

Today's Materials

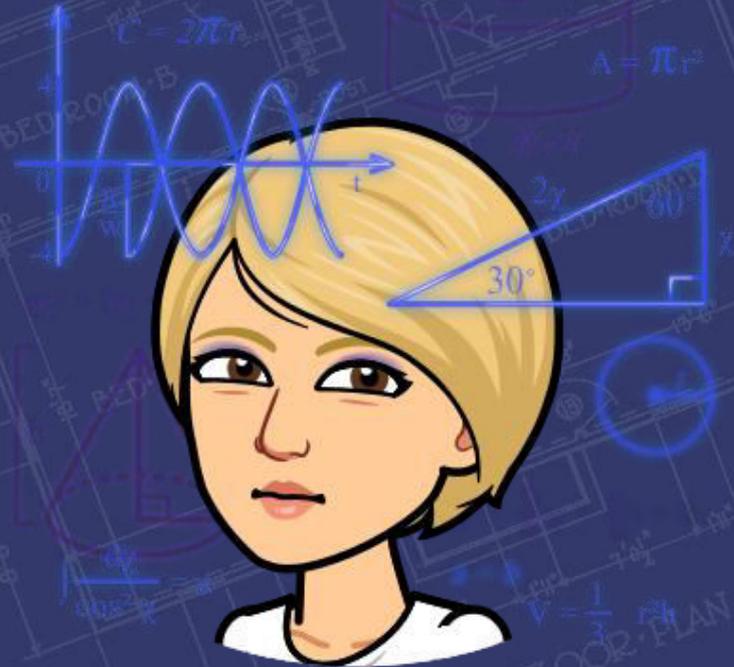
- calculator
- pencil



Draw it to Scale

(optional lesson)

Lesson 13



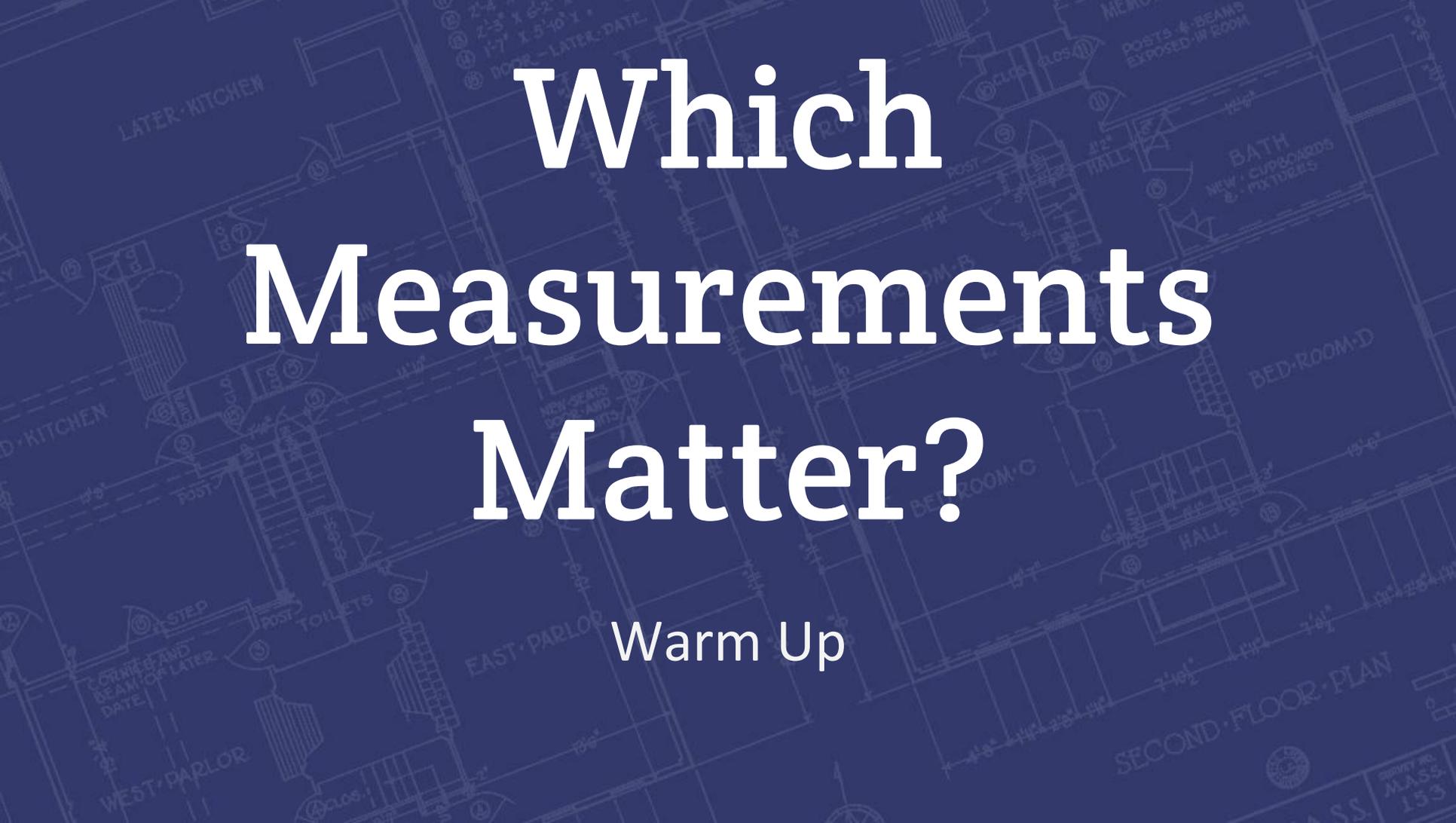
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Google Slides template from SlidesCarnival at <https://www.slidescarnival.com>.

