

Graphing Letters on the Coordinate Grid



Your Name in
Coordinates

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Your Name In Coordinates

When teaching the coordinate plane, teachers often give students coordinate pair directions to draw a “mystery” picture. In this activity, students both draw the pictures *and* interpret instructions to create a mystery drawing.

This activity differs from most coordinate drawing assignments in that it is *personalized* – not only is the student designing the picture, but the picture is his/her own name! Students enjoy this aspect of the activity. Then they develop the coordinate pair directions so that someone else can replicate their drawings. The main challenge is in using line segments to form letters. A sample set of block-style letters is included for student reference.

In this activity, students will practice using the coordinate grid by:

- locating and plotting points defined by coordinate pairs
- joining points with line segments to create a picture
- drawing letters using straight line segments
- writing coordinate pair instructions for their drawings so that the drawings can be replicated by other students

Before beginning this activity, students should have experience plotting on the coordinate grid and understand the following terms:

- coordinate grid, coordinate plane
- x-axis and y-axis
- coordinate pair, ordered pair

Included in this resource

1. Sample Coordinate Grid Word Picture (the word “Graph”) and corresponding coordinate pair instructions
2. Instructions for “Your Name In Coordinates” activity
3. Blank coordinate grid, 30 units x 40 units
4. Coordinate grid with 4 quadrants, x- and y-axes drawn and numbered
5. Sample block letter alphabet for student reference. Have copies available or project onto the board.
6. Sample student name picture (“Davis”)

To implement this activity

1. Review coordinate plane vocabulary.
2. Project the sample drawing via computer or document camera, showing the word “Graph” and its corresponding coordinate pair instructions. Talk through some of the plotting and joining of points, and emphasize that STOP means to pick up one’s pencil and begin a new series of line segments without joining it to the previous formation.
3. Provide students with coordinate grid paper. Use the unlabeled grid if you want students to draw and number the axes themselves, to make a horizontally-oriented grid, or if you want them to use only the first quadrant (all positive numbers). A labeled and numbered 4-quadrant grid sheet (vertical orientation) is also provided for convenience.
4. Instruct each student to draw his/her own name on a coordinate grid using bubble-style letters comprised of straight line segments only . Students with very short or long names might use a nickname (school-appropriate) or middle name. Four to eight letters is ideal.
5. After drawing his/her name, the student will write directions for forming each letter, using coordinate pairs in sequence and indicating when to STOP before beginning a new portion of the picture. The student instruction page tells them to leave their names off of their written directions (to keep it secret).
6. Put a unique code on each student’s name drawing and written directions so that they can be matched together.
7. Distribute coordinate grid paper and a set of written coordinate grid directions (not one’s own) to each student. If you have multiple classes, you can give students directions from students in another class to make the activity more interesting and less predictable.
8. Each student plots the coordinate pairs given, making a name picture. These should be identified with the name of the student doing the drawing (for assessment purposes) and the identifier code on the directions (so that you can identify what the final product should look like).
9. You may allow the students to color the pictures (letters).
10. Assess each student on:
 - a. the accuracy of the coordinate pair directions that he/she wrote
 - b. the implementation of another student’s written coordinate pair directions.

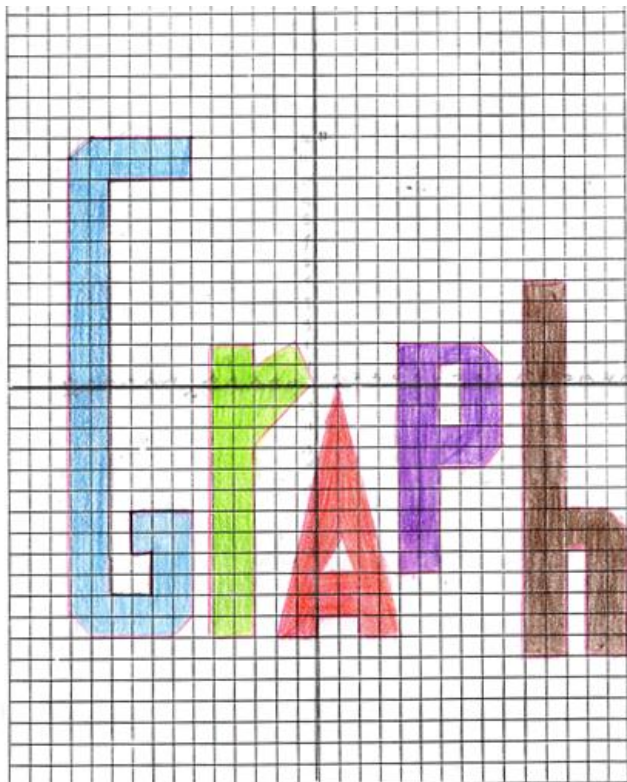
If your students do a good job on this, you might consider displaying the finished products. They’ll love seeing their names on display!

