**Career Cluster: Arts and Audio/Visual Targeted (PTC) Career: Stage Production**

**Lesson Name:** Area and Perimeter of Rectangles and Squares.

**Standard- CTE:03.0 Demonstrate appropriate math skills- 03.01 Solve problems for volume, weight, area, circumference and perimeter for rectangles, squares, and cylinders.**

**Standard- ABE Math: 3.4 Solve mathematical and real-world problems involving area, surface area, and volume.**

1. Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes.

**Standard- ABE Math: 2.6 Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.**

1. Solve real world and mathematical problems involving perimeters of polygons.
* Find the perimeter given the side lengths.
* Find an unknown side length.
1. Exhibit rectangles with the same perimeter and different areas or with the same area and different perimeters.

**NRS Level/Program: ABE Level 3**

**Lesson length: 50 minutes**

**Materials: White board, projector, power point, worksheets, notebook paper, pencil, dry erase markers, rulers, measuring tapes.**

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| **Learning Targets** *(from scale)* |
| **A-** | Recognize area as an attribute of plane figures and understand concepts of area measurement.* A square with side length 1 unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.
* A plane figure which can be covered without gaps or overlaps by (*n)* unit squares is said to have an area of (*n)* square units.

Measure areas by counting unit squares (square cm, square m., square in., square ft., and non-specific units). Relate area to the operations of multiplication and addition.* Multiply side lengths to find areas of rectangles with whole number side lengths in the context of solving real world and mathematical problems.
 | (2.0) |
| **B-** | Solve real world and mathematical problems involving perimeters of polygons. * Find the perimeter given the side lengths.
* Find an unknown side length.

Exhibit rectangles with the same perimeter and different areas or with the same area and different perimeters Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes.  | (3.0) |
| **C-** | Solve real world problems for area and perimeter of composite figures. | (4.0) |

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| **Learning Target** | **Student Evidence at Target Level** | **Instructional Strategy** | **Technique** | **Student Evidence** (Outcome of Using Strategy) | **Time** | **Potential Adaptations** |
| **A** | Student will know that area is the measure that covers without overlapping a 2-d space. Perimeter is the measure around the space.  | Teacher will activate prior knowledge of how to read a ruler or measuring tape, standard and metric measures, perimeter and area. | Teacher will question students as to what they know of Area and Perimeter writing them on the white board or a chart paper. Then begin the power point. | A list of Perimeter and Area facts posted in class. | 5 | Give student critical academic vocabulary to study before the lesson.  |
| Students will take notes. | Student will listen attentively and participate when appropriate while taking notes. | Student’s notes on how to measure perimeter and area.  | 5 | Printed copy of power point. |
| **B** | Students will solve real world and mathematical problems involving perimeters of polygons. * Find the perimeter given the side lengths.
* Find an unknown side length.

Exhibit rectangles with the same perimeter and different areas or with the same area and different perimeters | Teacher continue with power point presentation to demonstrate real world problems with area and perimeter. | Teacher will use Teacher Think Aloud and Gradual Releases Model during power  | Student notes  | 10 | Printed copy of power point |
| Students will complete measuring activity using either a ruler or measuring tape.Student will follow along taking notes to use on assignment. | Students will listen attentively and follow along, participating where appropriate.  | Start Area and Perimeter worksheet. | 10 | Work with a partner. |
| **C** | Student will solve real world problems for area and perimeter of composite figures. | Teacher will present the last slides of the power point on Composite Figures. | Teacher will demonstrate how to find the area and perimeter of irregular, composite figures. | Examples of composite figures and how to solve for Area and Perimeter.  Students notes | 10 | Printed copy of power point |
| Students will take notes. | Students will listen attentively and follow along, participating where appropriate.  | Student will start a worksheet on Area and perimeter of Composite figures.  | 10 | Work with a partnerUse manipulatives. |

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| **Resources** |
| <https://www.lcps.org/cms/lib/VA01000195/Centricity/Domain/23280/HW%20-%20Unit%2013%20Area%20and%20Perimeter%20word%20problems.pdf>[www.mathworksheets4kids](http://www.mathworksheets4kids)Additional resources: KET Fast Forward Workplace Essentials- Construction- Math – Measurement and FormulasScoreboost for Casas Math 3 level D – Unit 3 Strategy 8TABE Tutor Math level D- Unit 6 Lesson 45TABE Mastery Level D – Unit 7 Lesson 1 |