Today's Goals

- ❑ When given requirements on drawing size, I can choose an appropriate scale to represent an actual object.
- ❑ I can create a scale drawing of my classroom.



The background is a detailed architectural floor plan of a second floor, rendered in a light blue color on a dark blue background. The plan includes various rooms such as 'LATER KITCHEN', 'BED ROOM C', 'BED ROOM D', 'EAST PARLOR', 'WEST PARLOR', 'TOILETS', 'HALL', and 'BATH'. It also shows structural elements like 'NEW SEATS FOR STAIR', 'CORNER BEAMS BEAM OR LATER DATE', and 'POSTS & RAFTERS EXPOSED IN ROOM'. Dimensions and annotations are scattered throughout the drawing.

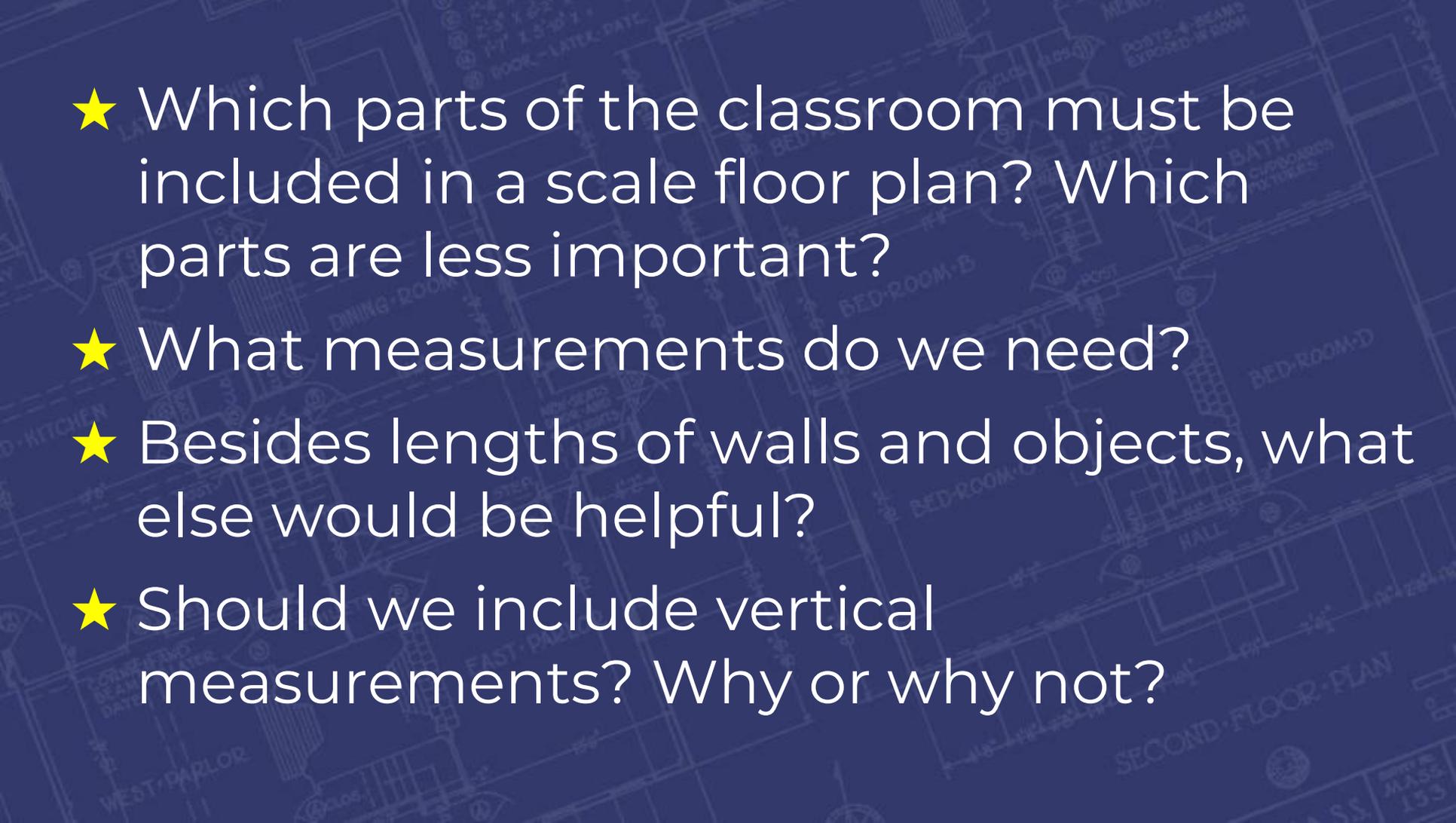
Which Measurements Matter?

