Name:_____   Date:_____

**African Lions: Modeling Populations Assessment**

1. When Yellowstone National Park was created in the late 1800s, wolves were on the decline. The last wolves in Yellowstone were killed in 1926, but in the 1800s, there were between 100-160 wolves in the park. In 1995, gray wolves were *reintroduced* to the park. Using what you know about populations, predict the growth of the wolves on the graph below.

Yellowstone Wolves
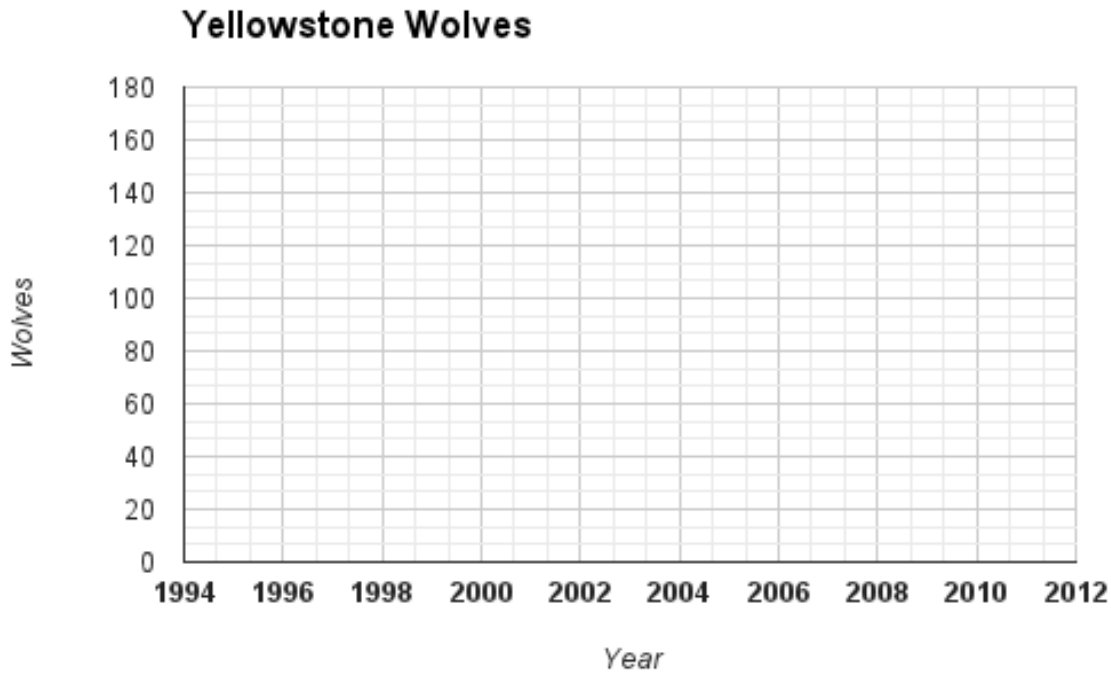
2. How would you describe this type of growth? _____

3. List three density-dependent limiting factors that could slow population growth

    a.

    b.

    c.

4. Populations stabilize at _____, the maximum number of individuals an environment can support.

5. In logistic growth, where is competition for resources highest?

6. Are there any wild populations that undergo endless population growth? Why/why not? Are humans different? Use the back if necessary.

Answers:

1.

Yellowstone Wolves
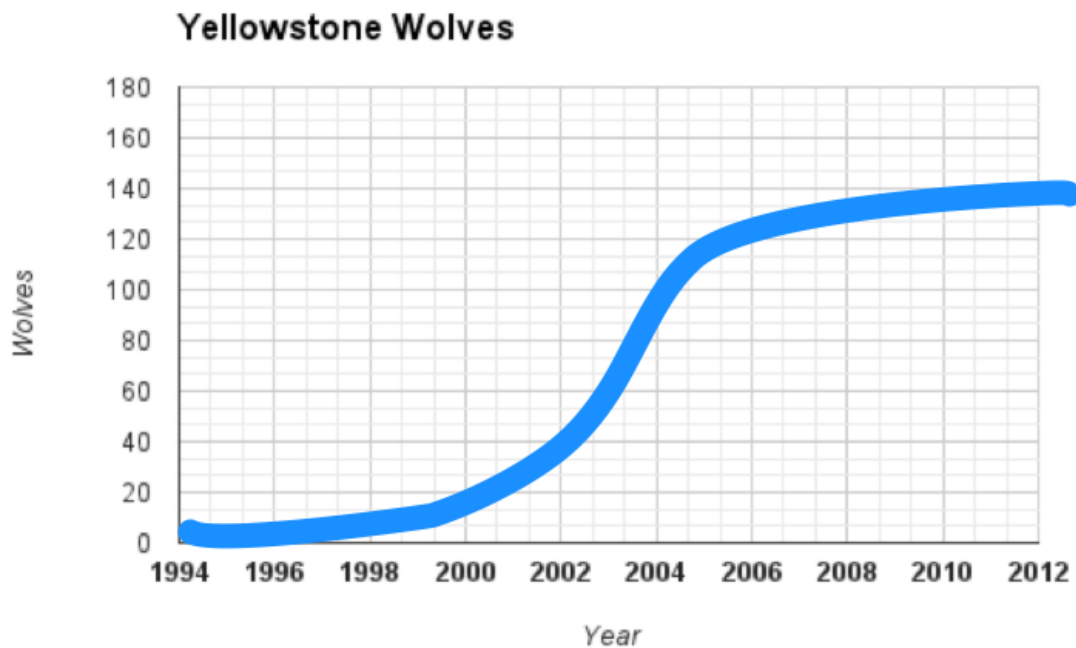
2. Logistic growth

3. Density-*dependent* resources include: prey (number of elk in the park), space available (how big is the park), disease, number of male/female wolves available, poaching. (Density-independent could be weather or natural disasters).

4. Carrying capacity

5. Competition would be highest when the population is highest and there are fewer resources per wolf. This would occur around carrying capacity.

6. Wild populations DO undergo exponential growth but only until they start to be limited by resources, and at this point, growth slows. Wild populations almost always stabilize at carrying capacity because the resources available can't support a higher population.