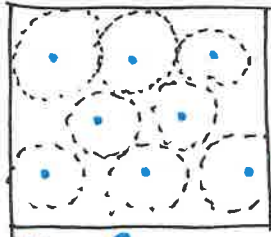


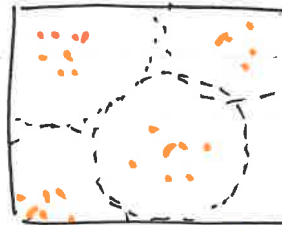
Populations Notes

Population Distribution: How organisms spread themselves in a space



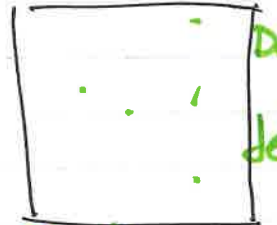
Hawk
Bear
Cougar
Fur

name **Uniform**
why? space/territory needs



Wolves
ants
Human
Clover

name **Clumped**
why? territories by group



Dandelion
Jellies

name **Random**
why? rely on wind/water to spread

Population **Size**: # of organisms in same place, at same time, of same species

Pop. Calculations

$$\text{Birth} + \text{Immigration} - \text{Death} - \text{Emigrate}$$

Population **Growth Rate**
Speed a pop. grows/shrinks

$$\text{Rate} = \frac{\text{Change in Pop.}}{\text{time}}$$

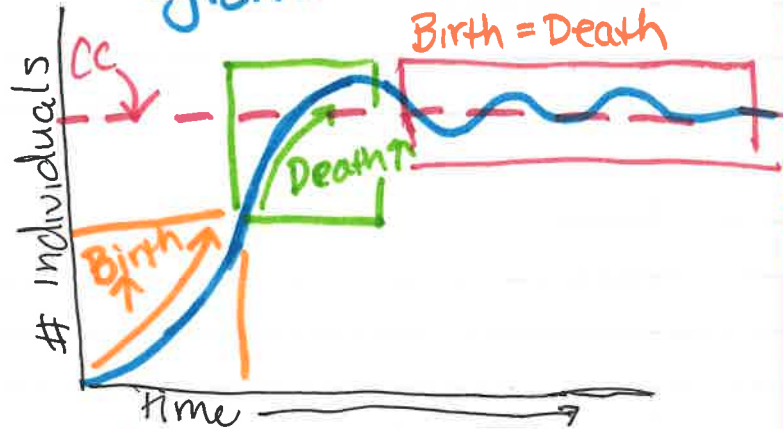
Slope of line
+ slope = growing time
- slope = declining time

Models of Population Growth

Exponential



- Pop. increases more each year
- DOES NOT HAPPEN naturally



Carrying Capacity **Limit**
individuals environment can support over a long time