***More About Area***

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**Topic**: Area

**Introduction**: In this unit students will learn more about area.

**Grade level**: Intermediate Elementary (grades 5-6)

**Vocabulary**:

 Area=the number of square units needed to cover a surface.

 Base=a side of a polygon

 Height=the length of the perpendicular line segment from the vertex to the base of a triangle

 Congruent=same side and same shape

 Parallelogram=a quadrilateral with 2 pairs of congruent sides and 2 pairs of parallel sides

 Trapezoid=a quadrilateral with exactly one pair of parallel sides

**Expected Student Outcomes**:

 Students will understand the use of formulas to find the areas of triangles, parallelogram, and trapezoids.

 Students will solve area problems by using the strategy *solve a simpler problem*.

**Lesson 1**

 ***Introduction***:

 Review vocabulary: area, base, height, congruent, parallelogram

 Discuss the reasons for needing to know how to find area.

 ***Direct Instruction***:

 Go to LearnZillion: Watch video “Finding the area of a parallelogram by decomposing.”

 ***Guided Practice***:

 Do the short quiz at the end of the video. Check for student understanding.

 ***Independent Practice***:

 5th grade Harcourt Math book p. 506 #11-28 all

**Lesson 2**

 ***Introduction***:

 Discuss different types and styles of triangles.

 Discuss real life situations where we might find triangles.

 ***Direct Instruction***:

 Go to LearnZillion: Watch video “Finding the area of a right triangle” and “Finding the area of non-right triangles by composing a parallelogram.”

 ***Guided Practice***:

 Do the Guided Practice video at the end of each tutorial video.

 ***Independent Practice***:

 5th grade Harcourt Math book p. 502 #5-23 all

**Lesson 3**

 ***Introduction***:

 Discuss vocabulary: trapezoid

 Review area of rectangles, parallelograms, and triangles.

 ***Direct Instruction***:

 Go to LearnZillion: Watch video “Finding the area trapezoid by composing a parallelogram” and “Finding the area of polygons by decomposing into triangles, rectangles, parallelograms, and trapezoids.”

 ***Guided Practice***:

 Do the Guided Practice video at the end of each tutorial video.

 ***Independent Practice***:

 6th grade Harcourt Math book p. 500 #6-13 all

**Final Assessment**

 Do 5th grade Harcourt Math Challenge worksheet 26.8.

**Follow-Up**

 Expectation is that students will successfully complete worksheet 26.8 with a 75% or higher score. Study will be given to reason for lower score and remedial instruction and practice will be assigned on an individual basis as needed.

**Lesson 1**

**Instruction**: Go to http://learnzillion.com/lessonsets/88-understand-the-probability-of-chance-events Watch “Calculate the probability of an event by creating a ratio.”

**Guided Practice**: On the same web page as the video, in the right hand column, click on the “Guided Practice” video. Listen to the video, pausing and completing the problem on scratch paper, and then play the video again to check to see how you did. If you did not get the problem correct, let your teacher know so that she can help you with another couple examples.

**Assignment**: Go to p. \_\_\_ in your textbook and complete problems # .

**Lesson 2**

**Instruction**: Go to http://learnzillion.com/lessonsets/88-understand-the-probability-of-chance-events Watch “.”

**Guided Practice**: On the same web page as the video, in the right hand column, click on the “Guided Practice” video. Listen to the video, pausing and completing the problem on scratch paper, and then play the video again to check to see how you did. If you did not get the problem correct, let your teacher know so that she can help you with another couple examples.

**Assignment**: Go to p. \_\_\_ in your textbook and complete problems # .

**Lesson 3**

**Instruction**: Go to KhanAcademy.com.

 Watch “Intro to Perimeter.”

 Watch “Perimeter of a Shape.”

**Assignment**: Complete the following activities on KhanAcademy.com--

 “\*Perimeter 1.”

 “\*Finding Perimeter.”

**Instruction**: Go to KhanAcademy.com.

 Watch “Comparing Areas and Perimeter of Rectangles.”

**Assignment**: Complete the following activities on KhanAcademy.com--

 “\*Comparing Area and Perimeter.”

**Assessment**: Test

***Pre-Assessment: Perimeter and Area***

1. Find the length of the following lines using centimeters.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Multiply:
6. 5 x 3=\_\_\_\_\_
7. 7 x 9=\_\_\_\_\_
8. 6 x 4=\_\_\_\_\_
9. 2 x 12=\_\_\_\_\_
10. Find the perimeter of the following figures:

4

9

4

10

1. Find the area of the above figures:
2. \_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_
4. Find the area of the following figure:

2

4

7

***Assessment: Perimeter and Area***

9

1. Find the area.

 \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

1. Find the area.

 10

 6 3 5

 4

\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_

1. Sue wants to build a flower bed in her yard. She loves flowers and prefers a larger flower bed. Help her decide, which flower bed should she make? One that is 8 ft by 4 ft? Or one that is 10 ft by 3 ft?
2. Use the distributive property to find the area of the following figure.

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1. Find the area of the following figure.

 3

 4 4

8 2

 9

1. Find the perimeter of the figures in problem 2.

\_\_\_\_\_\_\_\_\_\_\_\_

 \_\_\_\_\_\_\_\_\_\_\_\_

1. Find the perimeter of the figure in problem 5.

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1. In words, explain the difference between area and perimeter.

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**Follow Up:** Students must pass the Assessment test with an 80% score or higher. Students who do not pass the test will be asked to go through the practice exercises on the Khan Academy website a second time. Close monitoring will take place to assure complete understanding of the concepts and a retake test will be administered to assure success.