Physical Science Your Name: _____ Block: __
Classroom Scale Drawing

Partner: _____

Your job in lab tomorrow is to create a 1:80 scale drawing of your classroom. You will then use it to compute floor and wall areas.

What is a scale drawing?
A scale drawing is one that shows a real object with accurate sizes except they have all been reduced or enlarged by a certain amount - called the scale.

Example: A scale drawing of a horse has a scale of "1:10", so anything drawn with the size of "1" would have a size of "10" in the real world, so a measurement of 150mm on the drawing would be 1500mm on the real horse.

Why use a scale drawing?
A map cannot be of the same size as the area it represents. So, the measurements are **scaled down** to make the map of a size that can be conveniently used. A scale drawing of a building (or bridge) has the same shape as the real building (or bridge) that it represents but a different size. Builders use scaled drawings as plans for buildings and bridges.

Directions:
1. On a blank sheet of paper, do a quick sketch of the room. Start with a rectangle, and add the approximate locations of the doors and windows. Don't measure yet……just sketch.

2. Measure the length of the longer dimension (length) of the classroom in meters. Write this length on your sketch next to an appropriate wall.

3. Repeat this process with the shorter room dimension (width).

4. Record these dimensions <u>in meters</u> below

   Length _____m Width _____m

5. To make it easier to draw your scale diagram, convert your measurements from meters to centimeters and record them in the space provided below.

   Length _____cm Width _____cm

6. Because you are making a 1:80 scale drawing, divide these measurements by 80. This will be the length of the long dimension on your drawing.

   Length _____cm Width _____cm

7. Use these dimensions to carefully create a 1/80 scale drawing of the perimeter of the classroom. This will replace your rough sketch.

8. Place the line between tile and concrete parts of the floor accurately on your drawing.

9. Complete the table below. Think carefully about how to do it efficiently. You should need only one additional measurement!

Floor Areas	**centimeters** on The Drawing		**meters** In Real Life		
	length	width	length	width	area

Wall Areas	**centimeters** on The Drawing		**meters** In Real Life		
	length	width	length	height	area
Corridor Wall					
Window wall					
Side wall #1					
Side wall #2					
Total Walls					

For Level 1 credit, include as many of the following as you can on your drawing. Location and size must be accurate to earn credit!

- the location of the doors in the classroom. Hint: there are 4!
- The locations of the exterior windows on the walls
- The sinks
- The printer table