COORDINATE GRID WORD PICTURE EXAMPLE

Plot these coordinate pairs. Don't forget to join each point to the one before. Use a straightedge. After the "STOP," pick up your pencil and start a new series of joined line segments.

Coordinate pairs are written in **columns. To start, (-6, 12) is followed by (-11, 12).*

(-6, 12)	(-5, 2)	(2, -12)	(12, 5)
(-11, 12)	(-5, -12)	(4, -12)	(10, 5))
(-12, 11)	(-3, -12)	(1, 0)	(10, -13)
(-12, -11)	(-3, -3)	STOP	(12, -13)
(-11, -12)	(0, 0)		(12, -8)
(-7, -12)	(-1, 2)	(6, 1)	(13, -8)
(-6, -11)	(-3, 1)	(6, -2)	(13, -13)
(-6, -6)	STOP	(7, -2)	(15, -13)
(-9, -6)		(7, 1)	(15, -7)
(-9, -8)	(1, -7)	(6, 1)	(14, -6)
(-8, -8)	(0, -9)	STOP	(12, -6)
(-8, -10)	(2, -9)		(12, 5)
(-10, -10)	(1, -7)	(4, 2)	STOP
		(4, -9)	
(-10, 10)	STOP	(6, -9)	
(-6, 10)		(6, -4)	
(-6, 12)	(1, 0)	(8, -4)	
STOP	(-2, -12)	(9, -3)	
	(0, -12)	(9, 1)	
(-3, 1)	(0, -11)	(8, 2)	
(-3, 2)	(2, -11)	(4, 2)	
Keep going	Keep going	STOP	



Your Name In Coordinates

You will draw your name on a coordinate grid and write the coordinate pairs in sequence so that someone else can make the same picture of your name.

