

Scale Drawing Project



Acing Algebra
2015

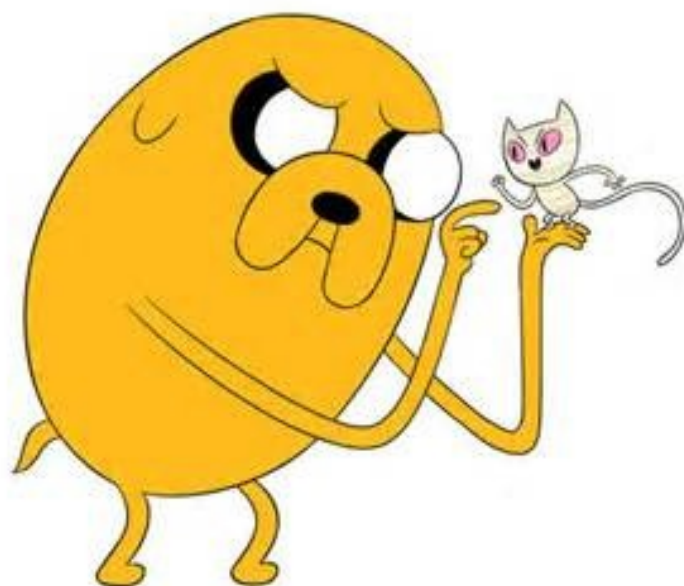
















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Scale Drawing Project - Overview

Students are required to demonstrate their knowledge of similar figures, determining the scale factor, and measurement by selecting and enlarging a picture (cartoon) of their choice! I use this project every year at the end of my 2-D Geometry Unit and my students absolutely love it!

I've included step-by-step instructions for the students as well as a sample grading rubric. In addition, I've attached examples of student projects.

Common Core Standards:

CCSS.MATH.CONTENT.7.G.A.1

Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale.

CCSS.MATH.CONTENT.8.G.A.4

Understand that a two-dimensional figure is similar to another if the second can be obtained from the first by a sequence of rotations, reflections, translations, and dilations.

CCSS.MP.5

Use appropriate tools strategically.

Scale Drawing Project - Instructions to Students

Materials needed:

Cartoon

Large paper/poster board (I provide an 18" x 24" sheet to each student.)

