a rectangle with 4 columns of 3.
Step 2: Separate 2 columns of 3.
Step 3: Write a number bond to show the whole and two parts.

Step 4: Write a repeated addition sentence to match each part of your number bond.
3. Use your square tiles to construct a rectangle with 9 squares with 3 rows.
   a. _____ rows of _____ = _____
   b. Remove 1 row. How many squares are there now? ______
   c. Remove 1 column from the new rectangle you made in 4(b). How many squares are there now? ______

4. Use your square tiles to construct a rectangle with 14 squares.
   a. _____ rows of _____ = _____
   b. Remove 1 row. How many squares are there now? ______
   c. Remove 1 column from the new rectangle you made in 5(b). How many squares are there now? ______
Lesson 13: Use square tiles to decompose a rectangle.

Date: 11/20/13
Lesson 14

Objective: Use scissors to partition a rectangle into same-size squares, and compose arrays with the squares.

Suggested Lesson Structure

- Fluency Practice: 12 minutes
- Concept Development: 38 minutes
- Student Debrief: 10 minutes
- Total Time: 60 minutes

Fluency Practice (12 minutes)

- Sprint: Subtraction from Teens 2.OA.2 (8 minutes)
- Coin Drop 2.OA.2 (2 minutes)
- More and Less 2.NBT.5 (2 minutes)

Sprint: Subtraction from Teens (8 minutes)

Materials: (S) Subtraction from Teens Sprint

Note: Students practice subtraction from teens in order to gain mastery of the sums and differences within 20.

Coin Drop (2 minutes)

Materials: (T) 10 dimes, 10 pennies, metal or plastic can

Note: In this activity, students practice adding and subtracting ones and tens using coins, in preparation for G2–Module 7.

T: (Hold up a penny.) Name my coin.
S: A penny.
T: How much is it worth?
S: 1 cent.
T: Listen carefully as I drop coins in my can. Count along in your minds.

Drop in some pennies and ask how much money is in the can. Take out some pennies and show them. Ask how much money is still in the can. Continue adding and subtracting pennies for a minute or so. Then repeat the activity with dimes, then with dimes and pennies.
More and Less  (2 minutes)

Materials: (T) 10 dimes, 10 pennies

Note: In this activity, students practice adding and subtracting ones and tens using coins.

T: Let’s count by tens. (Move dimes to the side while counting.)
S: 10, 20, 30, 40, 50, 60.
T: How many dimes are shown?
S: 6 dimes.
T: What is the value of 6 dimes?
S: 60 cents.
T: What is 5 cents more? (Move 5 pennies.)
S: 65 cents.
T: Give the number sentence.
S: 60 cents + 5 cents = 65 cents.
T: What is 10 cents less? (Move one dime.)
S: 55 cents.
T: Give the number sentence.
S: 65 cents – 10 cents = 55 cents.

Repeat this line of questioning by starting with 7 dimes, removing 3 dimes, and asking for the number sentence. Continue by adding 3 pennies and asking for the number sentence, adding 4 dimes and asking for the number sentence, and so forth.

Concept Development  (38 minutes)

Materials: (T) Lesson template for demonstration  (S) Lesson template, Problem Set, scissors

In this lesson, the Problem Set is used during the Concept Development.

T: Today we’re going to use the Problem Set for our lesson! We’ll use the sentence frames to record our answers and to speak in complete sentences.
Pass out the template, Problem Set, and scissors. For each step of the instructions, model as students work along with you. Circulate to be sure students are following the steps accurately.

T: Cut Rectangle A into rows and complete Problem 1. Share your responses and thinking with your partner. (Allow students time to work and share.)
Lesson 14 Problem Set

Name ___________________________ Date ______________

Cut out Rectangles A, B, and C, then cut according to directions. Answer each of the following using Rectangles A, B, and C.¹

1. Cut out each row of Rectangle A.
   a. Rectangle A has _____ rows.
   b. Each row has ______ squares.
   c. _____ rows of _____ = _____
   d. Rectangle A has ______ squares.

2. Cut out each column of Rectangle B.
   a. Rectangle B has _____ columns.
   b. Each column has ______ squares.
   c. _____ columns of _____ = _____
   d. Rectangle B has ______ squares.