Instructions

Activity 1

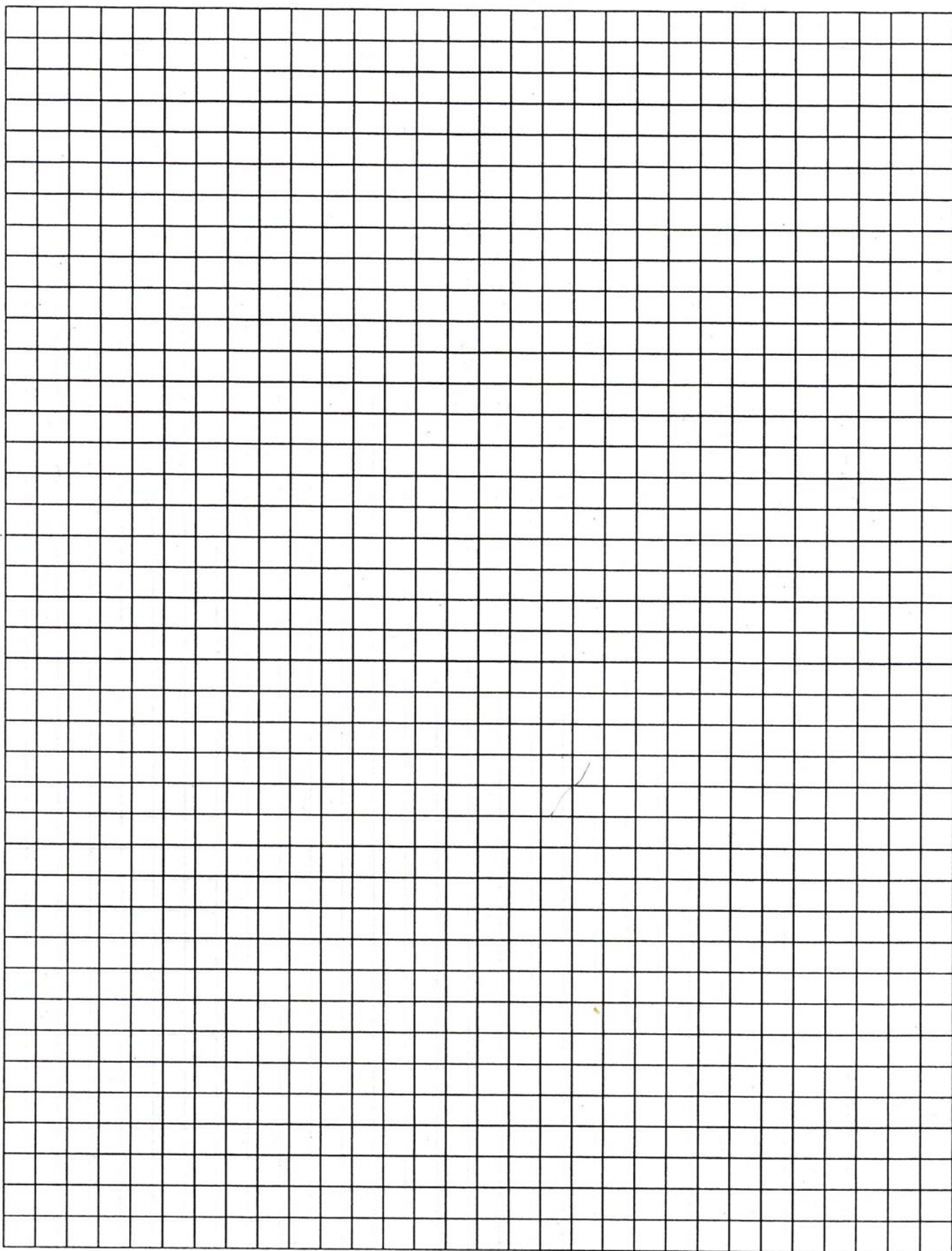
1. Draw perpendicular axes, x-axis and y-axis, on a sheet of grid paper, according to your teacher's instruction. Label and number the axes.
Disregard this step if your teacher has provided you with a pre-labeled grid.
2. Draw your first name using block-style (straight line segments) bubble letters. Use a straightedge. Your picture should consist, ideally, of 4-8 letters. If your name is longer or shorter, consider using another form of your name, or a nickname. Consult with your teacher before using a nickname or if you are unsure of what name to use.
3. On a separate sheet of paper, write the directions, using coordinate pairs, for drawing the picture of your name. Don't forget to write "STOP" whenever a new part of the drawing is to be started. Take your time and be careful to write the coordinates correctly and in order. **Do not put your name on this paper.**
4. Turn in your plotted name drawing and the coordinate pair directions that you wrote. Your teacher will mark both with a code so that your picture and directions are matched together.

