"Using Area To Create A Floor Plan"

3rd Grade

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Math/Visual Art

Math Standard 3.MD.6
Measure area by counting unit squares (square centimeters, square meters, square inches, square feet, and improvised units).

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

a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.

b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole number products as rectangular areas in mathematical reasoning.

Visual Art Standard 3.V.CR.4:
Individually or collaboratively construct representations, diagrams, or maps of places that are part of everyday life.

Objective: The students will make use of material they have learned, about multiplication and finding area of polygons, to design the floor plan for a castle.

Equipment and Materials needed:
Graph paper in various colors Pencils
Scissors Glue
Construction Paper for mounting

Procedures:
1. Review material covered regarding using multiplication and counting to show area in square units.
2. As a class help students to design a grand hall for the center of the castle. It may be a long rectangle or irregular polygon. Then show them how to write the square feet, yards or meters on the polygon itself. Cut it out and mount the grand hall toward the center of the large construction paper.
3. Follow the same procedure to create the throne room, label the area of this polygon, and have students place this room in a sensible position along the grand hall. Use various colors.
4. Brainstorm for other rooms which may likely be located within the castle. (Banquet Hall, Royal Bed Chamber, Royal Kitchens, Servants quarters were some suggestions of my students.)
5. Allow students to creatively continue adding rooms along the hall of their castle design…now visualize living in it.