

Lesson 20: An Exercise in Creating a Scale Drawing

Today, you will be applying your knowledge from working with scale drawings to create a floor plan for your idea of the dream classroom.

Classwork: Your Dream Classroom

Guidelines

Take measurements: All pairs will work with the perimeter of the classroom as well as the doors and windows (Perimeter to be given by the teacher). Use the table provided to record measurements. Always double check the measurements.

Create your dream classroom and use the furniture catalog to pick out your furniture: Discuss what your ideal classroom will look like with your partner and start picking out furniture from the catalog. Record the actual measurements on the given table.

Determine scale and calculate scale drawing lengths and widths: With your partner, determine your own scale. The calculations of the scale drawing lengths, widths and area is to be included.

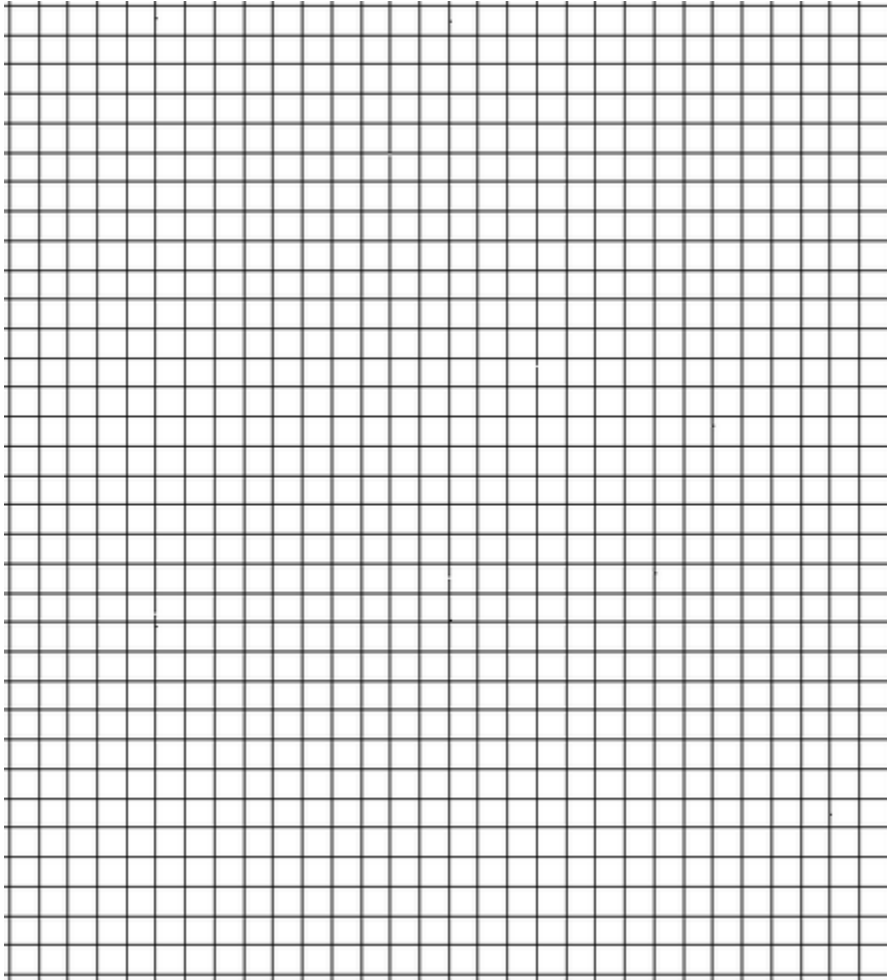
Scale Drawing: Using a ruler and referring back to the calculated scale length, draw the scale drawing including the doors, windows and furniture.

Measurements

	Classroom Perimeter	Windows	Door	Additional Furniture					
Actual : Length									
Width									
Scale Drawing : Length									
Width									

Scale: _____

Initial Sketch: Use this space to sketch the classroom perimeter, draw out your ideas and play with the placement of the furniture.



Area

	Classroom						
Actual Area							
Scale Drawing Area							

Lesson Summary:

Scale Drawing Process:

1. Measure lengths and widths carefully with a ruler or tape measure. Record in an organized table.
2. Calculate the scale drawing lengths, widths and areas using what was learned in previous lessons.
3. Calculate the actual areas.
4. Begin by drawing the perimeter, windows and doorways.
5. Continue to draw the pieces of furniture making note of placement of objects (distance from nearest wall).
6. Check for reasonableness of measurements and calculations.

Problem Set**Interior Designer**

You won a spot on a famous interior designing TV show! The designers will work with you and your existing furniture to redesign a room of your choice. Your job is to create a top-view scale drawing of your room and the furniture within it.

- With the scale factor being $\frac{1}{24}$, create a scale drawing of your room or other favorite room in your home on a sheet of 8.5 x 11 inch graph paper.
- Include the perimeter of the room, windows, doorways, and three or more furniture pieces (such as tables, desks, dressers, chairs, bed, sofa, ottoman, etc.).
- Use the table to record lengths and include calculations of areas.
- Make your furniture “moveable” by duplicating your scale drawing and cutting out the furniture.
- Create a “before” and “after” to help you decide how to rearrange your furniture. Take a photo of your “before.”
- What changed in your furniture plans?
- Why do you like the “after” better than the “before”?

	Entire Room	Windows	Doors	Desk/Tables	Seating	Storage	Bed	
Actual Length								
Actual Width								
Scale Drawing Length								
Scale Drawing Width								

	Entire Room Length	Desk/Tables	Seating	Storage	Bed	
Actual Area						
Scale Drawing Area						

