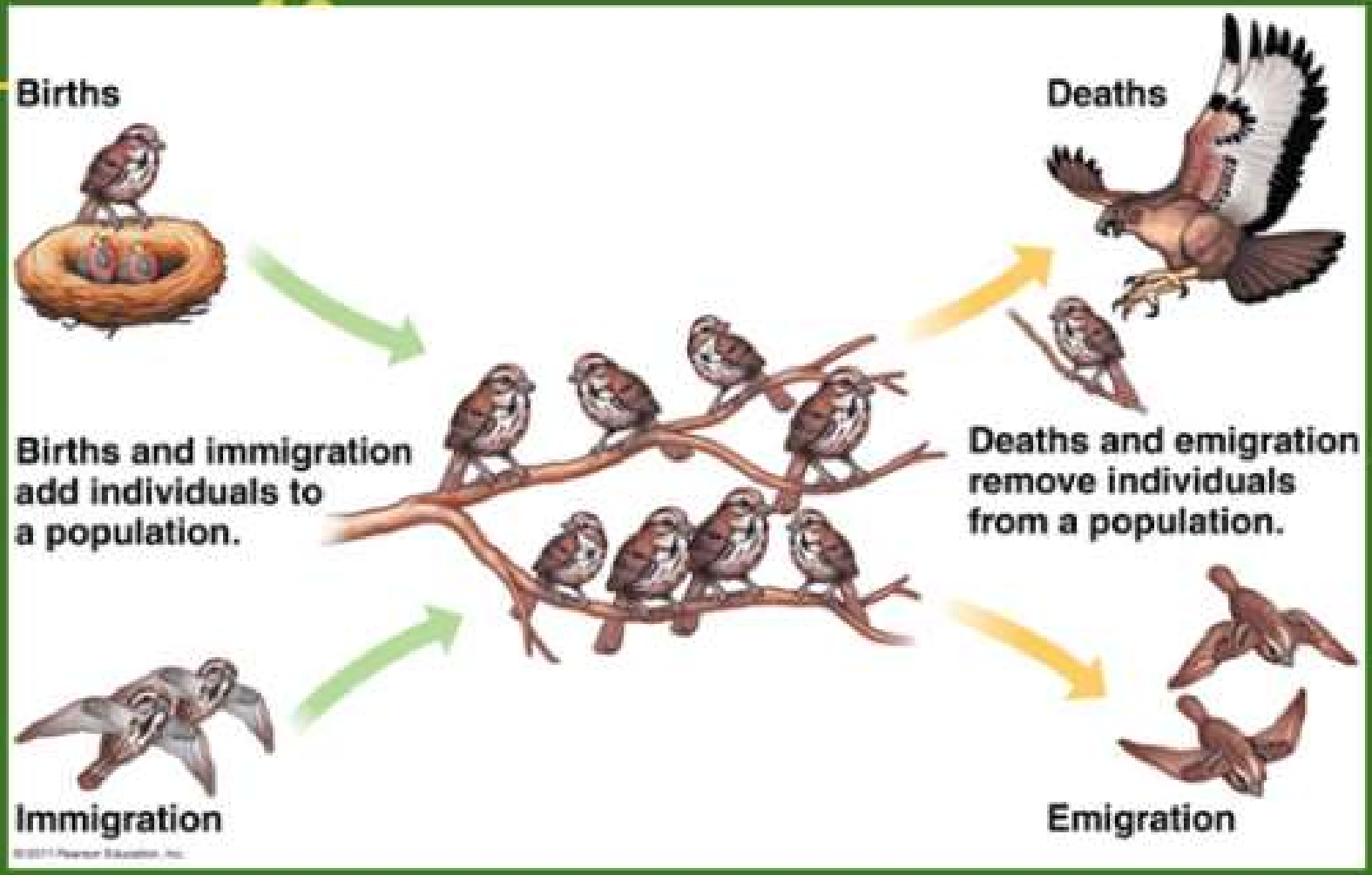
POPULATIONS:



