

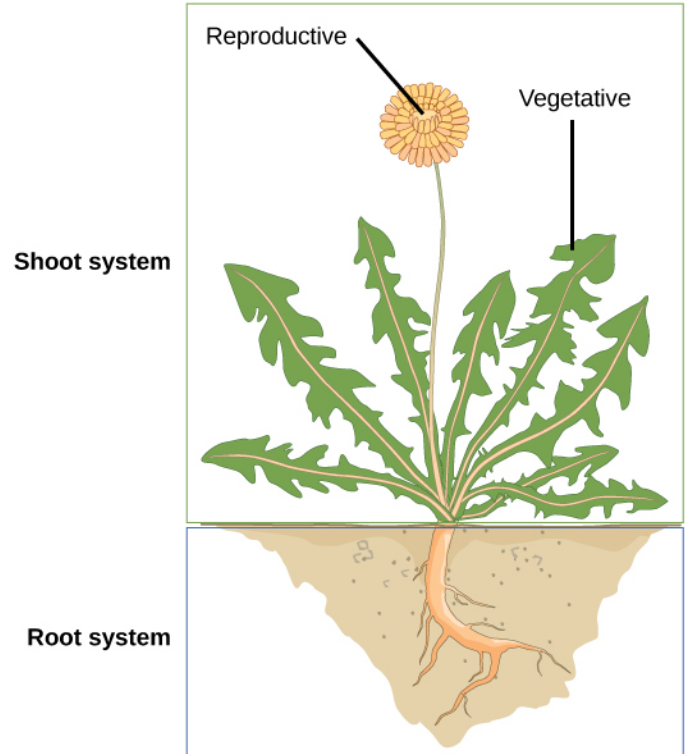
## Biology Study Guide (Weeks 1 & 2)

*“Tell me of what plant-birthday a man takes notice, and I shall tell you a good deal about his vocation, his hobbies, his hay fever, and the general level of his ecological education.”*

— Aldo Leopold

*“In the rain forest, no niche lies unused. No emptiness goes unfilled. No gasp of sunlight goes untrapped. In a million vest pockets, a million life-forms quietly tick. No other place on earth feels so lush. Sometimes we picture it as an echo of the original Garden of Eden—a realm ancient, serene, and fertile, where pythons slither and jaguars lope. But it is mainly a world of cunning and savage trees. Truant plants will not survive. The meek inherit nothing. Light is a thick yellow vitamin they would kill for, and they do. One of the first truths one learns in the rain forest is that there is nothing fainthearted or wimpy about plants.”*

— Diane Ackerman, *The Rarest of the Rare: Vanishing Animals, Timeless Worlds*



### Overview

Animals and Plants arose from millennia of mutations and adaptations into the complex multicellular organisms they are. Evolution is central to modern science’s understanding of the living world. The basic idea of biological evolution is that Earth’s present day species developed from earlier species in an attempt to survive in the harsh landscapes of Earth. Evolutionary processes allow some species to survive with little or no change, some to die out altogether, and other species to change, giving rise to a greater diversity of species. Science distinguishes itself from other ways of knowing and from other bodies of knowledge through the use of empirical standards, logical arguments, and skepticism, as science strives for explanations of the world.

### Essential questions:

- What do you notice about the balance of life on Earth and how it this balance maintained?
- How has evolution made you who you are?

### **Week 1: Due March 31**

\_\_\_\_\_ 1. Review Lesson: Plant Organs and Organ Systems and Lesson: Plant Tissues and Growth

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- \_\_\_\_\_ 2. Complete your sketches and labeling of Seed Parts and Germination. Describe the changes.
- \_\_\_\_\_ 3. Begin the Lab Activity: The Peppered Moths (see ASU.edu)
- \_\_\_\_\_ 4. Participate in and take notes on the lesson: Earthworm Anatomy.
- \_\_\_\_\_ 5. Participate in and complete the lab and write-up: Earthworm Dissection.

