



# Introducing Biology

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## Sustainable Ecosystems

# Introduction

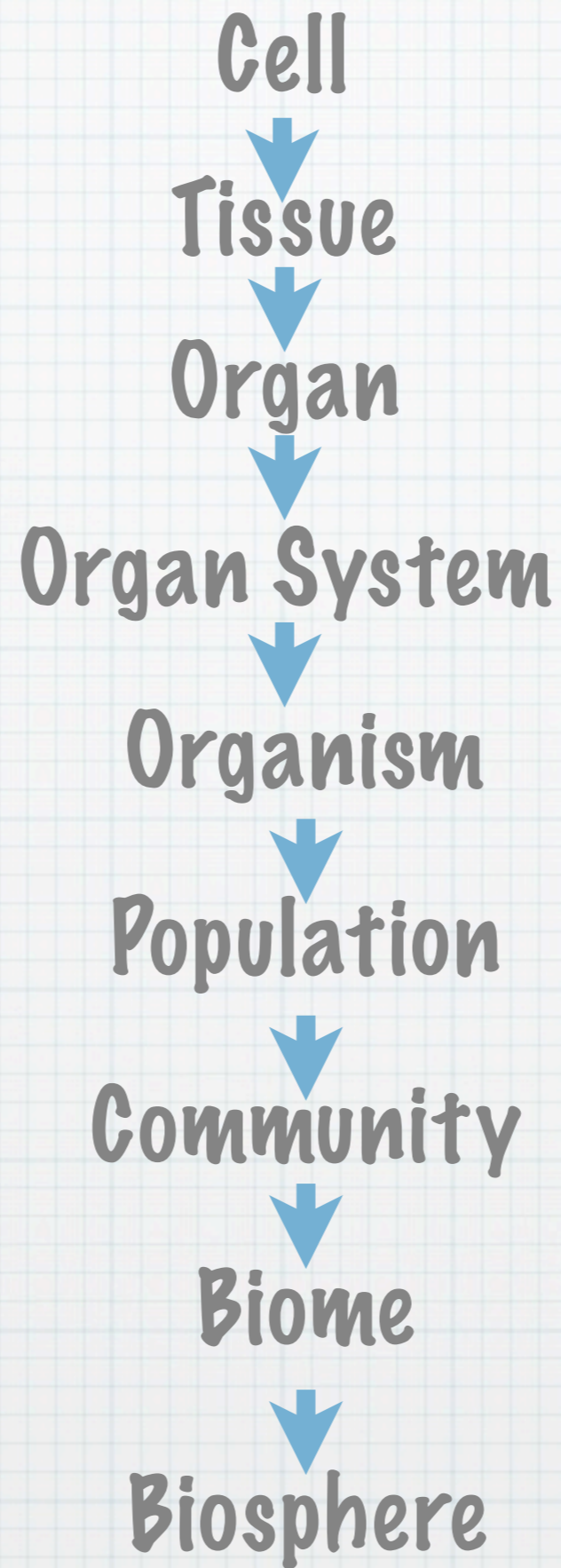


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- \* **Biology: Literally means “the study of life”**
- \* **Therefore Biology is the science that seeks to explain the living world**

# Introduction

- \* **Biology: Literally means “the study of life”**



**ECOLOGY**

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# Ecology

## ABIOTIC FACTORS (non living)

Rocks  
Soil  
Water  
Air

## BIOTIC FACTORS (living)

Bacteria  
Fungi  
Plants  
Animals

# Ecology Definitions



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- \* **Ecosystem:** All interacting parts of a biological community and its environment.
- \* **Abiotic:** the non-living parts of the environment (water, elements)
- \* **Biotic:** The living parts of the environment (plants).

# Ecology Definitions



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- \* **Environment:** All living and non-living things on Earth
- \* **Biodiversity:** number of different types of organisms in one area

# Ecology Definitions



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- \* **Sustainability:** the population of organisms continue to live, to interact, and to reproduce indefinitely
- \* **Stewardship:** way of acting that involves taking personal responsibility or management of somethings