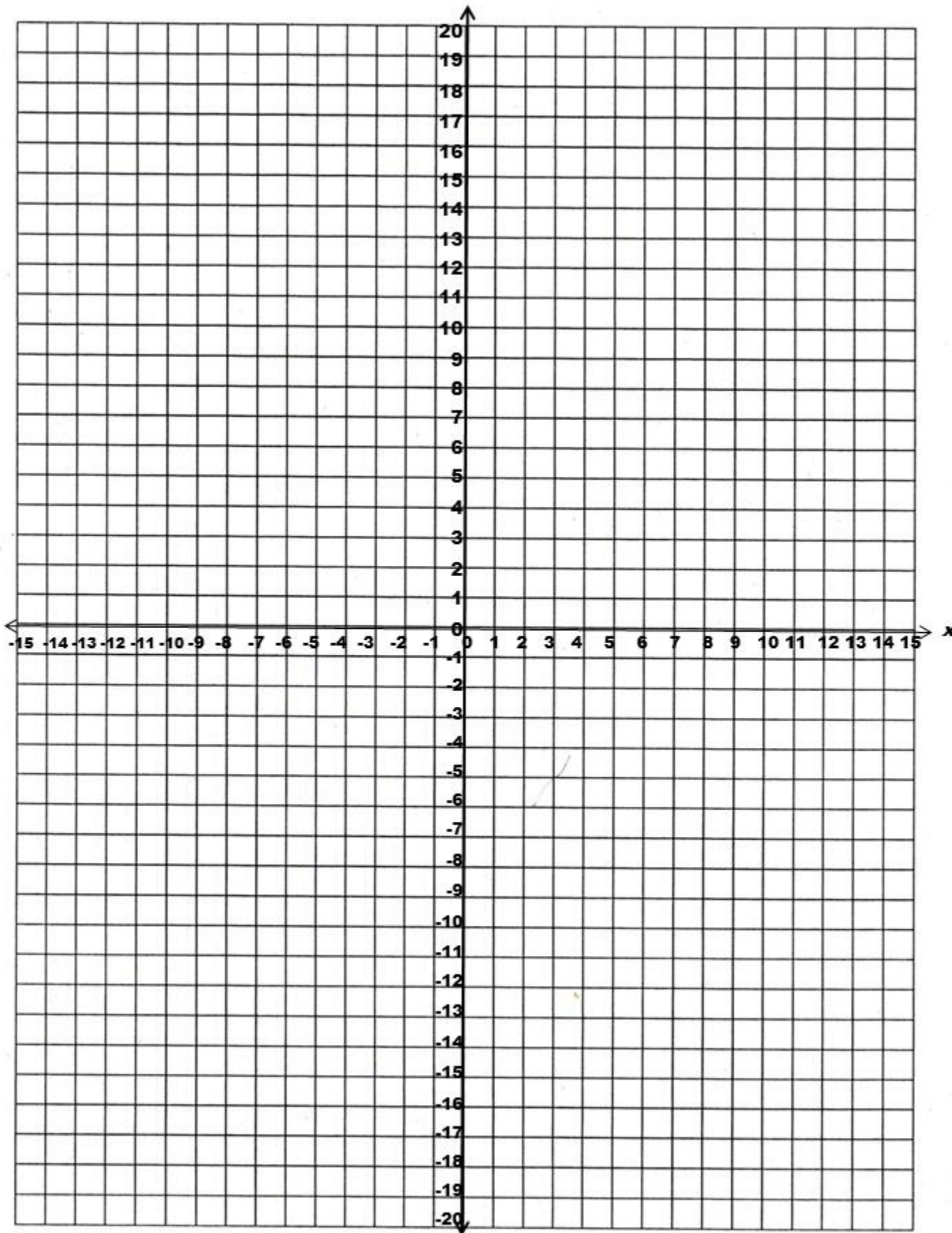
Activity 2

1. Directions will be distributed so that each student will receive the coordinate pair instructions to draw the name of another student.
2. On a sheet of grid paper, draw, label, and number the axes (as in #1 in Activity 1).
3. Following the given coordinate pair directions, plot the points in order, joining each point to the previous one. Use a straightedge.
4. Your teacher may give you instructions to color in the letters. Do as instructed.
5. Put your name on the back of this paper before turning it in.