Warm Up

We will be creating a scale drawing of our Math classroom.

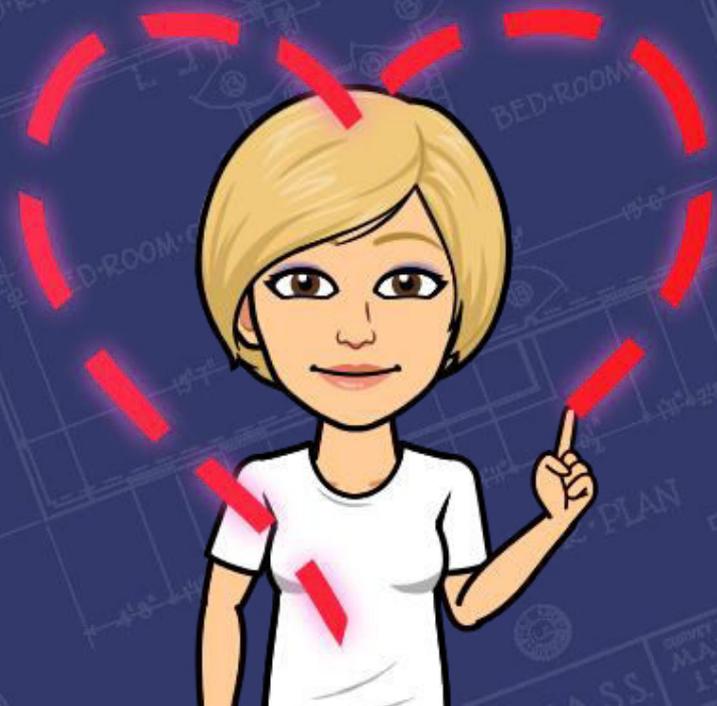
→ Think about what parts of the classroom will we need to measure for the drawing?

Be as specific as possible. (List them!)

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- The background is a dark blue architectural floor plan of a building. It features various rooms labeled in white text, including 'DINING ROOM', 'BED ROOM-D', 'HALL', 'WEST PARLOR', 'SECOND FLOOR PLAN', and 'CLASS'. The plan shows walls, doors, and furniture like tables and chairs. There are also some numerical measurements and symbols scattered throughout the drawing.
- ★ Which parts of the classroom must be included in a scale floor plan? Which parts are less important?
 - ★ What measurements do we need?
 - ★ Besides lengths of walls and objects, what else would be helpful?
 - ★ Should we include vertical measurements? Why or why not?

