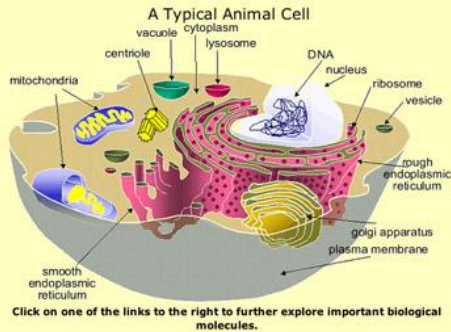


# Ecology & Evolution

Unit 2 ⇨ Chapter 4

# Carbon might be the element, but ...

... the cell is the unit it uses.



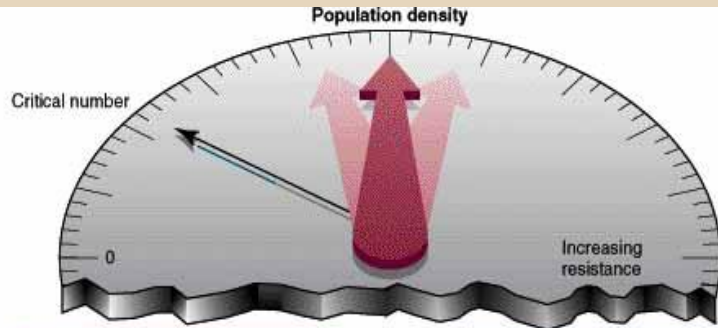
Plant cell cake.



# Most of life depends on photosynthesis



# We eat, we grow, we breed.

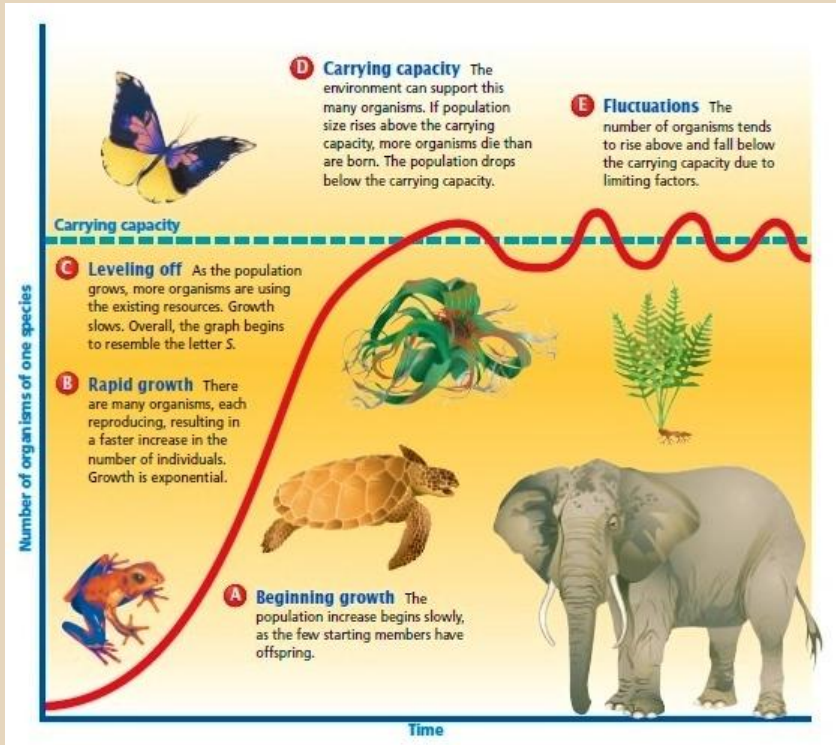


## Biotic Potential

- Reproductive rate
- Ability to migrate (animals) or disperse (seeds)
- Ability to invade new habitats
- Defense mechanisms
- Ability to cope with adverse conditions