# The Spheres of the Earth

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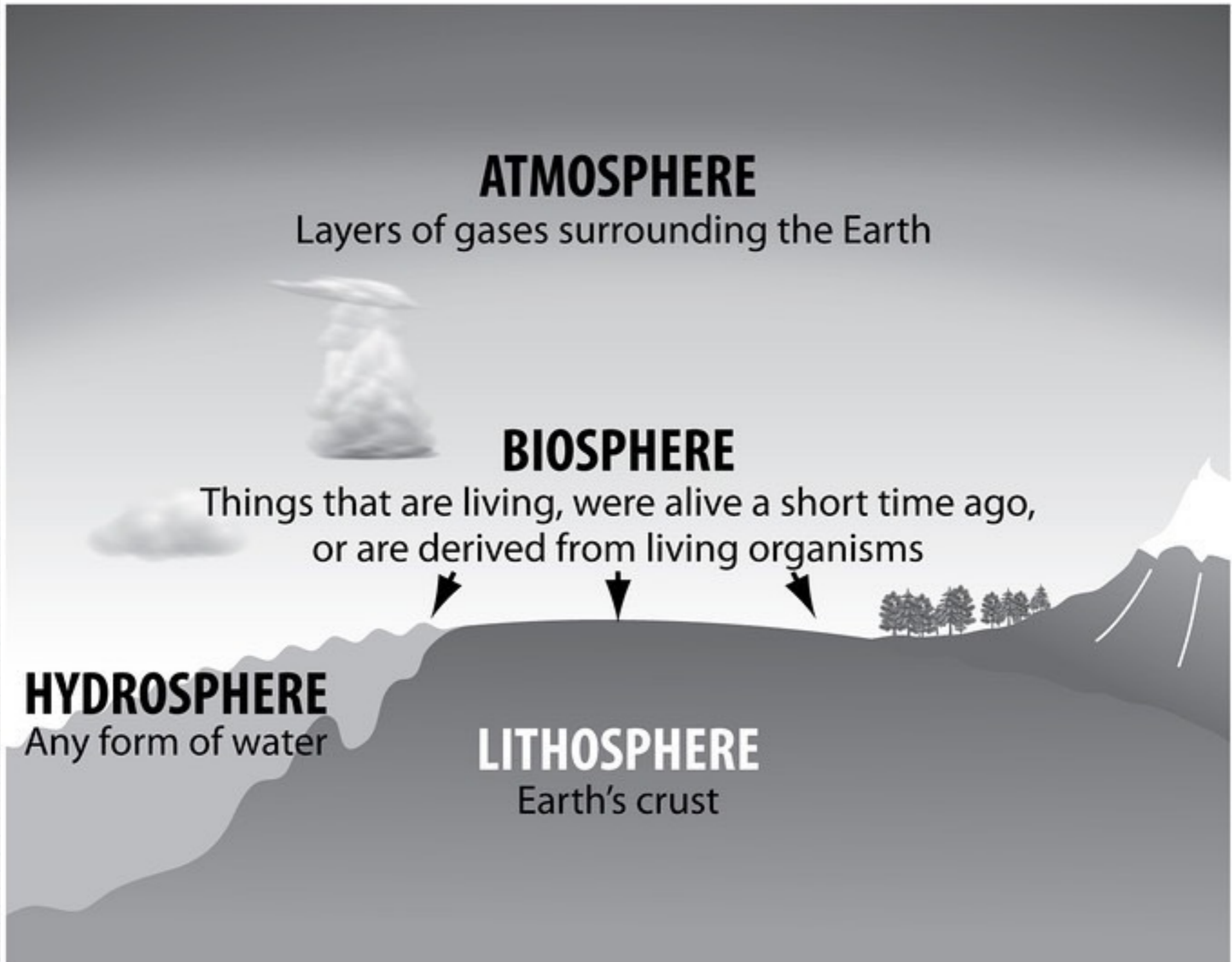
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# Sphere's of the Earth

- \* The area near the surface of the Earth can be divided up into four interconnected 'geo-spheres'



# Spheres of the Earth



# Lithosphere

- \* 'Litho' is Greek word meaning stone.

# Lithosphere

- \* Lithosphere refers to the rocky crust covering the planet.
- \* Composed of minerals.



# Hydrosphere

- \* 'Hydro' is Greek for water.

# Hydrosphere

- \* Hydrosphere is composed of all water near or on the Earth.
- \* Includes all lakes, rivers, and even moisture in the air.
- \* 97% of the Earth's water is in it's oceans.



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# Biosphere

\* 'Bio' is the Greek word for life.



# Biosphere

- \* The Biosphere is contained of all living organisms.
- \* It is very thin compared to the other spheres
- \* Plants, animals, and one celled organisms are all part of the Earth's biosphere.



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# Atmosphere

\* 'Atmos' is Greek for air.

# Atmosphere

- \* Atmosphere is the body of air that surround our planet.
- \* The air around our planet is 78% Nitrogen and 21% oxygen (the remaining made up by other gases).



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# Atmosphere

- \* The atmosphere helps to moderate surface temperature and block incoming solar radiation.

