Subject: The Coordinate Plane and Graphing  Grade: 8  Author: Irving, Texas
Approximate Time: 90 minutes  Date: Fall 2008

Topic/Theme: The Parts of the Coordinate Plane; Graphing Equations of Lines

Note: The students have previously learned parts of the coordinate plane, and have learned basics of graphing ordered pairs (points). They will now be investigating these topics along with graphing equations of lines (sets of ordered pairs/solutions).

Objectives:

**Content:** The students will learn and practice labeling the parts of the coordinate plane; learn how to and practice graphing equations of lines.

**Language:** The students will read about the history of the coordinate plane and orally discuss; watch Brain Pop video on the coordinate plane; orally define and write definitions of content and related words of the week; lastly, listen and takes notes during class and complete required investigation assignments.

Vocabulary:

**Content Specific:**
coordinate (Cartesian) plane
origin
ordered pair
x-axis
y-axis
quadrant

**Related:**
table
solution
interpret
graph (as a verb)

Materials:
pencil, journal, “The History of the Coordinate Plane” article, Brain Pop video on the coordinate plane, picture of coordinate plane for labeling (notes sheet), practice worksheet, construction paper, graph paper, markers, scissors, glue

Activities:

- After the Daily Focus, introduce the content and language objectives for the day.
- Students will read “The History of the Coordinate Plane” article. They will implement the Insert Method while reading. Discuss findings and questions orally after reading the article.
- Watch Brain Pop video on coordinate plane and graphing. Teacher and students will read orally and answer Brain Pop quiz questions at the conclusion of the video.
- Introduce content and related “words of the week.” Students will write definitions on notes sheet. Words (their Spanish form) and helpful pictures are posted on the Word Wall.
- Using the picture of the coordinate plane (notes sheet), students will label the parts that were discussed in the video.
- As a class, teacher and students will practice using equations to fill in corresponding tables, graph the ordered pairs (points) on graph paper and connect the points to form a line.
- Independent “content assessment” (see below)
- Cooperative group “extension” (see below)
- Review objectives with students and close class.

**Closing Discussion:**

**Thinking out-of-the-box:**
Teacher will ask students the following discussion questions… In your own words, tell me where the coordinate plane came from? What is the difference in graphing points and equations? How do you know if you graphed an equation correctly?

**Review & Assessment:**

**Vocabulary:**
As their “ticket out of class,” students will write a sentence explaining what they have learned today. They will include at least 1(one) of our “words of the week.”

**Content:**
Students will independently complete the practice worksheet involving equations, tables and the graphs that accompany them.

**Extension:**
After the completion of the practice worksheet, students will work with their cooperative groups. In their cooperative group, the students will create their own equation, a solutions table and a graph of that equation. The students will then display them creatively on construction paper and post them on the board.