¹ Note: This Problem Set is used with a template of three identical arrays measuring 2 inches by 3 inches, labeled as Rectangles A, B, and C.
Lesson 14 Problem Set

3. Cut out each square from both Rectangles A and B.
   a. Construct a new rectangle using all 16 squares.
   b. My rectangle has ______ rows of ______ .
   c. My rectangle also has______ columns of ______ .
   d. Write two repeated addition sentences to match your rectangle.

4. Construct a new array using the 24 squares from Rectangles A, B, and C.
   a. My rectangle has ______ rows of ______ .
   b. My rectangle also has_____ columns of ______.
   c. Write two number repeated addition sentences to match your rectangle.

Extra time? Construct another array using the squares from Rectangles A, B, and C.

   a. My rectangle has______ rows of ______ .
   b. My rectangle also has_____ columns of ______.
   c. Write two repeated addition number sentences to match your rectangle.
1. With your tiles, show 1 rectangle with 12 squares. Complete the sentences below.

   I see _____ rows of ____.

   In the exact same rectangle, I see _____ columns of ____.
Lesson 14 Homework

Name ___________________________ Date ______________

1. Imagine that you have just cut this rectangle into rows.
   a. What do you see? Draw a picture.

   
   ![Grid](image)

   How many squares are in each row? ______

   b. Imagine that you have just cut this rectangle into columns. What do you see?
      Draw a picture.

   ![Grid](image)

   How many squares in each column? ______

2. Create another rectangle using the same number of squares.

How many squares in each row? ______

How many squares in each column? ______
3. Imagine that you have just cut this rectangle into rows.
   a. What do you see? Draw a picture.

   ![Rectangle](image)

   How many squares are in each row? ________

   b. Imagine that you have just cut this rectangle into columns. What do you see? Draw a picture.

   ![Rectangle](image)

   How many squares in each column? ________

4. Create another rectangle using the same number of squares.

   ![Rectangle](image)

   How many squares in each row? ________

   How many squares in each column? ________
Lesson 14: Use scissors to partition a rectangle into same-size squares, and compose arrays with the squares.

Date: 11/20/13
1. Shade in an array with 2 rows of 3.

2. Shade in an array with 4 rows of 3.


Write a repeated addition sentence for the array.
Lesson 15 Problem Set

4. Draw one more column of 2 to make a new array.

Write a repeated addition sentence for the new array.

5. Draw one more row of 4 and then one more column to make a new array.

Write a repeated addition sentence for the new array.

6. Draw one more row and then two more columns to make a new array.

Write a repeated addition sentence for the new array.
1. Shade in an array with 3 rows of 5.

Write a repeated addition sentence for the array.
1. Shade in an array with 3 rows of 2.

```
  |   |   |
  |   |   |
  |   |   |
```

Write a repeated addition sentence for the array.

```
3 \times 2 = 6
```


```
  |   |   |   |
  |   |   |   |
```

Write a repeated addition sentence for the array.

```
2 \times 4 = 8
```


```
  |   |   |   |   |
  |   |   |   |   |
  |   |   |   |   |
  |   |   |   |   |
```

Write a repeated addition sentence for the array.

```
4 \times 5 = 20
```
4. Draw one more column of 2 to make a new array.

Write a repeated addition sentence for the new array.

5. Draw one more row of 3 and then one more column to make a new array.

Write a repeated addition sentence for the new array.

6. Draw one more row and then two more columns to make a new array.

Write a repeated addition sentence for the new array.
Lesson 16 Problem Set

Name ______________________________  Date ________________

Use your square tiles and grid paper to complete the following.

Problem 1

a. Cut out 10 square tiles.
b. Cut one of your square tiles in half diagonally.
c. Create a design.
d. Shade in your design on grid paper.

Problem 2

a. Use 16 square tiles.
b. Cut two of your square tiles in half diagonally.
c. Create a design.
d. Shade in your design on grid paper.
e. Share your second design with your partner.
f. Check each other’s copy to be sure it matches the tile design.

Problem 3

a. Create a 3 by 3 design with your partner in the corner of a new piece of grid paper.
b. With your partner, copy that design to fill the whole paper.
Use your square tiles and grid paper to complete the following.

a. Create a design with the paper tiles you used in the lesson.

b. Shade in your design on the grid paper.
1. Shade to create a copy of the design on the empty grid.

a. 

b. 

c. 