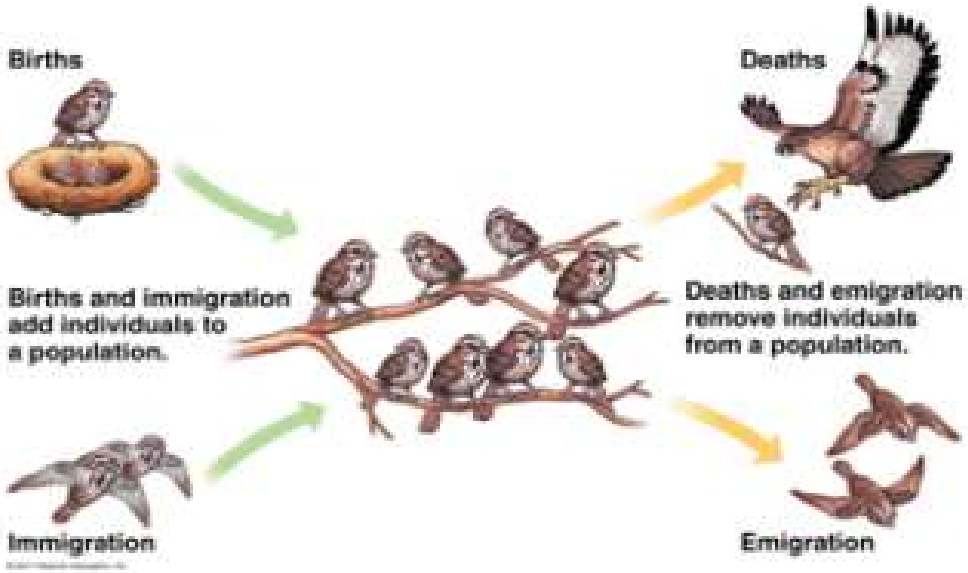
POPULATION:

(p. 42)

- the **number** of a species in a given area

Factors that affect population size:

1. births (natality) +
2. deaths (mortality) -
3. immigration +
4. emigration -



Population growth:

Growth = (births + immigration) - (deaths + emigration)

e.g. A moose population experiences 15 births and 5 deaths. 7 moose move into the area and 9 move out. What is the population growth?

Growth = (15 + 7) - (5 + 9)
= (22) - (14)
= + 8

Therefore, the population increases by 8.

(a - negative answer would mean the population decreases)

Population Types:

Open Population:

-all **four** factors affect
- living things can **come** and **go**

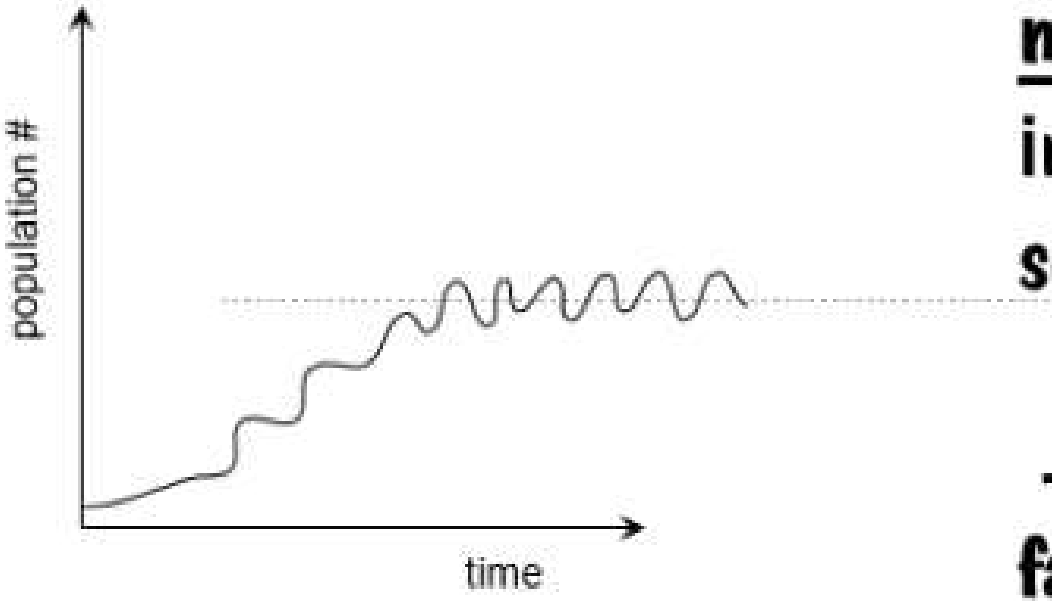
- e.g. humans in Canada

Closed Population:

