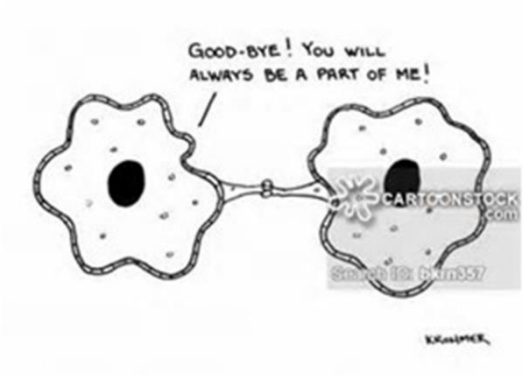
Cell Reproduction



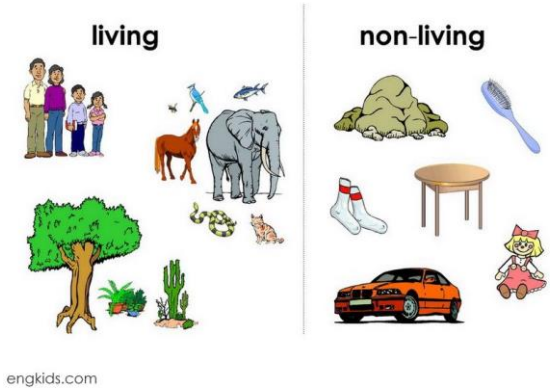
Take a moment to think about all the different kinds of fruit, vegetables and meats that you can find at a market (think Granville island)

- How do they differ in size? In shape? Cells?

Why is the reproduction of cells important?

- Consider that each of these began at the very start of its life as one single cell
  - So did I and so did you
  - So did every other living thing on earth

- What about growth and repair?



What does it mean to be living?

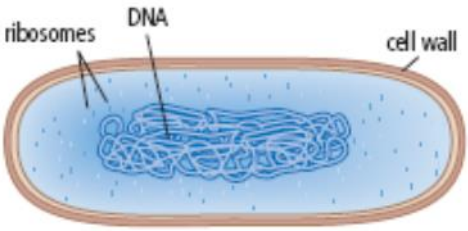
- Living organisms:
  - Made up of_____
  - Reproduce
  - Have a universal _____ code
  - Grow and develop
  - _____ and _____ materials and energy
  - Respond to environment
  - _____ over time

What do you remember about cells from last year?

- **In groups of 3 try complete the following:**
  - **Identify as many organelles as possible.**
  - **What is the cell theory?**
  - **How do prokaryote cells differ from eukaryote cells?**

Cell Theory

- The cell is the _____ of life.
- All organisms are composed of _____ cells.
- All cells _____ other living cells.

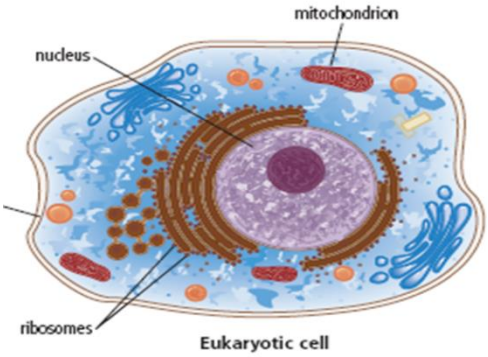


Prokaryotic cell

Prokaryotic and Eukaryotic Cells

Cells are classified into two groups:

- Prokaryotic cells have organelles that are _____ by membranes
- Eukaryotic cells have organelles that _____ by membranes. Eukaryotic cells are usually _____ than prokaryotic cells.



Eukaryotic cell

Question….

- If we all started out as a single cell, what happened to that cell ? How did you become the person you are today?

- What do you think would happen if your body could no longer make cells?

Reproduction and Sustainability

- _____ refers to the ability of the environment and the living things it supports to **endure (_____)** into the future.
    - Imagine that all living things on earth are no longer able to reproduce-ie to make more of their own kind
        - What would happen???

        - _____ ensures that organisms have a source of _____ and _____to sustain their life processes.

BC salmon are keystone species of BC's ecosystems. They play a large role in many food chains as well as they distribute nutrients throughout the ecosystem as they travel upstream.

- What might threaten the sustainability of BC's wild salmon population?
- Discuss with your row and decide on **3 main threats** to sustainability.

Reproduction and Continuity

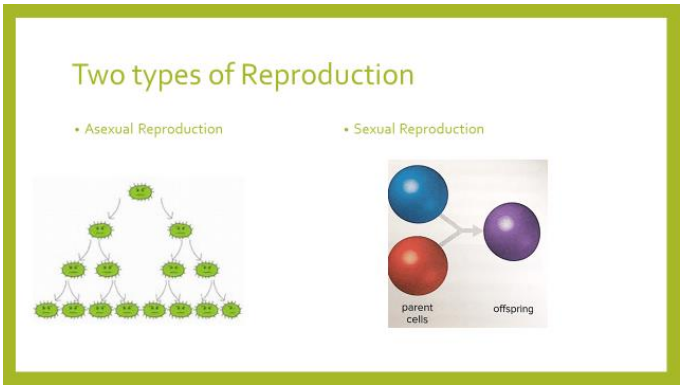
_____

- Biologists use this word to talk about how each species of organism continues to _____over time, from one_____ to another.
- Species are a group of related organisms that can reproduce together to produce _____ offspring.
- Individual organisms grow, develop and die, However, a species continues to exist into the future ONLY if its members _____
- Reproduction ensures that life exists beyond its _____

All the life you see around you, all the life in the world, all the life that provides you and other living things with food that supplies you with energy and nutrients to grow, develop and live depends on the ability of cells to _____

Two types of Reproduction

- _____ Reproduction
- _____Reproduction



Asexual Reproduction

- Offspring come from a _____ parent
- Offspring are genetically _____ to parent
- _____ reproduction
- _____ of offspring
- Different types of asexual reproduction

Sexual Reproduction

- Involves _____ parents
- Each parent contributes_____ of the offspring's genetic information
- Offspring have genetic information that is _____ than parents
- ____offspring
- Genetic _____
- _____reproduction

Genetic Material

- An organism's genetic material determines how it_____, how it _____ and in many cases how it behaves.
- Genetic material carries these instruction in a molecule known as _____
    - DNA is short for deoxyribonucleic acid.
- No matter how an organism reproduces, it all begins with the _____ of genetic information and the reproduction of a cell.

Nucleus

- Contains cell's genetic info (DNA) – controls cell _____
- Within the nucleus DNA molecules coil and compact into a condensed form called _____
- When a cell is ready to _____ DNA condenses further into structures called _____
- Chromosomes are copied and transferred to the _____