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2. Create two different designs.

   ![Design 1](image1)
   ![Design 2](image2)

3. Use colored pencils to create a design in the bolded square section. Create a tessellation by repeating the design throughout.

   ![Tessellation](image3)
Lesson 16: Use grid paper to create designs to develop spatial structuring.

Date: 11/20/13
1. Draw to double the group you see and complete the sentences.

a. There is ______ cloud in each group.
   _______ + _______ = ________

b. There are ______ clouds in each group.
   _______ + _______ = ________

c. There are ______ clouds in each group.
   _______ + _______ = ________

d. There are ______ clouds in each group.
   _______ + _______ = ________

e. There are ______ clouds in each group.
   _______ + _______ = ________
2. Draw an array to match each set.
   a. 2 rows of 6
      ![Array of 12 dots]
      2 rows of 6 = _____
      _____ + _____ = _____
      6 doubled is _____.
   b. 2 rows of 7
      ![Array of 14 dots]
      2 rows of 7 = _____
      _____ + _____ = _____
      7 doubled is _____.
   c. 2 rows of 8
      ![Array of 16 dots]
      2 rows of 8 = _____
      _____ + _____ = _____
      8 doubled is _____.
   d. 2 rows of 9
      ![Array of 18 dots]
      2 rows of 9 = _____
      _____ + _____ = _____
      9 doubled is _____.
   e. 2 rows of 10
      ![Array of 20 dots]
      2 rows of 10 = _____
      _____ + _____ = _____
      8 doubled is _____.

3. List the totals from Problem 1. _______________________________________
   List the totals from Problem 2. _______________________________________
   Are the numbers you have listed even or not even? _______________________
   Explain in what ways the numbers are the same and different.
Name _______________________________ Date ______________

Draw an array for each set. Complete the sentences.

a. 2 rows of 5

2 rows of 5 = _____ 

_____ + _____ = _____ 

5 doubled is even/not even 

b. 2 rows of 3

2 rows of 3 = _____ 

_____ + _____ = _____ 

3 doubled is even/not even
Lesson 17

Relate doubles to even numbers, and write number sentences to express the sums.

Date: 11/20/13

1. Draw to double the group you see and complete the sentences.

   a. 
   ![Drawing of two stars] 
   There are ______ stars in each group. 
   _______ + _______ = ________

   b. 
   ![Drawing of four stars] 
   There are ______ stars in each group. 
   _______ + _______ = ________

   c. 
   ![Drawing of one star] 
   There is ______ star in each group. 
   _______ + _______ = ________

   d. 
   ![Drawing of three stars] 
   There are ______ stars in each group. 
   _______ + _______ = ________

   e. 
   ![Drawing of five stars] 
   There are ______ stars in each group. 
   _______ + _______ = ________
2. Draw an array for each set. Complete the sentences. The first one has been drawn for you.

a. 2 rows of 6

2 rows of 6 = _____

_____ + _____ = _____

6 doubled is _____.

b. 2 rows of 7

2 rows of 7 = _____

_____ + _____ = _____

7 doubled is _____.

c. 2 rows of 8

2 rows of 8 = _____

_____ + 8 = _____

8 doubled is _____.

d. 2 rows of 9

2 rows of 9 = _____

_____ + _____ = _____

9 doubled is _____.

e. 2 rows of 10

2 rows of 10 = _____

10 + _____ = _____

10 doubled is _____.

3. List the totals from Problem 1.________________________________________________

List the totals from Problem 2.________________________________________________

Are the numbers you have listed even or not even? ______________

Explain in what ways the numbers are the same and different?
1. Pair the objects to decide if the number of objects is even.

   ![Heart objects](image1)
   - Even / Not Even

   ![Star objects](image2)
   - Even / Not Even

   ![Smiley objects](image3)
   - Even / Not Even

2. Draw to continue the pattern of the pairs in the space below until you have drawn 10 pairs.

   a. ![Pair of objects](image4)
Lesson 18 Problem Set

3. Write the numbers of dots in each array in Problem 2 in order from least to greatest.

4. Circle the array in Problem 2 that has 2 columns of 7.

5. Circle the array in Problem 2 that has 2 columns of 9.

6. Redraw the following sets of dots as columns of two or 2 equal rows.

   a.  
   