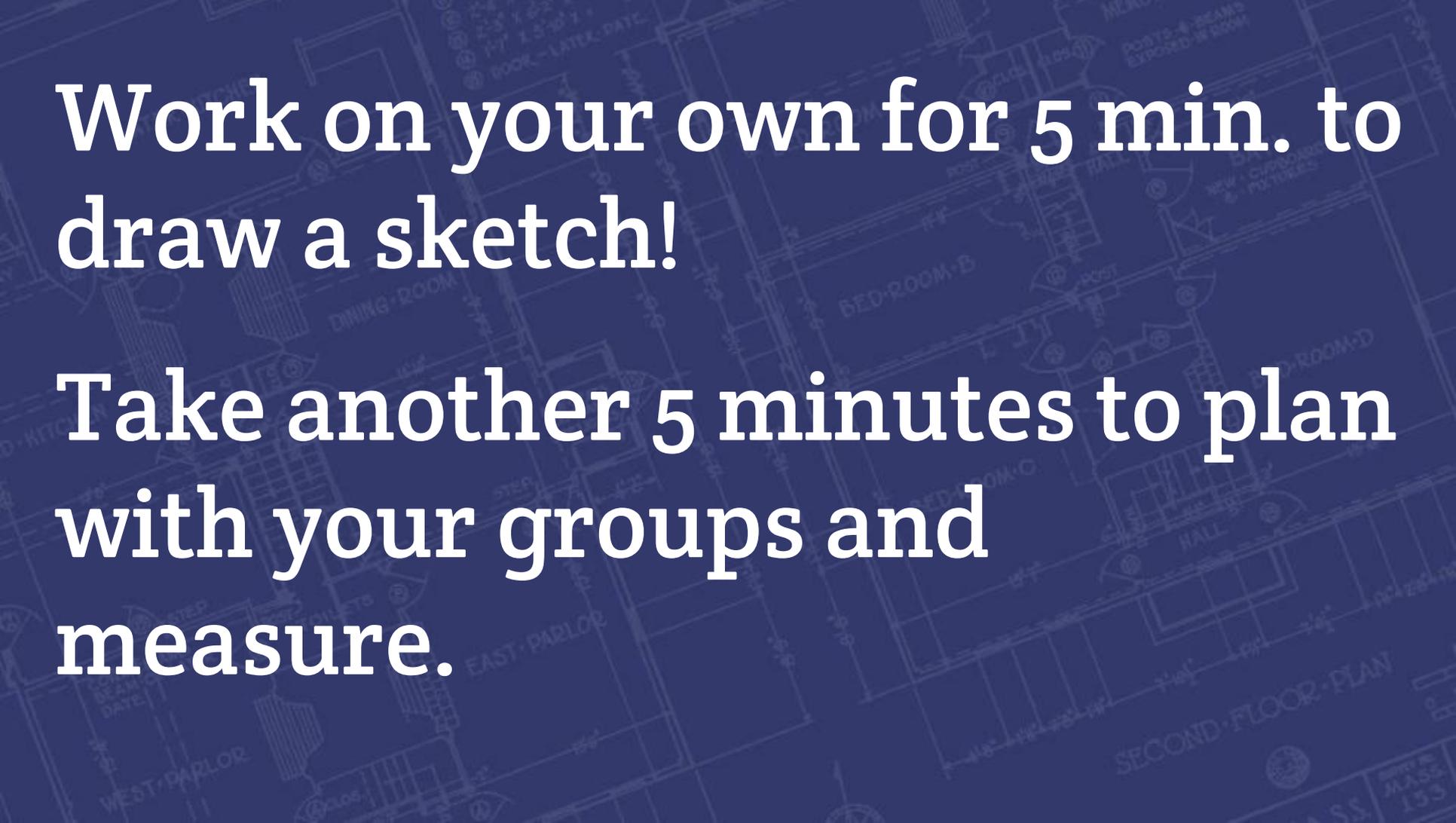
Creating a Floor Plan

(Part 1)



Take a couple of minutes to read the directions on your own.

- The sketch we make today serves a similar purpose as an outline in writing.
 - It doesn't need to be to scale, accurate, or elaborate...
 - It should show all the important pieces in the right places so it can be a reference in creating the scale drawing.

The background is a dark blue architectural floor plan. It features various rooms labeled in white, including 'DINING ROOM', 'BED ROOM - B', 'BED ROOM - D', 'HALL', 'EAST PARLOR', and 'WEST PARLOR'. There are also dimensions and other technical drawing symbols scattered throughout the plan.

**Work on your own for 5 min. to
draw a sketch!**

**Take another 5 minutes to plan
with your groups and
measure.**

Make sure that every group member has a copy of the measurements before we move on!

★ **What was challenging about measuring the classroom?**

Creating a Floor Plan

(Part 2)



Choose grid paper for your drawing.

As you choose a scale, please consider:

- the size of your paper
- the size of the classroom
- the units of measurement

Directions:

1. **Determine an appropriate scale for your drawing based on your measurements and paper choice.**

*Your drawing should fit on the paper, but it shouldn't end up too small!

2. **Use the scale and the measurements your group has taken to draw a scale floor plan of the classroom.**

- Show the scale of your drawing.
- Label the key parts of your drawing with their actual measurements.
- Show your thinking and organize it so it can be followed by others.

“Are you ready for more?”

1. If the flooring material in your classroom is to be replaced with 10-inch by 10-inch tiles, how many tiles would it take to cover the entire room? Use your scale drawing to approximate the number of tiles needed.
1. How would using 20-inch by 20-inch tiles (instead of 10-inch by 10-inch tiles) change the number of tiles needed? Explain your reasoning.

Creating a Floor Plan

(Part 3)



Let's organize into
small groups based on
the type and size of
paper you used.



Use these questions to guide your discussion:

- A. What scale did you use? How did you decide on this scale?
- B. Do the scale measurements in each drawing seem accurate? Do they represent actual measurements correctly?
- C. Did the scale seem appropriate for the chose paper? Why or why not?
- D. What was the first thing you drew in your drawing? Why?
- E. How did you decide on the objects to show in your drawing?
- F. What aspects of your drawings are different?

Answer the following question on Google Classroom using complete sentences and thoughts:

How you could floor plan be revised/improved to better represent the classroom?