

Do Now

1000's
1000's

What do you believe is the average number of cells in an adult human?

Check this out

Two Types of Cells: Prokaryotes and Eukaryotes

9-13-10

Objectives

SWBAT

Content:

- (1) **explain** what all living things are made from
- (2) **list** the 4 features of all living things
- (3) **summarize** the three main points of cell theory
- (4) **compare and contrast** the two main types of cells
- (5) **define** organelles
- (6) **list** some jobs of specialized cells

Language:

by **note taking** and **applying** your notes

Agenda

- 1. Do Now**
- 2. Objectives**
- 3. Prokaryotes**
- 4. Eukaryotes**
- 5. Prokaryotes vs. Eukaryotes**
- 6. Closing**
- 7. Exit Slip**

9/13/10

Two Types of Cells Prokaryotes and Eukaryotes

General Info

cell = basic build of life

@characteristics of

1

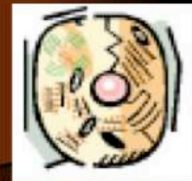
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3



I. The Cell

-The cell is the basic building block of life; all living things are made up of cells.



Characteristics of Life

What makes something alive?

- has an orderly structure
- reproduces
- grows and develops
- adjusts to changes in the environment

Live Not

Are these things alive?

Plant

air

wind

animals

bacteria

viruses

protists

fungi

rocks

soil

fire

water

has life
in it

Are these things alive?

Plant **Living**

~~air~~

~~wind~~

animals **Living**

bacteria **Living**

~~viruses~~

protists **Living**

~~rocks~~

fungi **Living**

~~soil~~

~~fire~~

~~water~~

Cell Theory

-In the 1830's something called the "Cell Theory" became a popular way of describing life in terms of cells.

-The cell theory is made up of three main ideas:

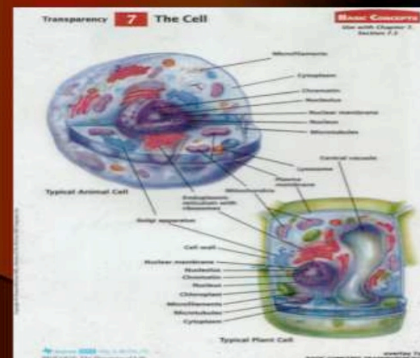
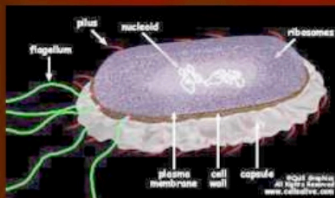
1. **All living things are made up of one or more cells.** An organism may be made up of one cell, such as bacteria, or may be multicellular, that is have many cells, such as plants and animals.
2. **Cells are the basic unit of structure and organization of organisms.** Although organisms such as humans, dogs and trees can become very large and complex, the cell remains the simplest, most basic part of an organism.
3. **All cells come from preexisting (other) cells.** This means that a cell comes from a parent cell (one parent cell divides to become two daughter cells).

2 Types of Cells

-There are two types of cells:

1. Prokaryotic cell

2. A Eukaryotic cell



Two . . . ~

Prokaryotic
Cell

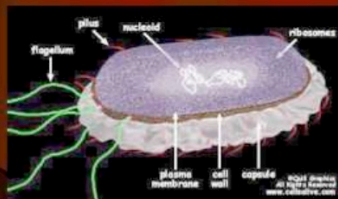
Eukaryotic
cell

2 Types of Cells

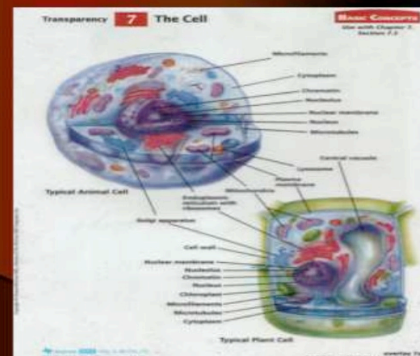
- There are two types of cells:

Cell organelles: structures that perform certain jobs within a cell (enclosed by a membrane)

1. Prokaryotic cell:
have no organelles
(no nucleus).



2. A Eukaryotic cell:
has organelles
(nucleus).

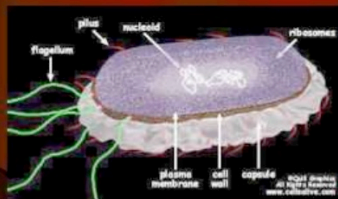


2 Types of Cells

-There are two types of cells:

Cell organelles: structures that perform certain jobs within a cell (enclosed by a membrane)

