"Save the Zogs" Activity Handout

1. Give an example of a non-linear equation by drawing some Duplicators on a graph.

2. What about the situation that you drew makes the line through the Duplicators non-linear?

3. Move as few Duplicators as possible on your graph to create a linear equation. What is the linear equation? What did you do to determine the appropriate linear equation?

4. Consider two Zogs on the graph and consider the relationship between the two Zogs. How can you use this information alone to determine the slope of the linear equation that goes through them?

5. Do two points on a graph always have a linear equation going through them? Do three? Why or why not?

6. Suppose that the Zogs were able to send you a message that the slope of the equation of the line they were forming is going to be -3 and that you knew that one of the Zogs was located at (3, 4). Where are two other possible points that you could possibly find another Zog? Why are those points good places to look? Write an equation to describe this situation.