- only **two** factors affect (birth/death)
-living things **CAN'T** come and go

- e.g. humans on Earth

Graphing Population Growth:



- Carrying Capacity: the **maximum** number of individuals an ecosystem can support

- determined by **limiting factors**

Workbook p.30

Limiting Factors:

(see workbook p.26-27)

- **resources** that **limit** the size to which a population can grow

1. density independent factors
2. -abiotic
3. - **does not** depend on population size
4. - Ecosystems **climate**
5. - Ex: temperature, precipitation, light, weather

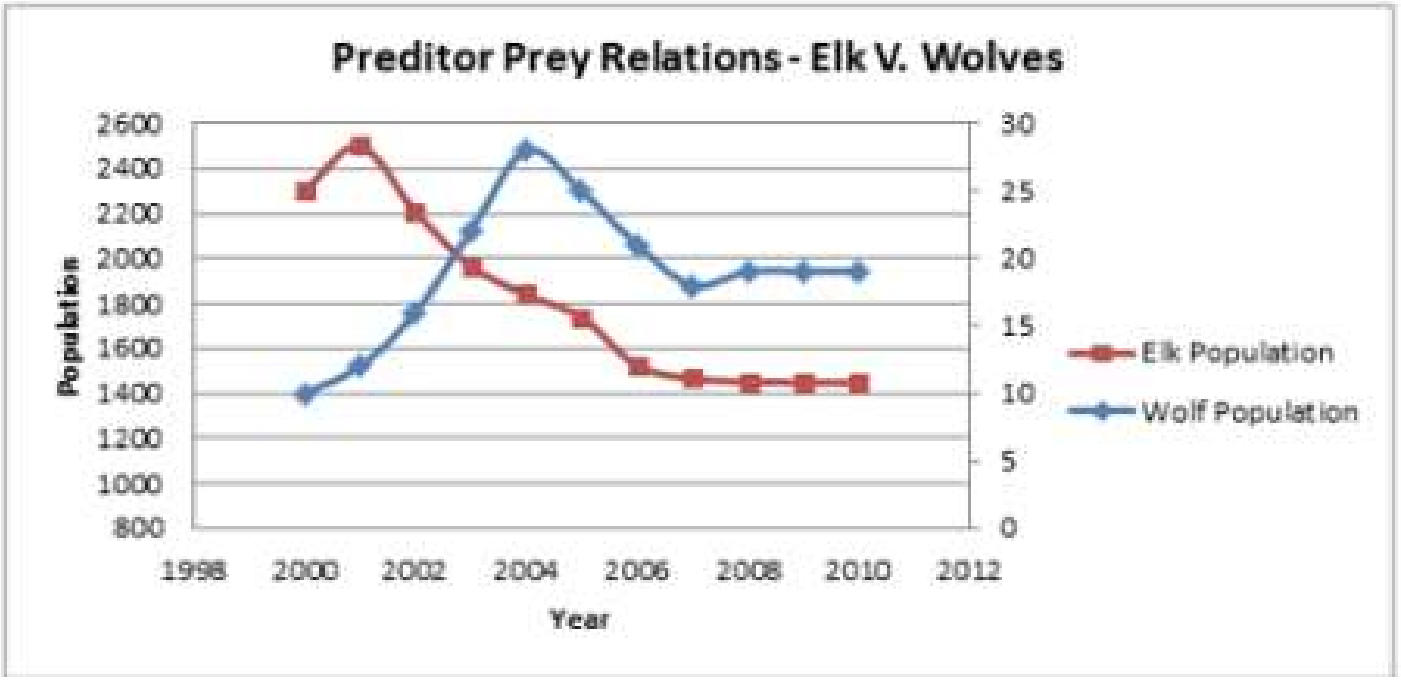
living space, nutrients, water, oxygen

Limiting Factors:

2. density dependent factors
   - Biotic
   - Depends on **population size**
   - Ex:
     - competition → food, water, space
     - disease
     - predators
     - parasites

Predator – Prey Relationship

VIDEO:
https://www.youtube.com/watch?v=5lR64UijfUQ



Quiz:

Workbook p.28

Review: Click on the link below

TED-ed population ecology (limiting factors)