

# My Big Art: Scale Drawing

## Overview:

You will be creating a piece of art on our patio at school. You need to come up with a drawing that you would like to share on our patio for back to school night. I need to see and approve of your complete picture before you begin. Try to use up your whole space so it becomes a beautiful tapestry of images from all the students.

The paper and pencil drawing you create will be enlarged as an image on the ground. Whenever we enlarge or reduce a drawing it must be proportional.

Math words to remember:

## Step 1: Claim and Measure your Piece of Patio

You will need: Chalk, Meter Stick, this paper, and a pencil.

- A) Select a section of patio that is near your Math classroom.
- B) Chalk your name in letters 10 cm tall on the bottom of your piece of patio. (The bottom is the side closest to your Math classroom.)
- C) Measure the length of the bottom edge in cm. Round to the nearest tenth of a centimeter. Add it to the table below.
- D) Measure the length of the side edge in cm. Round to the nearest tenth of a centimeter. Add it to the table below.
- E) Is your piece of patio a rectangle? If it isn't come see me for help. You'll need to make it a rectangle using the bottom and side measurements.

	Length of Bottom (cm)	Length of Side (cm)
Outside Space (for the mural image)		

Step 2: Practice your Proportions (We'll do this together as a class.)

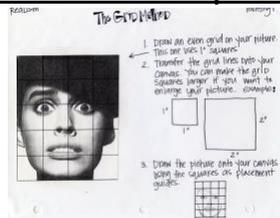
If you only had a post-it note paper with a bottom measurement of 15 cm, how many centimeters does the side of the paper drawing need to be for your pencil drawing (original) to be proportional with your mural (image)? Show your work below.

### Step 3: Find The Dimensions For Your Original

- A) Using a regular piece of computer paper, match your paper to the rough orientation of your patio space (landscape or portrait) by matching long and short sides. Write your name on the bottom of the paper like you did on your piece of patio.
- B) Calculate the dimensions you'll need to cut your paper so that it is proportional to the patio space. Keep either the bottom or the side of your paper to maximize your drawing space. Show all your work below. Add your answer to the table below.

	Length of Bottom (cm)	Length of Side (cm)
Paper (for your original pencil drawing)		

## Step 4: Prepare Your Workspaces for Future Transfer



First you will divide your workspace outside into a grid:

- A) Divide the bottom edge length (you wrote it down in the Table in Step 1 ) into 4 even sections.  
Each section will be \_\_\_\_\_ cm long across the bottom and top.
- B) Divide the side length into 4 even sections.  
Each section will be \_\_\_\_\_ cm long across the left and right side.
- C) Go outside and draw gridlines by placing tick marks along the top and bottom of your patio space the calculated number of cm and then connecting the top and bottom tick marks.
- D) Do the same for the sides using the other value you calculated.

Next you will divide your workspace on the paper into a grid:

- A) Divide the bottom edge length (you wrote it down in the table of Step 3) into 4 even sections.  
Each section will be \_\_\_\_\_ cm long across the bottom and top.
- B) Divide the side length into 4 even sections.  
Each section will be \_\_\_\_\_ cm long across the left and right side.
- C) On your paper draw these gridlines by placing tick marks along the top and bottom of your paper the calculated number of cm and then connecting the top and bottom tick marks.
- D) Do the same for the sides using the other value you calculated.

## Step 5: Calculate your Scale Factor (We'll do this together as a class.)

### Step 5: Start Drawing

Your pencil and paper drawing finally begins.

I am excited to see your drawings! Try not to be too simple or complicated.

Remember your medium for the mural is chalk.

When you are through with your drawing on your paper, show Mrs. DePiazza so she can approve it.

### Step 5: Start Enlarging to create Your Big Art.

Transfer your drawing to the patio space outside to create your mural.