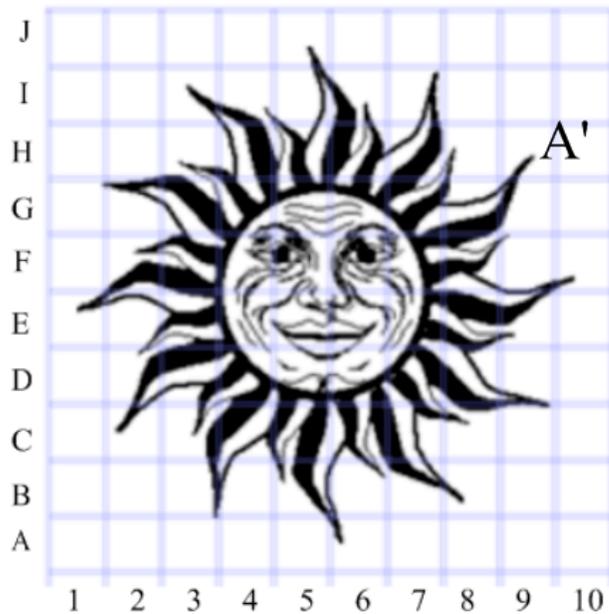
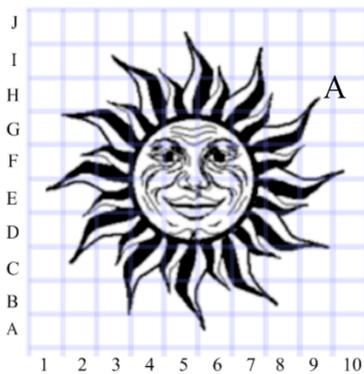


# Making a Mural

## Similarity/Dilation Project

Mural artists use similarity to help them create their larger artwork. Muralists begin creating a mural by drawing a small picture with a grid of squares drawn over it. They then divide the surface on which the mural will be painted into a similar but larger grid of squares. Proceeding square by square, they draw the lines and shapes of the original drawing into the corresponding positions of the mural surface's larger squares. Finally, they paint in the regions to complete the mural.

The design in the small grid of squares below left is similar to the design in the large grid of squares below right. The enlargement was made by matching points in the original drawing to the corresponding points in the larger grid. For example, point A in the grid on the left is in the same position as point A' in the grid on the right.



You will need the following materials to create your own mural.

- A cartoon, photograph, or small drawing to enlarge
- A poster board
- Drawing tools such as a ruler, meter stick, markers, and colored pencils

Begin by constructing lightly in pencil a grid of squares on a copy of your cartoon, photograph, or drawing. The more squares you draw, the more accurately your mural will depict your original image. Again in pencil, divide the poster into a similar grid of larger squares. To create your mural, carefully draw lines and curves of the drawing in the small squares into their corresponding larger squares. Finally, color the appropriate regions.

## Guidelines for Mural Project

- \_\_\_\_\_ 1. Minimum scale factor from the original grid to the enlarged grid should be 1:4. You should make the enlarged grid as large as possible on your poster board.
  
- \_\_\_\_\_ 2. Put the following information on the *back* of the poster:
  - a. Your name
  - b. Measurement used to construct the original (small) grid
  - c. Measurement used to construct the enlarged grid
  - d. Scale factor for your project (should be at least 4 times larger)
  
- \_\_\_\_\_ 3. The original picture should be securely taped or glued to the front of the poster where it does not conceal your finished product.
  
- \_\_\_\_\_ 4. The squares of BOTH the original grid and the enlarged grid should be numbered and/or lettered. You should have the same number of squares on each grid.
  
- \_\_\_\_\_ 5. Do NOT erase the grid on either the original or the completed mural. This is a major part of the project and should remain.
  
6. Due date: The project is due on \_\_\_\_\_
  
7. If your project is late, you will lose 5 points for each day that it is late.
  
8. I will use the following to grade your project:
  - \_\_\_\_\_ 10 points: Original picture is approved
  - \_\_\_\_\_ 5 points: Drawing meets the minimum size (scale factor is at least 4)
  - \_\_\_\_\_ 10 points: Grid is visible on both the original and the enlarged picture
  - \_\_\_\_\_ 10 points: Grid is numbered on both the original and the enlarged picture
  - \_\_\_\_\_ 5 points: Original picture is secured to the front
  - \_\_\_\_\_ 15 points: Required information is on the back (see #2 above)
  - \_\_\_\_\_ 30 points: Accuracy in duplication of the original picture
  - \_\_\_\_\_ 15 points: Project presentation (poster is flat, drawing is neat, coloring is bright, extra space cut off poster)

### A. COMPLETENESS/COVERAGE

4	3	2	1
Complete and thorough coverage of the information required and of all aspects of the assignment	Good coverage of the information required and of various aspects of the assignment	Some or uneven coverage of the information required and of various aspects of the assignment	Little or no coverage of the information required and of various aspects of the assignment

### B. CRAFTSMANSHIP/TECHNIQUE

4	3	2	1
Clear and thorough visual and/or oral expression or representation of ideas and information; highly skilled manipulation of media and materials	Good visual and/or oral expression or representation of ideas and information; skilled manipulation of media and materials	Some degree of visual and/or oral expression or representation of ideas and information; some skills shown in manipulation of media and materials	Little or no degree of visual and/or oral expression or representation of ideas and information; little or no skills in manipulation of media and materials

### D. PRESENTATION/PERFORMANCE

4	3	2	1
Clear, superior presentation matched well to audience, purpose, and medium; highly effective communication	Clear presentation matched to audience, purpose, and medium; effective communication	Uneven presentation occasionally connected to audience, purpose, or appropriate use of medium; some degree of communication	Unclear presentation, not matched to audience, purpose, or appropriate use of medium; little or no communication