   There are __________ dots.
   
   Is ____ an even number? ________

   b.  
   
   There are __________ dots.
   
   Is ____ an even number? ________

7. Circle groups of two. Count by twos to see if the number of objects is even.

   a. There are _______ twos. There are ______ leftover.
   b. Count by twos to find the total:
      _______, _______, _______, _______, _______, _______, _______, _______, ________
   c. This group has an even number of objects. True ______ False ______

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Name ____________________________ Date ________________

1. Redraw the following sets of dots as columns of two or 2 equal rows.

![Dots](image1.png) ![Dots](image2.png)

There are __________ dots. Is ____ an even number? __________
There are __________ dots. Is ____ an even number? __________
Lesson 18:

Pair objects and skip-count to relate to even numbers.

1. Pair the objects to decide if the number of objects is even.

   ![Even / Not Even]

2. Draw to continue the pattern of the pairs in the spaces below until you have drawn 0 pairs.

   ![Even / Not Even]

   ![Even / Not Even]
3. Write the numbers of hearts in each array in Problem 2 in order from greatest to least.

4. Circle the array in Problem 2 that has 2 columns of 6.

5. Box the array in Problem 2 that has 2 columns of 8.

6. Redraw the set of stars as columns of two or 2 equal rows.
   a. 
   There are ________ stars.
   Is ____ an even number? ________

7. Circle groups of two. Count by twos to see if the number of objects is even.
   a. There are _______ twos. There are ______ leftover.
   b. Count by twos to find the total:
      ______, ______, ______, ______, ______, ______, ______
   c. This group has an even number of objects. True / False
Lesson 19: Investigate the pattern of even numbers: 0, 2, 4, 6, and 8 in the ones place, and relate to odd numbers.

Date: 11/20/13

Name ___________________________ Date ________________

1. Skip-count the columns in the array. The first one has been done for you.

   __ __ __ __ __ __ __ __ __ __

   2 __ __ __ __ __ __ __ __ __ __

2. a. Solve.

   1 + 1 = ______
   2 + 2 = ______
   3 + 3 = ______
   4 + 4 = ______
   5 + 5 = ______
   6 + 6 = ______
   7 + 7 = ______
   8 + 8 = ______
   9 + 9 = ______
   10 + 10 = ______

   b. Explain the connection between the array in Problem 1 and the answers in Problem 2(a).

   ______________________________________________________________
   ______________________________________________________________
   ______________________________________________________________
Lesson 19 Problem Set

3. a. Fill in the missing numbers on the number path.
   
   20, 22, 24, ____, 28, 30, ____, ____, 36, ____, ____, 40, ____, ____, 46, ____, ____

   b. Fill in the odd numbers on the number path.
   
   0, ____, 2, ____, 4, ____, 6, ____, 8 ____, 10, ____, 12, ____, 14, ____, 16, ____, 18, ____, 20, ____

4. Write to identify the **bold** numbers as even or odd.

   a. \[ 6 + 1 = 7 \]
   \[ ____ + 1 = ____ \]

   b. \[ 24 + 1 = 25 \]
   \[ ____ + 1 = ____ \]

   c. \[ 30 + 1 = 31 \]
   \[ ____ + 1 = ____ \]

   d. \[ 6 - 1 = 5 \]
   \[ ____ - 1 = ____ \]

   e. \[ 24 - 1 = 23 \]
   \[ ____ - 1 = ____ \]

   f. \[ 30 - 1 = 29 \]
   \[ ____ - 1 = ____ \]

5. Are the bold numbers even or odd? Explain how you know.

   a. \[ 28 \]
   even / odd
   Explanation:

   b. \[ 39 \]
   even / odd
   Explanation:

   c. \[ 45 \]
   even / odd
   Explanation:

   d. \[ 50 \]
   even / odd
   Explanation:
Lesson 19 Exit Ticket

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
</tr>
</thead>
</table>

1. Are the **bold** numbers even or odd? Explain how you know

   a. 18
      
      even / odd
      
      Explanation:

   b. 23
      
      even / odd
      
      Explanation:
Lesson 19 Homework

Name ___________________________ Date ______________

1. Skip-count the columns in the array. The first one has been done for you.

\[ \begin{array}{cccccccccc}
\bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet \\
\bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet \\
\end{array} \]

