### ESTABLISHED GOALS

Students will understand essential concepts such as perimeter, perimeter on a coordinate plane, area, surface area (advanced 6th gr), and volume (if time permits).

- G1.1- area
- G1.2- volume (\*IF TIME)
- G1.3- perimeter on coordinate plane
- G1.4- surface area

Recognize, read and create a blueprint and will be able to find the perimeter, area and surface area of a room/building/other spaces on a blueprint and in real life. Students will explore careers that utilize these skills, the salary those careers make and the education needed to pursue that career.

# Stage 1 Desired Results

## Transfer

Students will be able to independently use their learning to...

Use perimeter, area, surface area and volume students will be able to calculate the dimensions of our past and current Congress Middle School using past blueprints will create a blueprint of the "future" CMS. Students can analyze a blueprint and calculate the actual dimensions.

## Meaning

UNDERSTANDINGS -- Students will understand that...

- Math is essential in real life tasks, such as, painting a wall, laying tile down, or building something
- -STEAM careers are available that utilize math skills to perform job tasks that incorporate perimeter, area & surface area.
- -Perimeter, area and surface area can be calculated using measurement tools and formulas, and, the dimensions can be represented via Blueprints
- -They can read a blueprint and utilize the scale "key" to find actual dimensions
- They can create a basic\* blueprint that is accurately scaled
- -They can create a scaled drawing of a current or "future" CMS classroom

ESSENTIAL QUESTIONS--Students will keep considering

- -How can you design a blueprint for the future CMS while utilizing the current and old CMS blueprints?
- -Why are blueprints important?
- -How can city planners, engineers, roofers and contractors relate to Middle school geometry and 6th grade Math?
- -What other careers utilize the skills of area, perimeter, volume, surface area and blueprints?

#### Acquisition

Students will know...

- Formulas for perimeter, area, surface area and volume
- How to find area of different types of shapes
- How to scale measurements and create scaled blueprint

Students will be skilled at...

- Creating, reading and interpreting a blueprint
- Utilizing the correct formula in different scenarios

|   | Stage 2 - Evidence  |
|---|---|
| Evaluative Criteria   | Assessment Evidence   |
| What criteria will be used in each assessment to evaluate attainment of the desired results?  Model/Blueprint accuracy  Explanation of their drawing  Presentation  Correct math by checking measurements | PERFORMANCE TASK(S):  Students will SHOW that they understand by evidence of  1) Completing a blueprint of a future school. All dimensions should be labeled and plausible in comparison to past and present  2) Indicating how the new dimensions different. Are the room sizes larger or smaller?  3) A completed bedroom blueprint with all dimensions labeled and plausible  4) Discussion with students that entails: What rooms are essential? Did we include them all?  5) Calculating dimensions of current school blueprint  6) Recording dimensions (with measure tool) of actual school and comparing measurements to blueprint calculations  7) Creating a new blueprint for new school  How will students demonstrate their understanding (meaning-making & transfer) through complex performance? |
| Regardless of the format of the assessment, what qualities are most important?  | OTHER EVIDENCE: Students will show they have acheived Stage 1 goals by What other evidence will you collect to determine whether Stage 1 goals were acheived?  Chapter test covering standards Create quiz for math such as scale Cooperative group Go back to standard Extra credit project Rubric for final student product of blueprint  |

| Summary of Key Learning Events and Instruction  |  |  |  |  |
|---|--|--|--|--|
| Code  | What pre-assessments will you use to check students prior knowledge, skill levels, and potential misconceptions?   |  |  |  |
| What's the goal for<br>(or type of) each<br>learning event?   | Learning events: - Hook: Design your own room (bedroom)  |  |  |  |
| -Looking for measurements labeled and accurate calculations such as perimeter of room and area (volume of air in room?) | - Hands on introductory activity: Students in groups of 3-4 will use a "measure wheel" to complete tasks given. Tasks such as find the perimeter and perimeter of the downstairs main area or of the hallway or courtyard. Given a worksheet as a guide, students collaboratively measure real places and calculate dimensions using the correct formula |  |  |  |

| Day 1-10 of unit | Cullen | Pierre | Clark | Vivar |
|------------------|--------|--------|-------|-------|
| Day 1            |        |        |       |       |
| Day 2            |        |        |       |       |
| Day 3            |        |        |       |       |
| Day 4            |        |        |       |       |
| Day 5            |        |        |       |       |
| Day 6            |        |        |       |       |
| Day 7            |        |        |       |       |
| Day 8            |        |        |       |       |
| Day 9            |        |        |       |       |
| Day 10           |        |        |       |       |