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ELE301-02 Dr. Conte

Edgewood Elementary School

Mr. Mount, Grade 5

Unit Lesson 5: Coordinate Planes

**Topic:** Coordinate Planes, Grade 5

**Essential Questions:**

* What is a coordinate plane?
* How can points be plotted on a coordinate plane? How is this read?

**Standards:**

* CCSS.MATH.CONTENT.5.G.A.1 Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).
* M05.C-G.1.1.1 Identify parts of the coordinate plane (x-axis, y-axis, and the origin) and the ordered pair (x-coordinate and y-coordinate). Limit the coordinate plane to quadrant I.

**Lesson Objectives/Assessments**

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| **Objective** | **Assessment** |
| Students will be able to identify parts of the coordinate plane. | Whole-class discussion/creation of coordinate plane (quadrant I) with labels and definitions of parts (y-axis, x-axis, origin). |
| Students will be able to represent points limited to quadrant I using ordered pairs. | Worksheet will be distributed that instructs students to plot points on a coordinate plane; class will also participate in “candy coordinates” activity to reinforce the learning objective. |

**Materials:**

* Masking Tape
* Assorted Candy
* Coordinate Plane Quadrant I Worksheet
* Projector/Document Camera

**Pre-Lesson:**

Students will have taken a pretest before this lesson to determine prior knowledge of geometric topics and any application of coordinate planes.

Teacher should set up “candy coordinates” activity prior to beginning the lesson in order to balance time and material.

**Lesson Beginning:**

Students coming into fifth grade have very little prior knowledge of coordinate planes and plotting points of ordered pairs. Thus, the teacher will begin the lesson by introducing a full coordinate plane display, label the four quadrants, and then focus in on quadrant I for the remainder of the lesson.

**Instructional Plan:**

* The teacher will distribute a worksheet depicting quadrant I of a coordinate plane, which will be the focus for the remainder of the lesson. The teacher will model labeling of the part of the coordinate plane, instructing the students to follow along and label the parts on their own worksheets as the teacher does. As the teacher labels the parts, he/she should also discuss definitions and have students make notes. The teacher will also discuss the use of ordered pairs and model how to plot these points on the coordinate plane, asking students to mimic the actions on their own worksheets. *Approx. 15 minutes*
* Following direct whole-class instruction, the students will receive a worksheet with a list of ordered pairs, detailing points to plot onto a coordinate plane. This will serve as reinforcement for the learning objectives. Students may work with their table groups to complete the worksheet. After students have finished the worksheet, the teacher will have students participate in “candy coordinates” activity, in which masking tape has been applied to the indoor/outdoor flat ground in a coordinate plane pattern and labeled as such. The teacher will demonstrate how to plot an ordered pair using the students’ movements, which will be rewarded with assorted candies plotted throughout the grid. *Approx. 20 minutes*

**Differentiation:**

Students will be working together, at the same pace, throughout the lesson. By doing so, no student will be further ahead than another and questions can be asked and answered as an address to the entire class.

**Classroom Management:**

The teacher will be providing direct instruction/modeling while completing the first worksheet, monitoring noise level and frequently keeping students on track. The teacher will continue to monitor this while students work individually and participate in “candy coordinates” activity.

**Closure:**

Once each student has had a chance to participate in the “candy coordinate” activity, the teacher will bring the class back together to go over the worksheet with plotting ordered pairs and model the correct answers, as well as discussing the activity and what was learned from it.