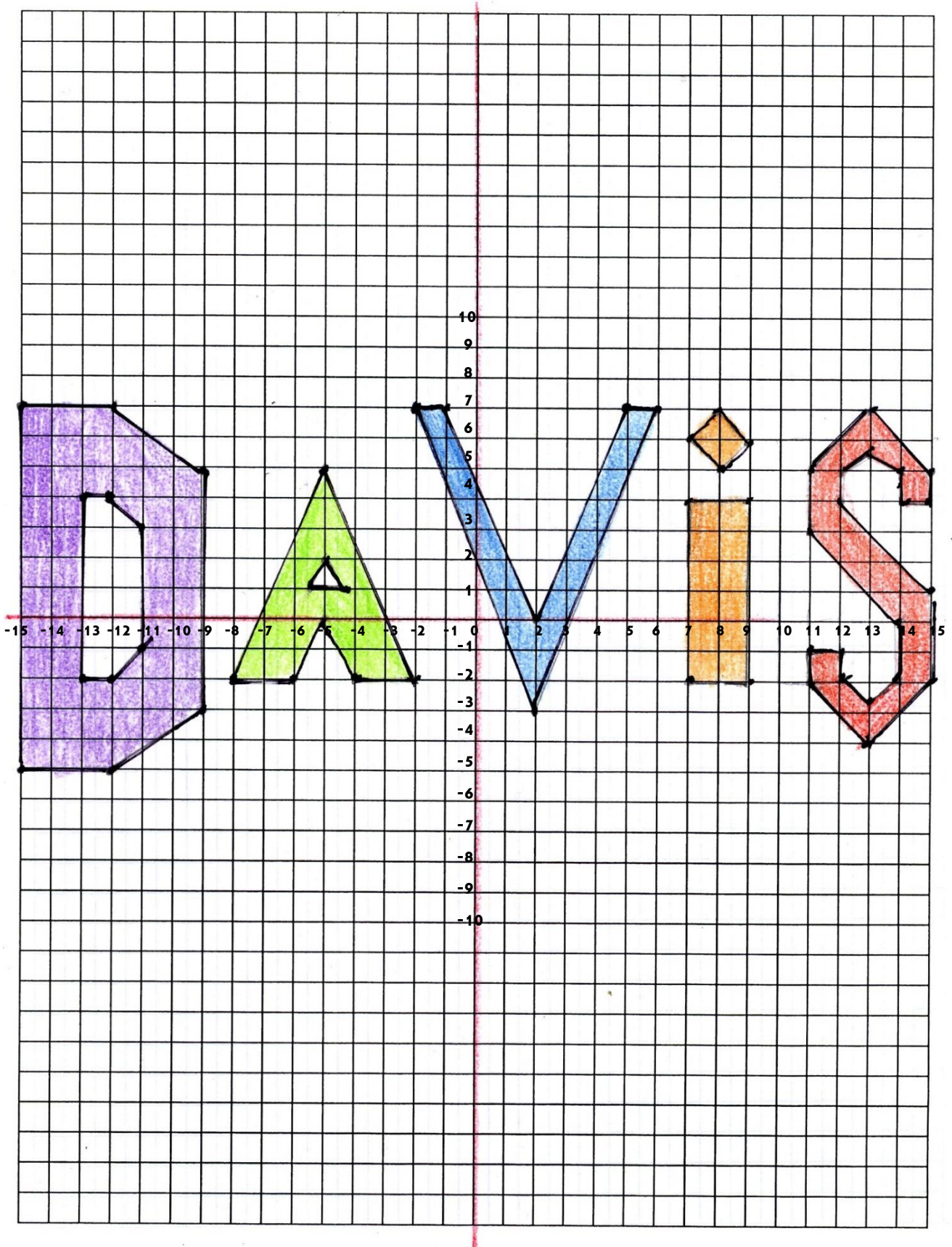
Assessment - Each student will be assessed on:

- a) Accuracy of instructions written for own name
- b) Correct representation of the given coordinate pair instructions.