Rulers

Pencils/erasers

Colored pencils or crayons

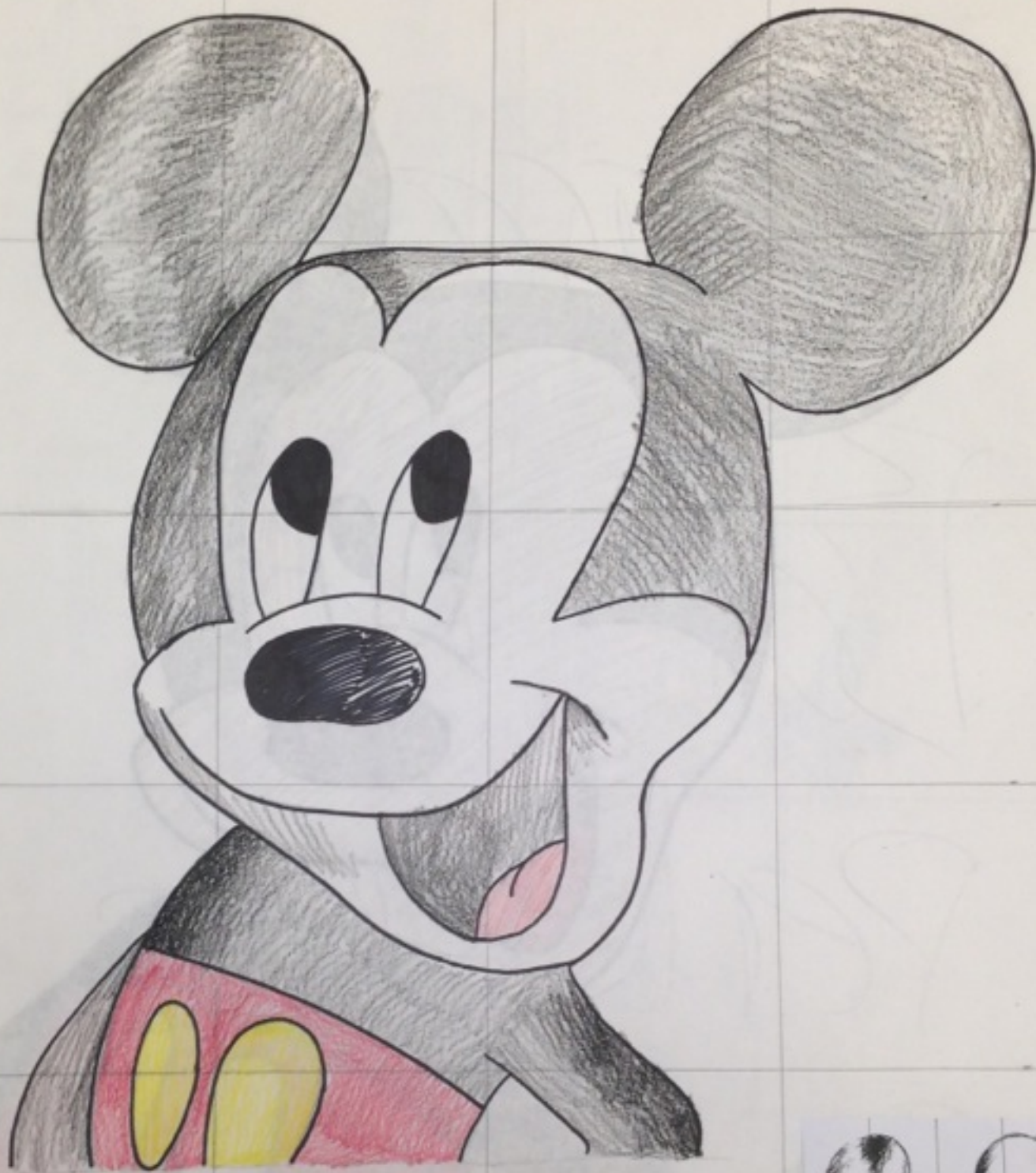
Black Sharpie

What to Do:

1. Select a cartoon from a newspaper, magazine, or print out one from the internet. The cartoon may not be black and white - there must be color! (I always print out several cartoons for students who do not print their own.)
2. Make gridlines over the cartoon. The lines must be equally spaced. For example, you can make a grid of 1" squares.
3. Using an appropriate scale factor, make gridlines over your large sheet of paper/poster board. The lines must be equally spaced. For example, you can make a grid of 4" squares. (4.5" squares work nicely on my 18" x 24" posters.)
4. At this point, it's time to draw. Remember, you do not have to be a great artist to produce an impressive enlargement. All you need to do is copy what's in each small block to its corresponding large block. You'll be AMAZED at how nice your final drawing will be!!
5. When you are finished drawing, carefully color your enlargement and then, if you want to make it look REALLY nice, outline with a black Sharpie.
6. Attach your original cartoon onto your drawing so you can impress everyone with your skills! Be sure to include your name and the scale factor used for the enlargement.

