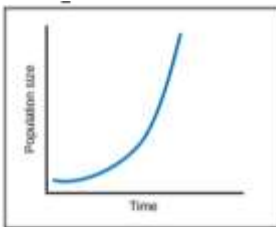


AIM: What are the different models used to illustrate population growth?

1. Exponential Population Growth:

Biotic potential trend is same as exponential growth trend.



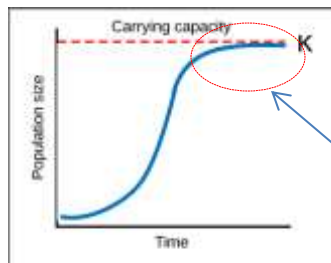
rate of growth increases with time

“J-shaped” curve

Biotic Potential:

- A. maximum rate at which a population could increase when there are no limits on its rate of growth (ideal conditions exist)
- B. Biotic potential is influenced by:
1. age at which reproduction begins
 2. # of offspring per event
 3. reproductive rate/frequency
 4. timespan of organism's reproductive activity

2. Logistic Growth:



“S-shaped” curve

Carrying Capacity (K):

is the maximum population size of a species that the environment can sustain indefinitely in a given space

Because there is a limited amount of resources available, growth of a population slows as it approaches carrying capacity.

Environmental Resistance – all of the factors acting jointly to limit the growth of a population

Examples of Environmental Resistance:

1. light
2. water
3. physical space
4. nutrients
5. number of predators
6. disease