Sample name in straight line segment bubble letters




ABCDE

FGHIJK

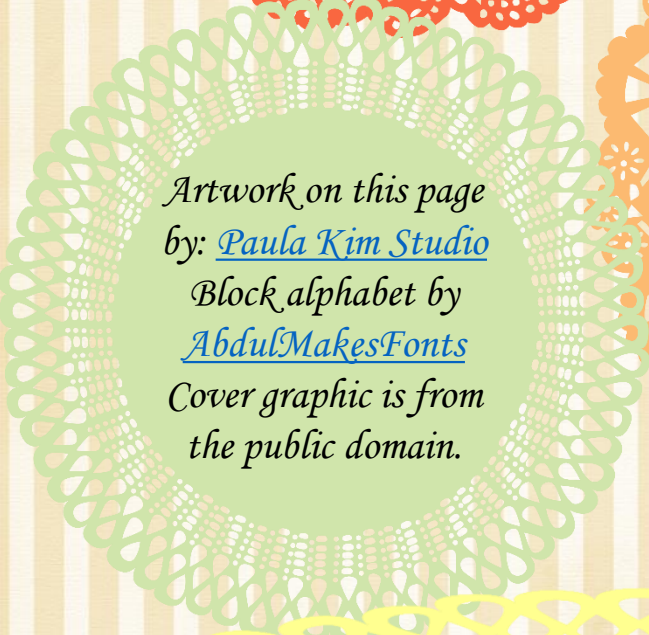
LMNOP

QRSTU

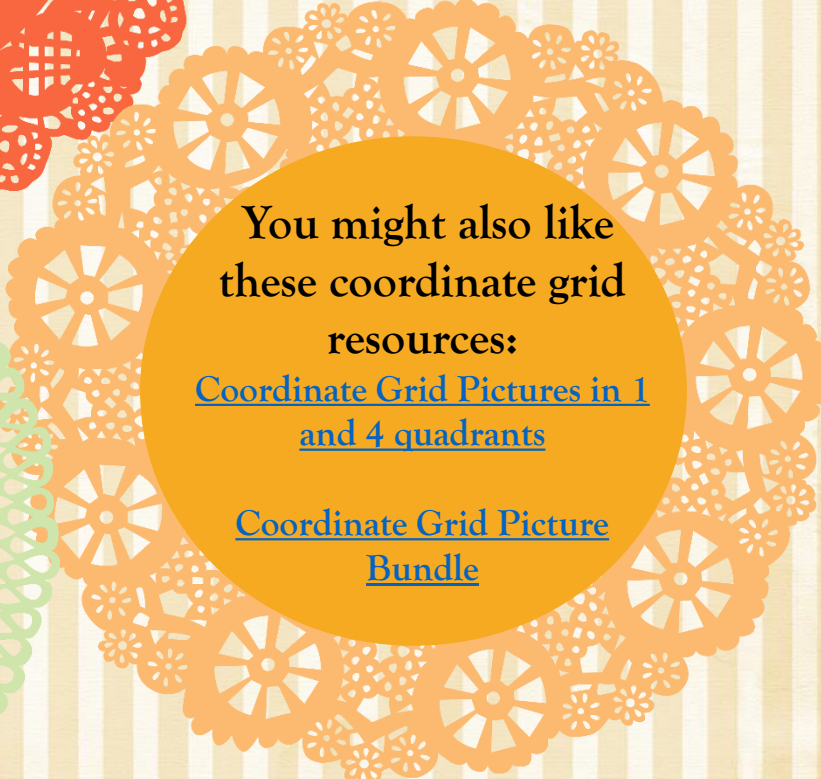
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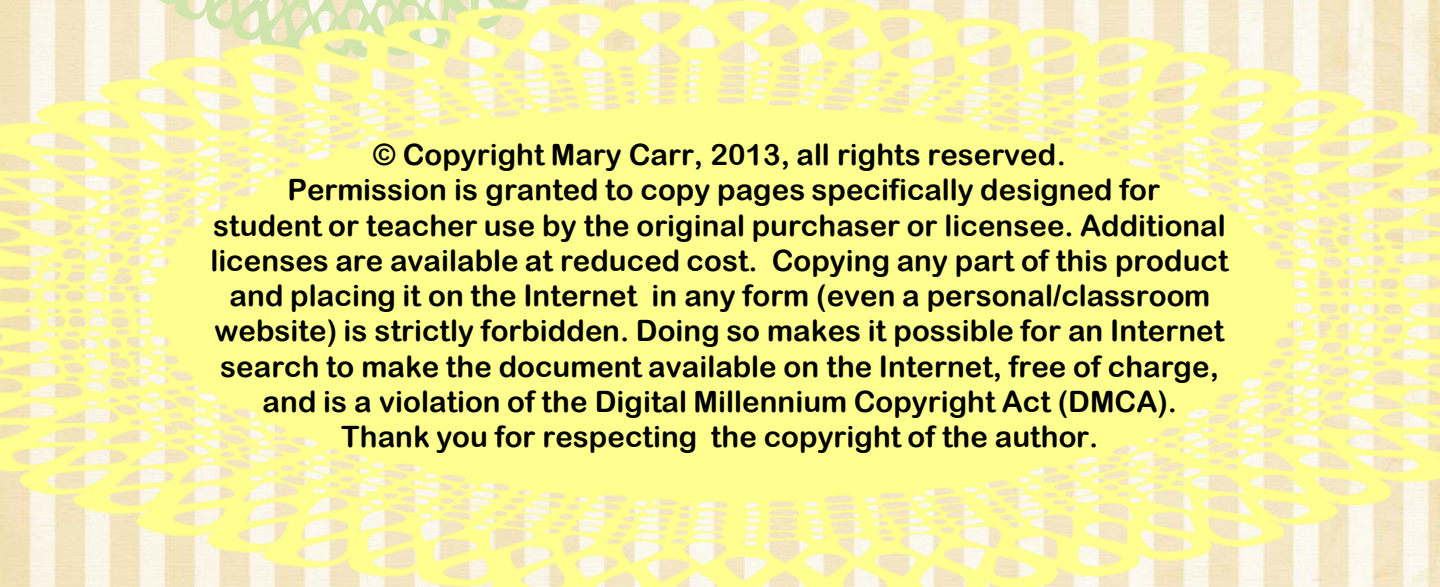
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[Coordinate Grid Pictures in 1
and 4 quadrants](#)

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