**STEM Project Write Up:**

**Project Title:** Area: Build Your Own Zoo

**Appropriate Grade Levels:** 3-5

**Activity Objective:** To apply students' understanding of area to a real-world problem while exploring careers that require math, critical thinking, and creativity.

**Materials Needed:**

**-**Graph Paper or Ruler

-Animal figurines or Photos

-Pencil

-Coloring Utensils

**What is area?** The area can be defined as the space occupied by a flat shape or the surface of an object. The area of a figure is the number of unit squares that cover the surface of a closed figure.

<https://www.splashlearn.com/math-vocabulary/geometry/area>

**Louisiana Grade Level Standards:**

3.MD.C.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.

3.MD.C.6 Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).

3.MD.C.7 Relate area to the operations of multiplication and addition.

**Rationale:** Conceptual understanding of area and space provides the critical foundation for further geometry and calculus. Calculating and exploring area also solidifies student understanding of multiplication and the distributive model as they prepare for two- and three-digit multiplication. Area helps students understand the spatial world around them including scale.

**Careers Related to Area:**

**Urban Planners**: one whose job is to develop comprehensive plans and designs for the use of area and space within cities, towns, and developments.

<https://www.bls.gov/ooh/life-physical-and-social-science/urban-and-regional-planners.htm>

**Civil Engineers**: an engineer who designs and maintains roads, bridges, dams, and similar structures that may need to calculate the amount of materials needed for various projects based on area.

<https://www.bls.gov/ooh/architecture-and-engineering/civil-engineers.htm>

**Interior Designer**: one that designs the interior decoration of a room or building to make best use of the area.

<https://www.bls.gov/ooh/arts-and-design/interior-designers.htm>

**Architects**: a person who designs buildings and draft blueprints with appropriate dimensions given based on the area provided.

https://www.bls.gov/ooh/architecture-and-engineering/architects.htmv

**Dentist**: a person qualified to treat the diseases and conditions that affect the teeth and gums that use area when creating veneers, fillings, and extractions.

<https://www.bls.gov/ooh/healthcare/dentists.htm>

**Learn more:** How can you and your child learn more about Area at home for FREE?

1. Explore area using the toys you may already have in your home- blocks and legos can allow students to keep practicing their skills.

2. Challenge your child to practice counting the tiles- ceiling tiles in the grocery store and flooring in your home bathroom can show them the importance of area in the real world.

2. Make snack time fun- Cheese-its and starbursts can be used as unit squares! Challenge your child to make shapes with different areas.

3. There are also plenty of games on the internet that brings fun and area concept together- <https://toytheater.com/area-climber/>

**Activity URL:** <https://youtu.be/IrLew8-iUss>