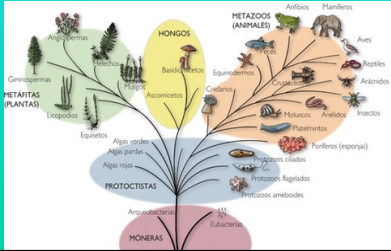


TAXONOMY

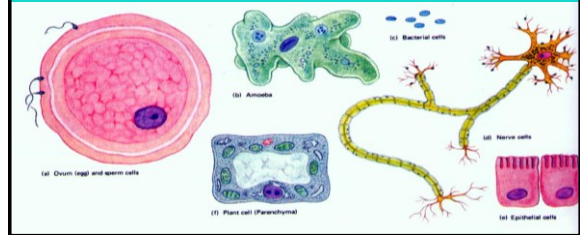
- Taxonomy is the study of the **classification** of living organisms.



7

CYTOLOGY

- Cytology is the study of **cells**.



8

GENETICS

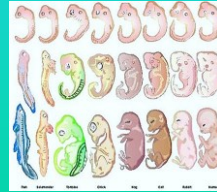
- Genetics is the study of heredity and the **passing of traits** to offspring from their parents.



9

EMBRYOLOGY

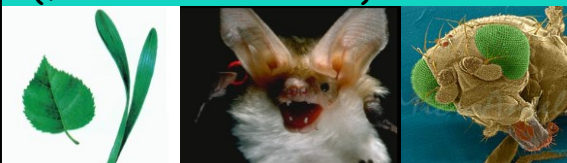
- Embryology studies the **developmental patterns** of organisms from zygote to birth.



10

MORPHOLOGY

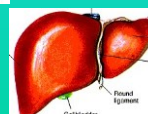
- Morphology is the study of the **appearance** of living things (form and structure).



11

ANATOMY

- Anatomy is the study of the **structure of organs**



12

PHYSIOLOGY



- Physiology is the study of the **functions** that occur within organisms & their parts.

13

- Biology is one of the fastest advancing sciences

- The science of Biology arose from:

- man's **curiosity** about himself & the living things around him
- man's **need** to survive & **improve** his living conditions on Earth



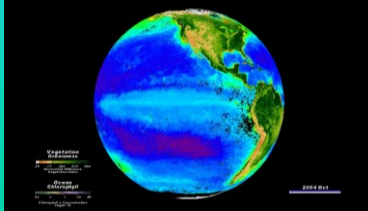
14

• Themes in Biology

= concepts or ideas which reoccur as we study Biology

◦ Interdependence in Nature

- All forms of life on Earth are connected together into a **biosphere**, which literally means "living planet."



15

◦ Unity and Diversity of Life

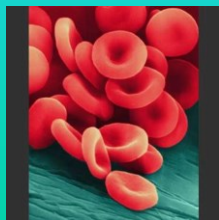
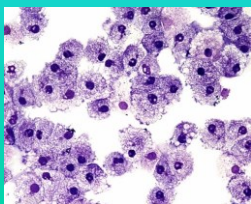
- All living things are fundamentally alike at the molecular level, even though life takes an almost unbelievable **variety** of forms.



16

◦ Cellular Basis of Life

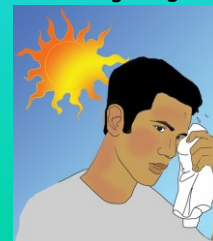
- Organisms are composed of one or more **cells**, which are the **smallest units** that can be considered **fully alive**.



17

◦ Homeostasis

- Organisms must maintain a relatively **stable** internal environment by **responding** to their surroundings.
- This is done through **negative feedback**.



18

Information and Heredity

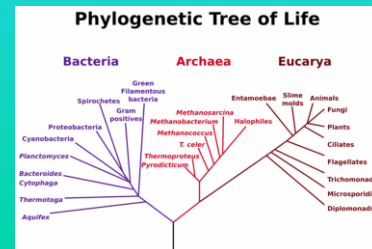
- **Genetic code** is common, with minor variations, to every organism on Earth.
- That information, carried in **DNA**, is copied and passed from parents to offspring.



19

Evolution

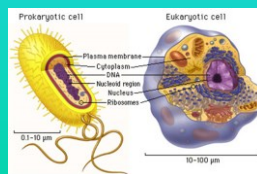
- In biology, evolution, or the **change in living things through time**, explains inherited similarities as well as the diversity of life.



20

Structure and Function

- Structures evolve in ways that make particular functions possible, allowing organisms to **adapt** to a wide range of **environments**.



21

2. The Science of Biology



Big Bang: The Study of Biology <https://www.youtube.com/watch?v=3drspKkflyE>

22

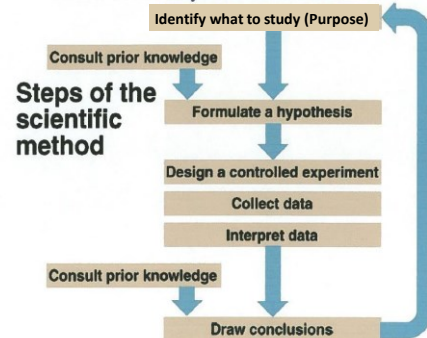
2. The Science of Biology

- As a science, Biology is not just a list of "facts." It is both a body of **knowledge** and a **process**.
- The job of science is to use observations, questions, & experiments to explain the natural world around us



23

How do we study the Natural World?



24

- Controlled Experiments take into account all factors that can change an experiment = **variables**

- A. Independent Variable: variable you **change on purpose**
- B. Dependent Variable: variable that responds to a change in the independent variable (**the 1 you are testing for**)
- C. Constants: variables kept the **same** in all trials
- D. Control: the **standard** for comparison

25

- **Data** = Observations are made and recorded as the experiment proceeds.

➤ The 2 types of observations are:

A. Quantitative: **numerically measurable**

B. Qualitative: changes in **characteristics** of an object

➤ This **data** is recorded in the form of notes, drawings, tables, graphs, etc

26

Scientific Method Practice

- Follow the instructions on "How to Complete & Submit a pdf" Scientific Method Practice worksheet, answer the questions and submit it to me through Edsby.
- Please send me an e-mail letting me know you have completed this assignment.

27

Big Bang Theory: Scientific Method

- Click on the following link to watch Leonard and Sheldon use the scientific method.

Big Bang: Scientific Method https://www.youtube.com/watch?v=_7sSuhQ1_24

- Fill in the "Big Bang Scientific Method" page in your booklet. Go back and re-watch the video if necessary.
- Follow the instructions on the "How to Scan an Assignment" (in the class library) to use your phone to scan the document and send it to me via Edsby. Please send me an email letting me know you have completed this assignment.

28