1. Prokaryotic have no organelles (no nucleus).
Ex: Bacteria



2. A Eukaryotic cell has organelles (nucleus).
Ex: Plant and animal cells.

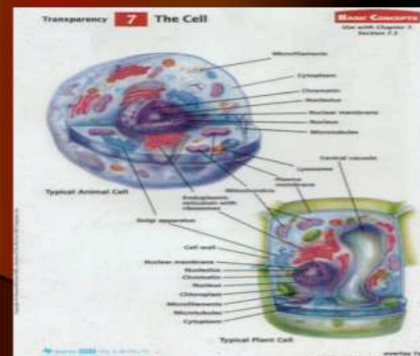
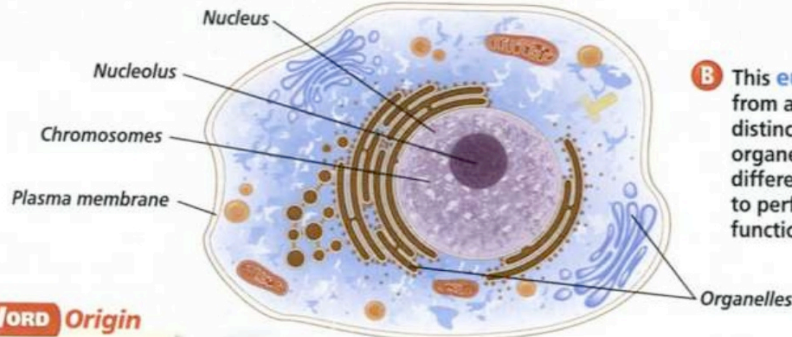
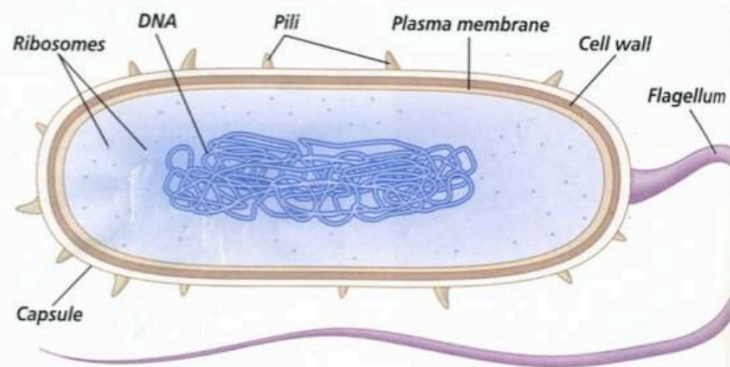


Figure 7.2

Bacteria and archaeobacteria are prokaryotes. All other organisms are eukaryotes.

A A **Prokaryotic cell** does not have internal organelles surrounded by a membrane. Most of a prokaryote's metabolic functions take place in the cytoplasm.

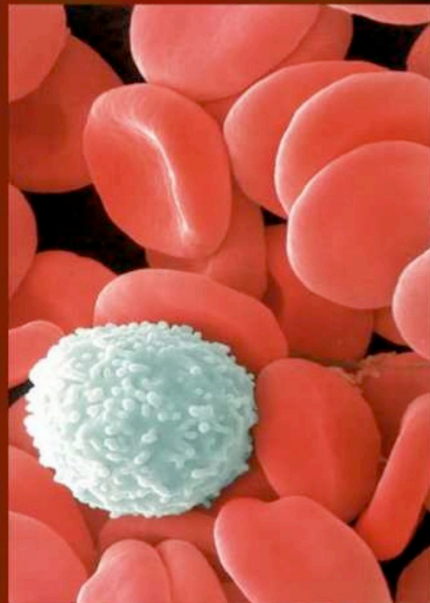


B This **eukaryotic cell** from an animal has distinct membrane-bound organelles that allow different parts of the cell to perform different functions.

WORD Origin
organelle

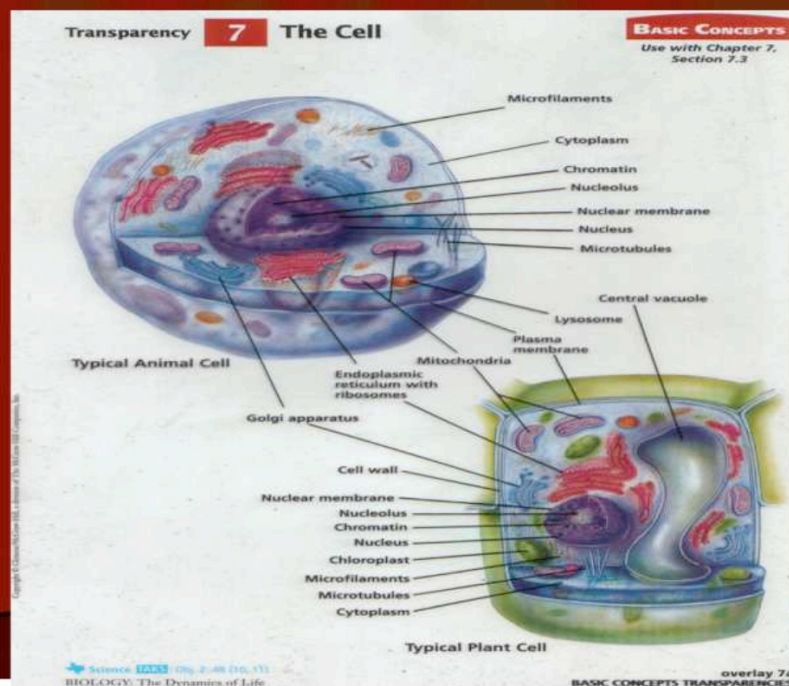
Some Specialized **Jobs** of Cells

- Red Blood Cells carry oxygen around the body
- Neurons (brain cells) send electrical signals around the brain
- Bacteria can invade the body
- White blood cells attack invaders and defend the body
- Muscles cells contract and relax to move the body (or pump blood)



Two Types We Will Focus On

Plant and Animals



Prokaryote vs. Eukaryote

Prokaryote:

- have no organelles
- bacteria
- no nucleus

- body contains both
- both have reps

Eukaryote:

- animals and plants only
- has nucleus
- has organelles

Prokaryote vs. Eukaryote

Prokaryote:

(bacteria)

-has no

nucleus

-has no

organelles

Both:

-are living

-have DNA

-have

ribosomes

-are cells

Eukaryote:

(plants, animals)

-has organelles

(has a nucleus)