2. a. Solve.

\[
\begin{align*}
1 + 1 &= \_\_\_ \\
2 + 2 &= \_\_\_ \\
3 + 3 &= \_\_\_ \\
4 + 4 &= \_\_\_ \\
5 + 5 &= \_\_\_ \\
6 + 6 &= \_\_\_ \\
7 + 7 &= \_\_\_ \\
8 + 8 &= \_\_\_ \\
9 + 9 &= \_\_\_ \\
10 + 10 &= \_\_\_ \\
\end{align*}
\]

b. How is the array in Problem 1 related to the answers in Problem 2(a)?

____________________________________________________________

____________________________________________________________

____________________________________________________________

3. Fill in the missing even numbers on the number path.

18, 20, _____, _____, 26, _____, 30, _____, 34, _____, 38, 40, _____, _____
4. Fill in the missing odd numbers on the number path.

0, _____, 2, _____, 4, _____, 6, _____, 8, _____, 10, _____, 12, _____, 14

5. Write to identify the **bold** numbers as even or odd. The first one has been done for you.

<table>
<thead>
<tr>
<th>a.</th>
<th>b.</th>
<th>c.</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 + 1 = 5</td>
<td>13 + 1 = 14</td>
<td>20 + 1 = 21</td>
</tr>
<tr>
<td>even + 1 = odd</td>
<td>_____ + 1 = _____</td>
<td>_____ + 1 = _____</td>
</tr>
<tr>
<td>d.</td>
<td>e.</td>
<td>f.</td>
</tr>
<tr>
<td>8 - 1 = 7</td>
<td>16 - 1 = 15</td>
<td>30 - 1 = 29</td>
</tr>
<tr>
<td>_____ - 1 = _____</td>
<td>_____ - 1 = _____</td>
<td>_____ - 1 = _____</td>
</tr>
</tbody>
</table>

6. Are the **bold** numbers even or odd? Explain how you know

<table>
<thead>
<tr>
<th>a.</th>
<th>b.</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>34</td>
</tr>
<tr>
<td>even / odd</td>
<td>even / odd</td>
</tr>
<tr>
<td>Explanation:</td>
<td>Explanation:</td>
</tr>
</tbody>
</table>
1. Use the objects to create an array.

   a. Array

   There is an even/odd (circle one) number of circles.

   Redraw your picture with 1 less circle.

   There is an even/odd (circle one) number of circles.

   b. Array

   There is an even/odd (circle one) number of circles.

   Redraw your picture with 1 more circle.

   There is an even/odd (circle one) number of circles.

   c. Array

   There is an even/odd (circle one) number of circles.

   Redraw your picture with 1 less circle.

   There is an even/odd (circle one) number of circles.
2. Solve. Tell if each number is odd (O) or even (E). The first one has been done for you.

   a. \(6 + 4 = \underline{10}\)  \[E \ E \ E\]
   b. \(14 + 8 = \underline{\quad}\) \[\quad \quad \quad\]
   c. \(17 + 2 = \underline{\quad}\)
   d. \(3 + 9 = \underline{\quad}\)
   e. \(11 + 13 = \underline{\quad}\)
   f. \(5 + 14 = \underline{\quad}\)

3. Write two examples for each case. Write if your answers are even or odd. The first one has been started for you.

   a. Add an even number to even number.

      \(32 + 18 = 40\) even

   b. Add an odd number to an even number.

   c. Add an odd number to an odd number.
1. Use the objects to create an array.

a. Array

There is an even/odd (circle one) number of circles.

Redraw your picture with 1 less circle.