## **Week 2: Due April 14**

- \_\_\_\_\_ 6. Complete the Lab Activity: Peppered Moths
- \_\_\_\_\_ 7. Participate in and take notes on the Lesson: The Clock of Ages
- \_\_\_\_\_ 8. Construct a Geological Time Scale.
- \_\_\_\_\_ 9. Read and take notes on pp. 228-235 of the Biology textbook.
- \_\_\_\_\_ 10. Answer the questions 1-3 on p. 235 of the Biology textbook.
- \_\_\_\_\_ 11. Complete the Lab Activity: Breeding Bunnies

## Biology Study Guide (Weeks 3, 4, & 5)

### Overview

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### Essential questions:

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### **Week 3: Due April 21**

- \_\_\_\_\_ 12. Make vocabulary cards or fill out vocabulary sheets for the following words: **evolution, analogous structures, homologous structures, vestigial structures, mutation, recombination, natural selection, adaptation, speciation, biodiversity, taxonomy, cladistics (clade).**
- \_\_\_\_\_ 13. Participate in and take notes on the Lesson: Biological Diversity and Ecological Succession
- \_\_\_\_\_ 14. Read and take notes on pp. 245-51 of the Biology textbook.
- \_\_\_\_\_ 15. Answer the questions (1-7) on pp. 251 of the Biology textbook.
- \_\_\_\_\_ 16. Participate in and take notes on the Lesson: Evolution and Natural Selection.
- \_\_\_\_\_ 17. Participate in and complete the lab activity: Teddy Grahams and Natural Selection.
- \_\_\_\_\_ 18. Read and take notes on pp.236-241 of the Biology textbook.
- \_\_\_\_\_ 19. Participate in and take notes on the lesson: Charles Darwin
- \_\_\_\_\_ 20. Participate in and complete the work for the class activity: Evolution of *Canis pedatus* (part I)

### **Week 4: Due April 28**

- \_\_\_\_\_ 21. Complete and Present your work for the class activity: Evolution of *Canis pedatus* (part II)

Name \_\_\_\_\_ Period: \_\_\_\_\_

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**Week 5: Due April 15**

\_\_\_\_\_ 22. Take the SAGE test.

\_\_\_\_\_ 23. Participate in and take notes on the Lesson: Inherited vs. Acquired Traits

\_\_\_\_\_ 24. Participate in and take notes on the lesson: Biological Diversity

\_\_\_\_\_ 25. Read and take notes on pp. 245-251 of the Biology textbook.

\_\_\_\_\_ 26. Complete questions 1-6 on p.251 of the Biology textbook (Bonus: question #7).

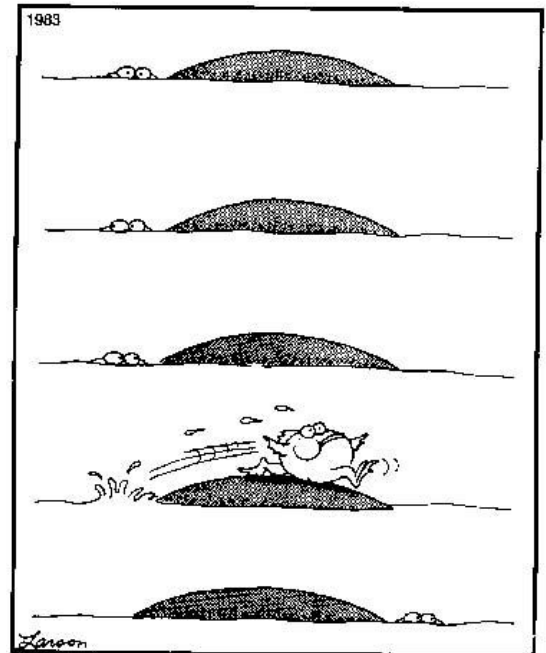
## Biology Study Guide (Weeks 6 & 7)

### Overview

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### Essential questions:

- What do you notice about the balance of life on Earth and how it this balance maintained?
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Another great moment in evolution

### Week 6: Freshman Field Trip

### Week 7: Due May 19

\_\_\_\_\_ 27. Study for the final exam.

\_\_\_\_\_ 28. Take the final exam.

\_\_\_\_\_ 29. Participate in the Socratic Dialogue: Oregon, Public Lands, and Meeting Human Needs.