

## Topic 01

What is Biology?

## Definition

**Biology is a Life Science.**

Biology deals with living things in the world.

Biology is the study of living organisms, including their structure, functioning, speciation, distribution, and interrelationships.

## Learning Objectives

**At the end of this module, students will be able to:**

- Contrast and compare biology (life science) to physical science
- Describe general differences between biology and life science
- Identify three or more disciplines in the life sciences
- List (write) the three statements of cell theory

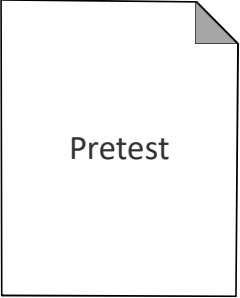
## Outline

- a. Welcome and Overview of 2 weeks (5 min)
- b. Administer biology pretest (10 min)
- c. Discuss biology compared to physical science (5 min)
- d. Examine biology as an introduction study (5 min)
- e. Take notes of life science areas of interest (10 min)
- f. Practice memorization of cell theory (5 min)
- g. Planned additional time for overage (15 min)

01.a **Overview of the Class**

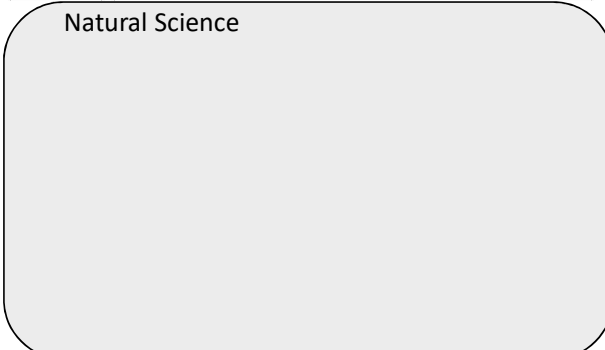
- Module 1 – What is Biology?
- Module 2 – Prokaryotic & Eukaryotic Cells
- Module 3 – Cells & Organelles
- Module 4 – Botany (Plants)
  
- Module 5 – Zoology (Animals)
- Module 6 – Organization of Living Things
- Module 7 – Lab Activity: Using a Light Microscope
- Module 8 – Class Wrap Up

01.b **Pretest**

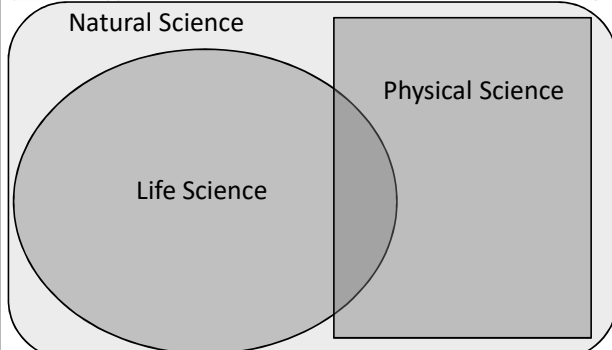


01.c **Life Science vs. Physical Science**

Natural Science



01.c **Life Science vs. Physical Science**



01.c Life Science vs. Physical Science

Ecology		Examples of Overlap
Marine Biology		
City Planning		
Biophysics		

01.c Life Science vs. Physical Science

Life Science	Physical Science
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01.c Life Science vs. Physical Science

	Life Science	Physical Science
Meaning	Study of <u>living things</u> .	Study of <u>non-living things</u> .
Example Subjects	Biology Anatomy Botany Ethology Zoology Evolution Genetics Neurology	Chemistry Planets Physics Hydrology Geology Oceanography Space Weather
Study of (examples)	Plants Animals Humans DNA	Minerals Matter Light Energy

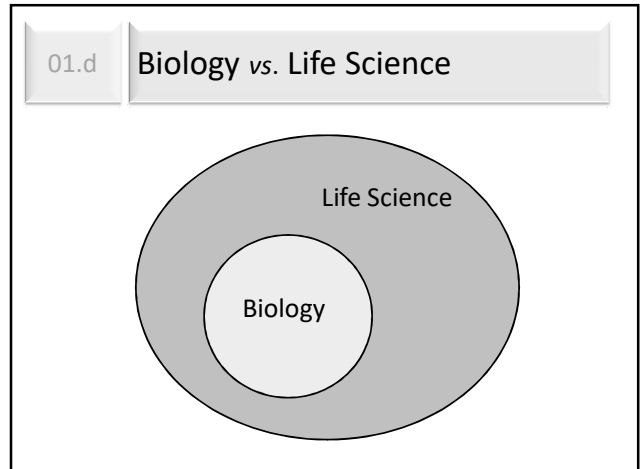
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01.c		Life Science vs. Physical Science	
	Living Things	Non-Living Things	
	Botany Zoology Genetics	<i>Plants</i> <i>Animals</i> <i>DNA</i>	Chemistry Physics Geology
			<i>Matter</i> <i>Energy</i> <i>Minerals</i>



01.d Biology vs. Life Science	
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<b>General Course</b> Biology is a general course covering a broad range of life science concepts.	<b>Includes Biology</b> Life science includes the general concepts introduced in biology courses.
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## Biology vs. Life Science

### Biology

#### General Course

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#### Core Course / Foundation

It is a core course for high school students. It provides a foundation for advanced classes.

### Life Science

#### Includes Biology

Life science includes the general concepts introduced in biology courses.

#### Applied Advanced Study

Life sciences are often applied science ranging from molecular and cellular studies to the earth's biosphere.

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## Example Areas of Interest

Botany

Zoology

Microbiology

Genetics

Biochemistry

Ecology

<https://basicbiology.net/biology-101/fields-of-biology>

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## Cell Theory

#### What is a Theory?

Define "Theory" – contrasted to "hypothesis" and "Law"  
Method 12: <https://honeycutscience.com/methods-12/>

#### Cell Theory

- All living things are composed of cells.
- Cells are the basic units of structure and function in living things.
- All cells are produced from other cells.

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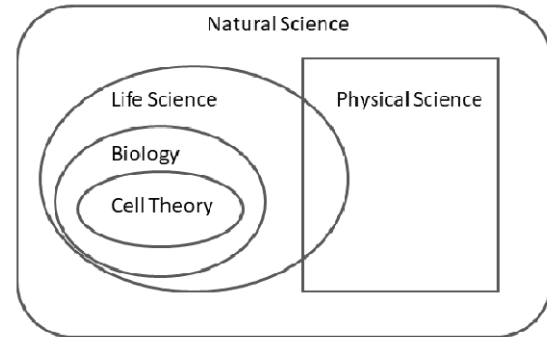
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## Questions / Summary



## Check

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