

1.2 Unifying Themes of Biology

Guiding Question:

What big ideas will I take away from biology?

Agenda

1C Bell Work (p. 18)
NOTES (pg. 19)
1.2 Notes
ACTIVITY (pg. 20)
Data – Opinion v. Fact
Foldable (pg. 21)
Themes in Biology
HOMEWORK (pg. 22)
Outline Section 1.3
Due Next Class

1B - Bell Work (pg 13)

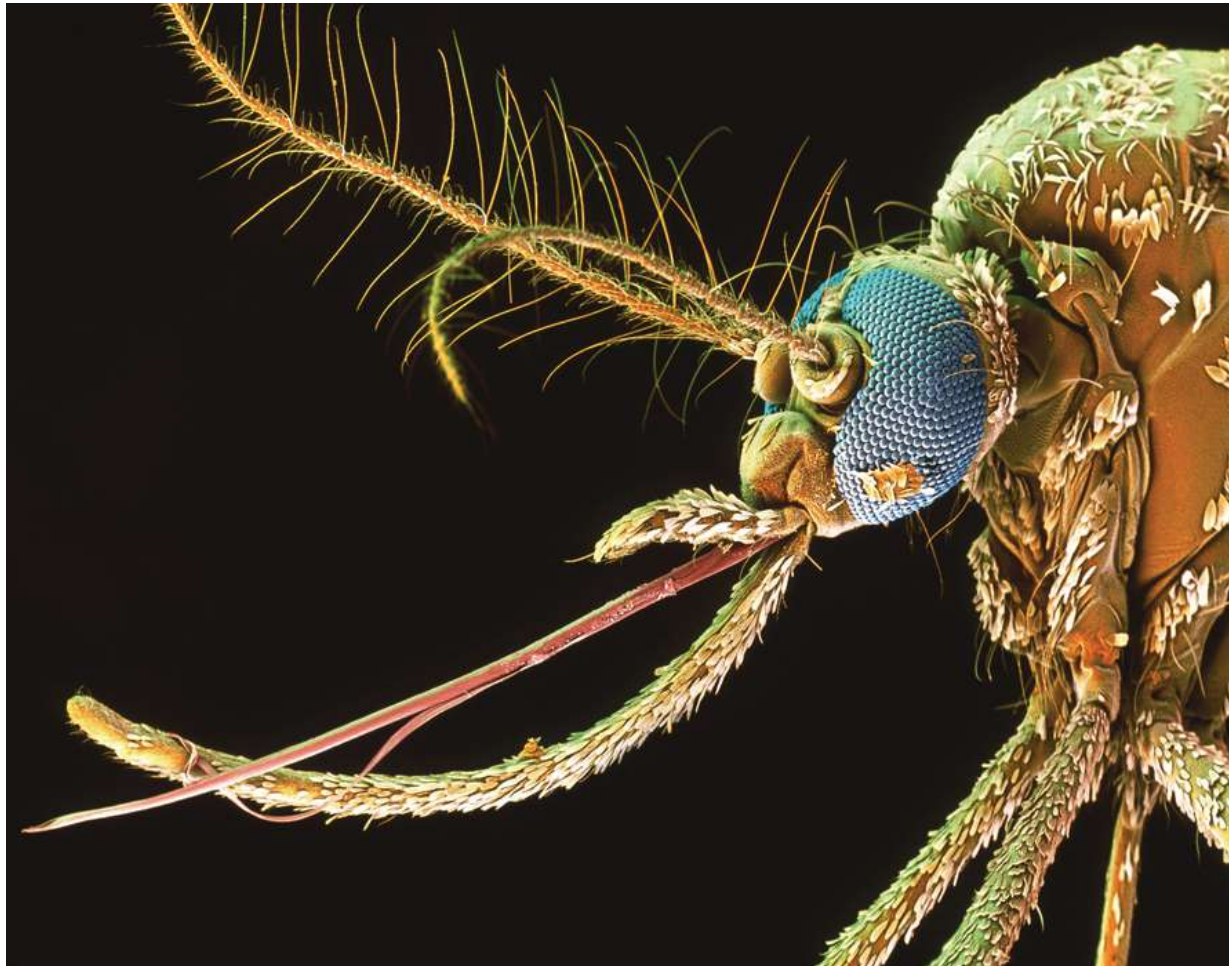
1. Describe how structure and function are related.
2. Do you think the heart muscle has the same structure as arm muscle?
3. Describe, in your own words, what adaptation means to you.

