

Portfolio Project Reflection

Montana Standards: 3.1: Exponential growth

1. This is an example of my best work because it shows the integration of science, by using carrying capacity; Algebra by using exponential growth, technology by using excel; Language Arts by using 6-Traits of writing and by using the complete writing process of pre-writing, revising, and peer critique. This project incorporates the educational components of exponential growth by using charts, graphs, and algebra. In this project, I was a wild life preservationist. I was given 100 acres and 6 deer to manage. The carrying capacity of the 100 acres is 35 deer. I had to consider growth and decay of the population.

The growth rate of the deer is explained by the equation $P = 6 (1.5)^n$. The six represents the initial population. The 1.5 represents the growth rate of 50% plus a factor of one to ensure that the adult population is calculated in future years. The n-axis, also known as the domain, the input, and the independent variable, represents the years of population growth. The p-axis, also known as the range, output and the dependent variable is the deer population.

I will use a scatter plot to help me make decisions. The graph of my equation lies in quadrant I and II of the coordinate plant. This graph contains an asymptote where the line gets closer and closer to zero on the n-axis but never reaches it. I noticed that between year's fours and five, the population exceeds carrying capacity. Year four depicts 30 deer while year five depicts 46 deer. The population exceeds carrying capacity by 11 deer. $46 - 35 = 11$ deer. This means that the spring birth rate will need to be managed the fall of the fifth year. To keep the deer population at capacity, we will allow a hunting season. I will need to sell 11 deer tags as generally hunters fill their tags at a 50% rate.

2. Each time I revised this project I was looking for math and grammar errors. Each time I revised, I had to look for 20 vocabulary words using 6 Traits +1 word choice.
3. What did I learn about myself through completing this project?
I learned that I can write in a very professional manner. I can also use excel very well.
4. If I were to do this project again I would use more of the Six-Traits of writing. I would also do more editing and make the "voice" in my paper more professional.
5. If a stranger looked at this project, they would say that my paper was very organized, and I had very good word choice. They would also say that I had great ideas and understood the math content of exponential growth very well.