Bio

9-13-12

Ch. 3

"Cells"

> What is a cell?

> Two types of cells

> Structure & function

> Important landmarks of

> Cell theory

- All Living organisms = 1 or more cells
- cells arrive from other cells
- smallest unit of life
  - can reproduce itself

> Robert Hooke: 1st to describe cells

- Eggs ≈ cells

> 2 types of cells

- Pro Karyote (pro- "before" Karyote "Kernel")
- Eu Karyote (Eu- "with" Karyote "Kernel")
  - Karyote ≈ nucleus

* >

Pro-	Eu-
Bacteria / Archaea	All other animals
No organelles	Lots of organelles
DNA tiny & looped	DNA Lots threaded
No nucleus	Nucleus

> Cell membranes ("gatekeepers")

- Binds all organelles
- Receptor, Recognition, Transport, Enzymatic Proteins on membrane

- cell membranes have a fingerprint that ID's the person

Organelles

> Nucleus: control center; stores DNA

✗ > Mitochondria: burns sugar to make ATP (cellular respiration)

- muscles & Liver contain lots of mitochondria

> Humans contain more DNA from mother

- b/c mother's egg contains mitochondria

> Lysosomes: garbage disposals; recycling

> Rough ER: protein maker

- Ribosomes: arranges AA's to make a protein
  - delivered to golgi apparatus for later delivery out of cell

> Smooth ER: detoxifies molecules (e.g. alcohol, drugs, etc.)

> Golgi apparatus: ships molecules for delivery

✗ > Chloroplast: takes in water & sunlight and makes sugar (photosynthesis)