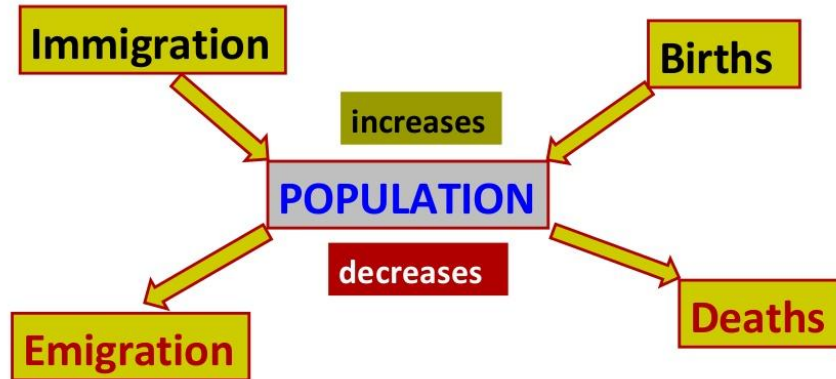
## Environmental Resistance

- Lack of food or nutrients
- Lack of water
- Lack of suitable habitat
- Adverse weather conditions
- Predators
- Disease
- Parasites
- Competitors



# Remember these factors

## What factors determine Population Growth?



Population growth is primarily affected by:.....

**birth and death rates.**

*Connect this.*

What are some ways that a strained population impact criminal justice?

What are the signs and considerations to look for under the surface?

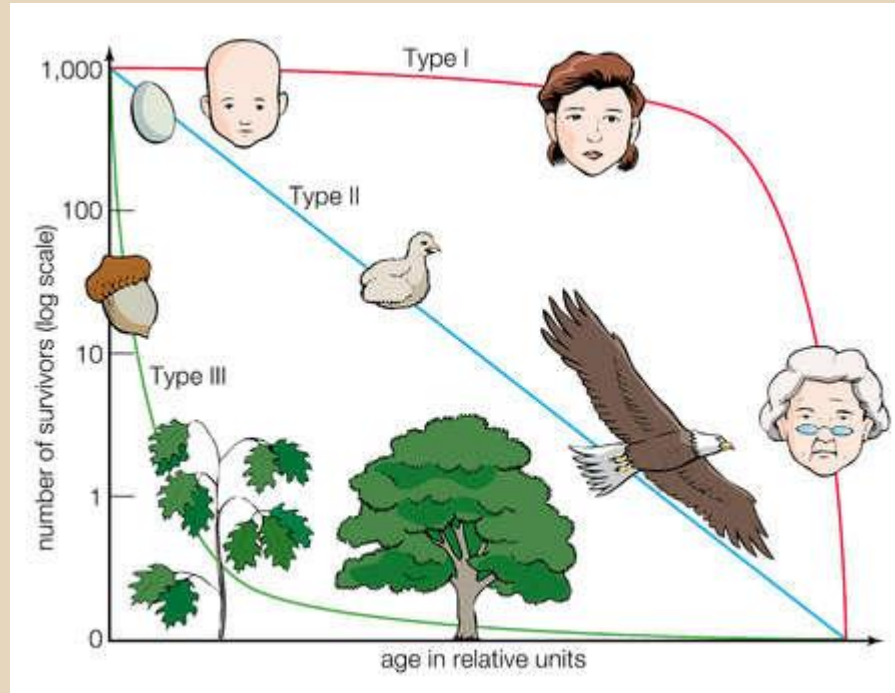
How can this lead to criminality?

*Here's an example:*

Think about funding issues. There are only so many resources to go around. What are the population impacts (hiring practices) reflected among the field of criminal justice?

# Survivorship

Fertility rate  
(age specific!)



Generation time

# Natural selection & other considerations

*Niche*

**DISRUPTIVE SELECTION**

**Directional selection**

Adaptations

*Fitness*

Stabilizing selection

# Kaplan homework

The homework problems for this unit are:

- 3.7
  - All
- 4.1
  - #2
- 4.3
  - #4
- 4.5
  - #3

Due Thursday at the beginning of class.

Extra credit:

Describe one way that criminal justice and law enforcement personnel could live more sustainably.

Yes, this overlaps with your paper, which is due Thursday.



# DUE THURSDAY!

Project 1 -- Due at the beginning of Unit 3 (7.May.2015).

Begin by brainstorming ideas that you will engage in within your career in criminal justice that might have a negative impact on the environment? Some examples might be leaving lights on all night, driving around excessively, printing out every email you might get, etc.

Once you have a list of potentially damaging behaviours that you'd like to know more about, conduct research to what the local environmental impact of those behaviours are.

Write a 2 - 3 page paper that describes these behaviours and their potential impact on the environment. Include in the paper the roles of ethics, markets, and law into these behaviours. Conclude by arguing whether or not such behaviours should change, why or why not, and, if they should, how.

Projects must include 3 sources. The paper should be single spaced, using a standard 12 point font.