

Lori
Math-Kitecture

Lesson Plan:
Architecture and Math

Aim: How can we create our fantasy playrooms?

Objectives: The students will:

- practice using standard measurement to measure length
- understand and create a proportionate scale
- use estimation to create a sketch
- use mathematical operations to find the area and perimeter of a room (*addition, subtraction, multiplication, & division*)
- display the data collected accurately on a floorplan

Standards: M1a, M2b, M2d, M2I, M2h, M2j, M2k

Vocabulary: architecture, length width, scale, key, line, line segment, area, perimeter, floorplan

Materials: paper, graph paper, rulers, pencils, sample floorplans, CAD software

Procedure:

1. The teacher will show the students sample floorplans and sketches. The teacher will explain and describe the features of a floorplan (ex. key, scale, lines, shapes etc.)
2. The teacher will instruct the students to sketch their fantasy playrooms using estimation for homework.
3. The students will look at and discuss their sketches.
4. The teacher will model/review how to use a ruler to measure objects and length and instruct the students to research the approximate measurements of the furniture they selected for their rooms.
5. The students will be given graph paper to draw their sketches to scale using the approximate measurements of the room and furniture.
6. The teacher will review how to find the area and perimeter of a room and the students will then find the area and perimeter of their rooms. The students will also figure out the cost of their fantasy playroom.
7. Once the drawings are complete the students will use the CAD software to draft floorplans on the computer.
8. At the culmination of the lesson, the students will be required to hand in their sketches, floorplans, and CAD floorplans as an assessment.
9. Extension Activity: In art, the students will study Vincent Van Gogh's painting "The Room" and create 3-dimensional paintings of their rooms.