There is an even/odd (circle one) number of circles.
Lesson 20 Homework

1. Use the objects to create an array with 2 rows.

   a. Array with 2 rows
      There is an even/odd (circle one) number of stars.
      Redraw your picture with 1 less star.
      There is an even/odd (circle one) number of stars.

   b. Array with 2 rows
      There is an even/odd (circle one) number of stars.
      Redraw your picture with 1 more star.
      There is an even/odd (circle one) number of stars.

   c. Array with 2 rows
      There is an even/odd (circle one) number of stars.
      Redraw your picture with 1 less star.
      There is an even/odd (circle one) number of stars.
2. Identify each number as odd or even, then solve.

   a. \( 6 + 6 = \) \_
   
   b. \( 8 + 13 = \) \_
   
   c. \( 9 + 15 = \) \_
   
   d. \( 17 + 8 = \) \_

   e. \( 7 + 8 = \) \_

   f. \( 9 + 11 = \) \_

   g. \( 7 + 14 = \) \_

   h. \( 9 + 9 = \) \_

3. Write three number sentence examples to prove that each statement is correct.

<table>
<thead>
<tr>
<th>Even + Even = Even</th>
<th>Even + Odd = Odd</th>
<th>Odd + Odd = Even</th>
</tr>
</thead>
</table>
| \( \_
\) + \( \_
\) = \( \_
\) | \( \_
\) + \( \_
\) = \( \_
\) | \( \_
\) + \( \_
\) = \( \_
\) |
4. Write two examples for each case. Write if your answers are even or odd. The first one has been done for you.

a. Add an even number to even number.
   
   \[32 + 18 = 40\] even

b. Add an odd number to an even number.
   
   \[\text{____________________________}\]

   
   \[\text{____________________________}\]

c. Add an odd number to an odd number.
   
   \[\text{____________________________}\]

   
   \[\text{____________________________}\]
1. a. Redraw the objects below in an array.

   △ △ △
   △ △ △
   △ △ △
   △ △ △
   △ △ △

   b. Circle one column. Then circle one row.

   ♥ ♥ ♥ ♥ ♥
   ♥ ♥ ♥ ♥ ♥

   c. Write a repeated addition number sentence to match the columns of hearts.

   _______________________________________________________

   d. Draw and label a tape diagram to match your addition sentence and array.
2. a. Circle all the expressions that describe the array.

3 + 3 + 3 + 3  3 + 5  5 + 5 + 5

5 + 5 + 5 + 5 + 5  3 + 3 + 3 + 3 + 3  10 + 3

b. Count the smiley faces one row at a time. Write a repeated addition number sentence to find the total.

__________________________________
c. Draw an array to match $5 + 5 + 5 + 5$, where $5$ is the number of objects in the column.

3. 
   a. Draw an array with 15 squares where one row is made of 5 squares.

   b. Write a repeated addition sentence to match the array you drew in 3(a) showing the addition of the number in each row.
4. Sarah won a prize at school! Her teacher said that she would have two choices for the prize:

   Choice 1: Get $3 a day for the next 3 days.
   Choice 2: Get $2 a day for the next 5 days.

a. Draw an array for each choice.

b. Which way would Sarah get more money? Explain how you know.

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
1. a. Does the picture below show an even or an odd number of teddy bears? Explain your thinking using pictures, numbers, or words in the box on the right.

![Teddy bears diagram]

b. Explain how you know if a number is even.

_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________
_______________________________________________________________________________

2. a. Complete the array.

![Array diagram]
b. Using the entire rectangle, draw 3 rows of 5 squares. The first row is done for you. Then, show a repeated addition sentence that describes your array.

\[
\begin{array}{cccc}
  & & & \\
  & & & \\
  & & & \\
\end{array}
\]

\[\text{________________________} \]

c. Henry was told to draw a rectangle using 12 squares. Draw another rectangle using 12 squares.

\[
\begin{array}{cccc}
  & & & \\
  & & & \\
  & & & \\
\end{array}
\]

3. Complete each sentence. Explain your thinking using pictures, numbers, or words.

a. 2 groups of 4 make \[\underline{____} \].

b. \[\underline{____} \] groups of 2 make 6.
4.
   a. Alex says that 14 is an even number. Do you agree with him? Explain your thinking using pictures, numbers, or words.

   b. Draw an array using 14 squares in 2 rows. The rows have been drawn for you.

      \[
      \begin{array}{|c|c|c|c|c|c|}
      \hline
      & & & & & \\
      \hline
      & & & & & \\
      \hline
      \end{array}
      \]

   c. Alex has 14 pencils. He gives all of his pencils to his two friends. Each friend gets the same amount of pencils. How many pencils did each friend get? Explain your thinking using pictures, numbers, or words.
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