

**Round: 10A**

1. What is the definition of environmental resistance?

*Environmental factors (1 pts) like predators, resource/food/shelter availability, competition, and/or climate that keep a population from reaching its maximum growth potential (1 pts).*

2. What is the definition of carrying capacity?

*Maximum population size a species can sustain (1 pt) within that environment indefinitely (1 pt).*

3. What is the definition of biotic potential?

*The maximum reproductive capacity a species could expect to achieve (1 pt) if all environmental conditions were ideal when the population continues to grow without any checks and balances (1 pt).*

The mathematical formula for exponential growth is  $dN/dt = rN$ . The equation for population growth is  $dN/dt = rN(1 - N/K)$ .

4. What do the symbols in these equations represent? (1 pt each)

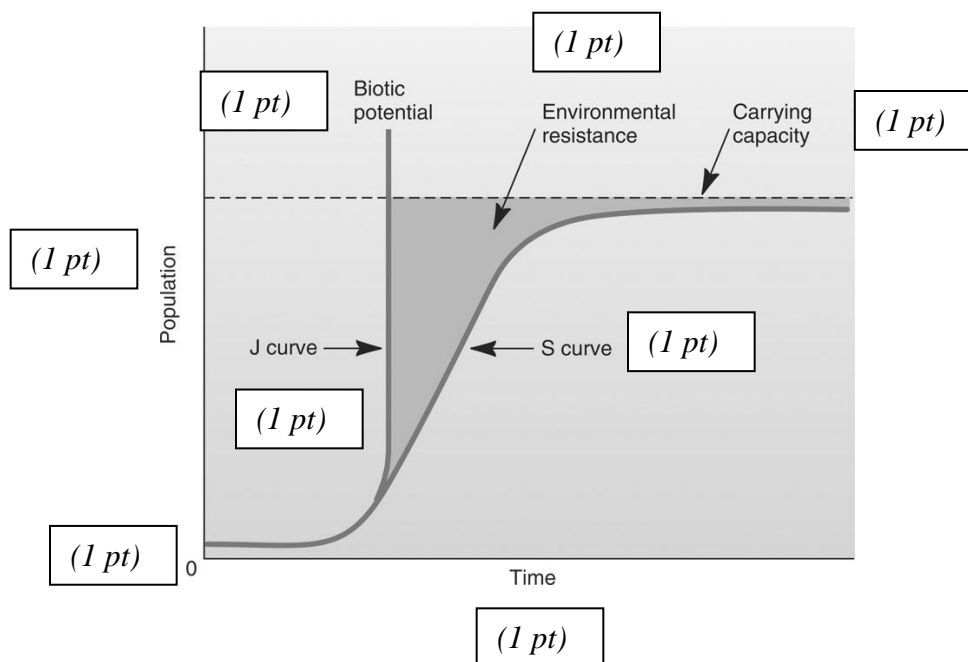
$N$  = # of individuals

$K$  = Carrying capacity

$t$  = Time

$r$  = Growth rate

5. Draw and label a graph that showcases exponential growth, carrying capacity, environmental resistance and biotic potential. Also label your drawn curves.



6. If  $N > K$ , what would the growth rate be for this population?

*Negative (2pts)*