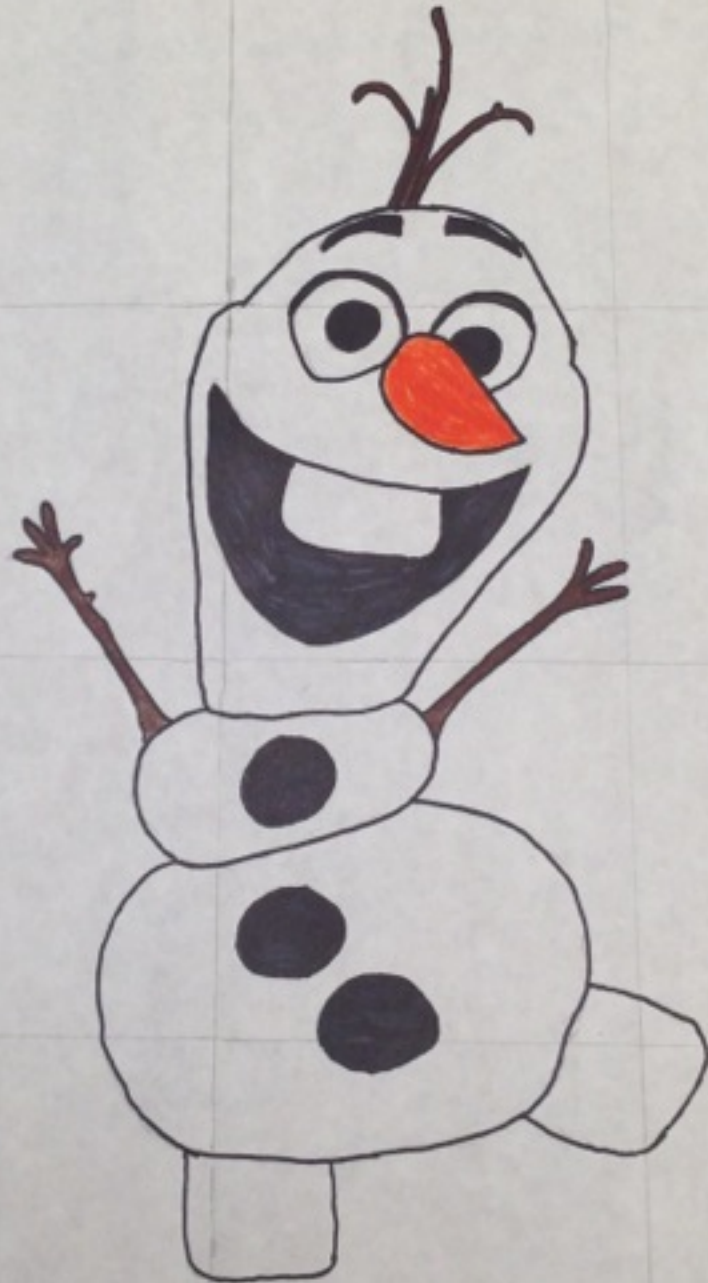
Examples of Students Projects:







© Disney



Name: _____

Period: _____

Scale Drawing Project Scoring Rubric

	0	1	2	3
Cartoon Selection	No cartoon selected <u>or</u> cartoon was inappropriate and/or not submitted by the due date.	Cartoon is appropriate and was submitted by the due date.		
Grid Lines Original Cartoon	Grid lines are missing <u>or</u> not evenly spaced and straight to form squares.	Lines are evenly spaced, straight, and form squares.		
Grid Lines Large Poster	Grid lines are missing <u>or</u> not evenly spaced and straight to form squares.	Lines are evenly spaced, straight, and form squares.		
Enlargement (Accuracy)	No enlargement <u>or</u> no original cartoon attached to compare for accuracy.	Enlargement is <u>not</u> an exact reproduction of the original.	Enlargement is <u>mostly</u> an exact reproduction of the original.	Enlargement is <u>almost a perfect</u> reproduction of the original.
Enlargement (Final Product)	No work <u>or</u> minimal work completed on final product.	<u>Not much effort</u> is evident. Final product is incomplete and/or lacks neatness and color.	<u>Some effort</u> is evident. Final product is complete, but isn't as neatly done as it could have been.	<u>A LOT of effort</u> is evident. Final product is neatly done, colored, and/or outlined.
Accurate Scale Factor (Included on Final Product)	Scale factor is missing or incorrect.	Correct scale factor identified on final product.		

Total Points _____/10

Scale Drawing Project - Grading Rubric

Original Cartoon selected - appropriate, in color	5 points
Grid Lines on cartoon - equal distance, straight	5 points
Grid Lines on poster - equal distance, straight	5 points
Drawing - completion	10 points
Effort - overall effort, neatness, colored/outlined	15 points
Scale Factor - indicated, accurate	10 points
Total Points:	50 points