Don't forget to leave room for your summary at the bottom

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KEY CONCEPT (Notes – Pg. 19)

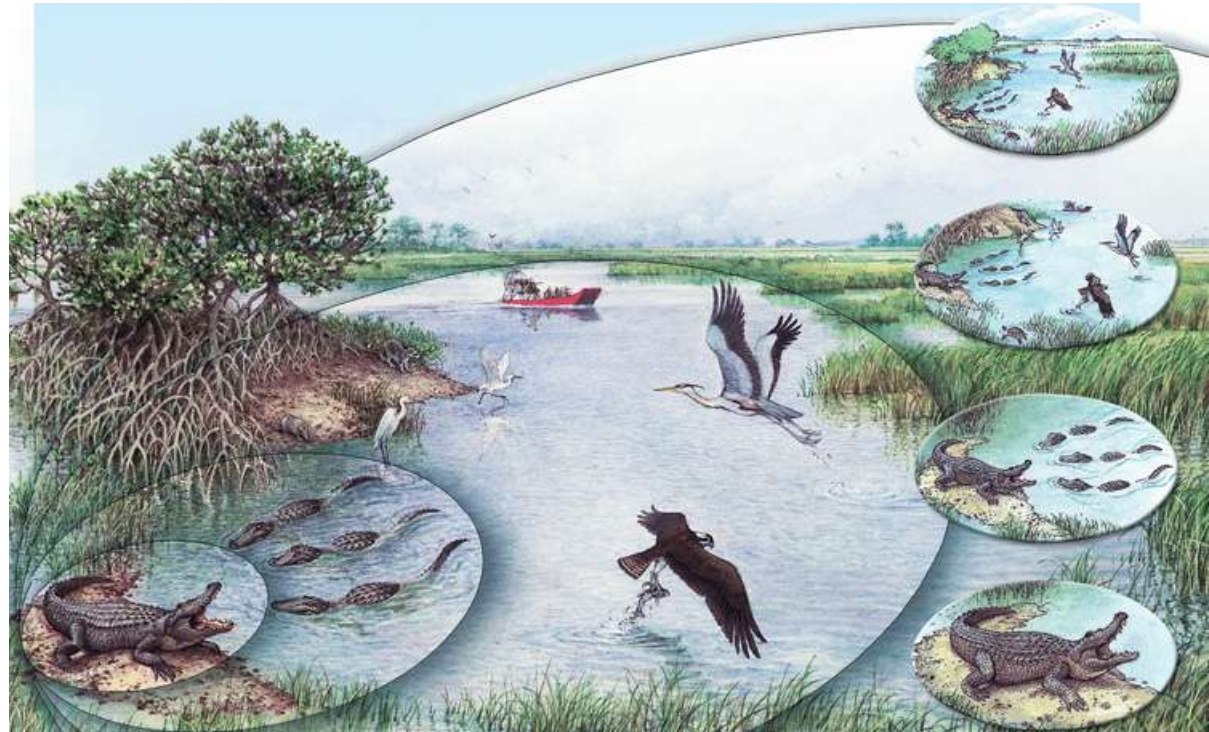
Unifying themes connect concepts from many fields of biology.



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All levels of life have systems of related parts.

1. A system is an organized group of interacting parts.
 - A cell is a system of chemicals and processes.
 - A body system includes organs that interact.
 - An ecosystem includes living and nonliving things that interact.



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- Biologists study many different systems.



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Structure and function are related in biology.

2. Structure determines function.

- Proteins with different structures perform different functions.
- Heart muscle cells have a different structure and function than stomach muscle cells.
- Different species have different anatomical structures with different functions.



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Organisms must maintain homeostasis to survive in diverse environments.



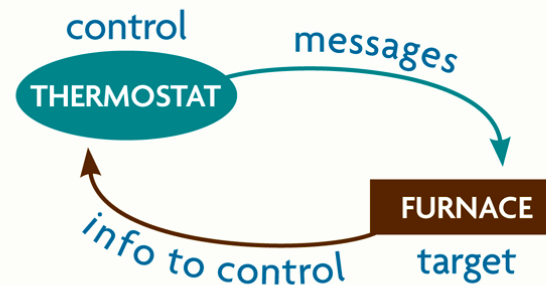
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3. Homeostasis is the maintenance of constant internal conditions.

- Homeostasis is usually maintained through negative feedback.
- Negative feedback systems return a condition to its normal (set) point.

VISUAL VOCAB

Thermoregulation maintains a stable body temperature under a variety of conditions, just as a thermostat regulates a furnace. Both mechanisms use feedback to keep temperatures within set ranges.



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- Behaviors and adaptations can help maintain homeostasis.



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Evolution explains the unity and diversity of life.

4. Evolution is the change in living things over time.
 - The genetic makeup of a population of a species changes.
 - Evolution can occur through natural selection of adaptations.
 - Adaptations are beneficial inherited traits that are passed to future generations.



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- Evolution accounts for both the diversity and the unity of life.



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Glossary Words

Write the word and the definition in Ch. 1 Glossary (Pg. 10)

5. Ecosystem

6. Homeostasis

7. Evolution

8. Adaptation

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Types of Data (book - pg. 12)

Qualitative

Dolphin colors range from gray to white.

Dolphins in a pod engage in play behavior

Dolphins have smooth skin

Quantitative

There are nine dolphins in this pod

Dolphins eat 4-5% of their body mass a day!

The sonar frequency use is around 100 kHz



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Types of Data (book - pg. 12)

Take Notes – Pg. 20

Qualitative

Descriptions

Observational

Quantitative

Numbers based

Objective



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Types of Data (book - pg. 12) COMP BOOK – P. 20

	Qualitative	Quantitative
Animals Eating	Three things	Three things
Humans Eating	Three things	Three things



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Summary

Please answer the G.Q. on page 18

What big ideas will I take away from biology?

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Themes in Biology Foldable

Pg. 21

Take each theme

Draw a picture

Describe it in one sentence

Use color!