

Title: Graphing Sled Dogs	
Developed by: Martha Dobson and Jennifer Riordan	
Discipline / Subject: Math	
Topic: Graphing in the coordinate plane	
Grade Level: Sixth and lower/upper grades	
Resources / References / Materials Teacher Needs: sled dog pattern, graph paper	
Lesson Summary: AIG (Academically and Intellectually Gifted) students determine and plot the coordinates which create a sled dog when the points are connected. NOTE: This lesson has accommodations for different grade levels and abilities. Please see the information at the end of the lesson plan for the graphing coordinates, a sled dog outline, and a connect the dot using numbers dog outline.	
Standards Addressed: (Local, State, or National) 1. NCSCOS 3.03 Transform figures in the coordinate plane and describe the transformation. 2. Alaska State Standards M5.2.5 Identify and model transformations of geometric figures, describing the motions as slides, flips, or rotations. 3. Alaska State Standards M5.2.6 Locate and describe objects in terms of their position with and without compass directions; <i>identify coordinates for a given point or locate points of given coordinates on a grid.</i> National Math Expectation for Algebra, grades 6-8 Understand patterns, relations and functions	
Learning objectives: 1. Apply knowledge of graphing & coordinates. 2. Create a sled dog using graphing coordinates. 3. Demonstrate knowledge of transformations by creating their own graph.	Assessment: Method of assessment for learning Student will produce a graphed sled dog like the pattern they are given. Coordinates will be written in correct format.

Procedural Activities

1. Based on the sled dog pattern, students will determine the coordinates to reproduce the sled dog on the graph.
2. Students create a list of the coordinates in correct format.
3. Students translate or reflect the original figure into one of the other quadrants of the graph.

Materials Students Need: Graph paper, sled dog pattern, notebook paper, pencil.

Technology Utilized to Enhance Learning:

Other Information Many thanks to Jennifer Riordan's AIG sixth grade of 2008-09 who created the sled dog coordinates.

Modifications for special learners/ Enrichment Opportunities

- **AIG students determine the coordinates.**
- **AIG or upper middle grades also reflect or translate the sled dog on the graph.**
- **Regular education students use the coordinates to create the sled dog on a graph.**
- **Elementary students create the sled dog by connecting the letters or numbers of each point in the correct alphabetical or numerical order. Laminate the outline so students can trace using a wipe-off marker and reuse the pattern. Make a connect the dots number dog on one side and a connect the dots alphabet dog for the other side.**