

Reading Guide: Chapter 1 – The Science of Marine Biology



TERMS TO KNOW

Sonar
Scuba
Remote Sensing
Scientific Method
Induction

Deduction
Hypothesis
Testable
Alternative Hypothesis
Experiment

Variables
Controlled Experiment
Scientific Theory

1. The History of Marine Biology (page 2) Civilization has been linked to the bounty of the sea for well over 100,00 years. Read about past civilizations' connections with the ocean and advances made by each. For the following groups, identify major contributions they made to marine biology:

- a. Pacific Islanders:
- b. Aristotle and the Greeks:
- c. Vikings:
- d. Renaissance era
- e. James Cook
- f. HMS Beagle & Darwin
- e. Wilkes Expedition



2. The Challenger Expedition

- a. Who lead the first oceanographic expedition? _____
- b. Where did they get their first boat? _____
- c. Over a 3 and a half year expedition, identify 3 major accomplishments the expedition made.
 - i.
 - ii.
 - iii.

3. **Marine Labs** – Throughout this semester we will refer to or read references to works produced by many of the major marine biology labs in the world. Read about these laboratories and the founding scientists.

- a. Where and why did they form and why do they remain important?
- b. What important tools in the world of marine biology were developed in WWII? How was their military origin repurposed for marine biology?
- c. What are these laboratories contributing to marine biology today?

4. ***Observing the Ocean (p 6,7)***

- a. What is the main idea of this boxed special?
- b. What is the connection of this boxed special to the content in the chapter?
- c. What advance(s) is/are brought about by this technology?
- d. The authors set it apart and thought it important to mention - Is there a way you see this connecting to your life, particularly, personally?

5. **CSI: Ocean (p 12)**

- a. What is the main idea of this boxed special?
- b. What is the connection of this boxed special to the content in the chapter?
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Steinbeck and Ricketts (p 16)

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Reading Guide: Chapter 10 – An Introduction to Marine Ecology (pg. 211)

TERMS TO KNOW

| | | |
|--------------------|--------------|--------------------|
| Habitat | Predation | Trophic Level |
| Population | Symbiosis | Food Chain |
| Community | Competition | Food Web |
| Autotrophs | Mutualism | Primary consumer |
| Heterotrophs | Commensalism | Secondary consumer |
| Primary Production | Parasitism | Tertiary consumers |
| Niche | | |

1. Biodiversity: All Creatures Great and Small (pg 215)

- a. What is biological diversity?
- b. Identify 4 human caused factors that have affected diversity?
- c. **Describe** 3 reasons why biological diversity is important.
- d. What is being done to conserve biological diversity?

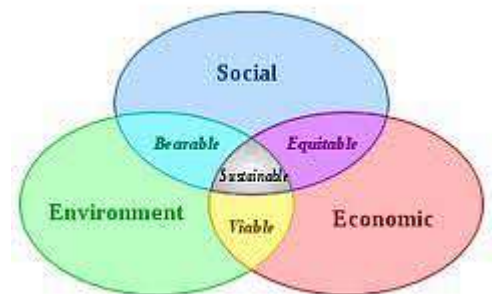
2. Cleaning Association (pg 218)

- Define cleaning association:
- Give 2 examples of cleaner fishes: _____
- Who are the “clients”?
- How are the “clients” attracted to the cleaner fish?
- Describe how the cleaning association benefits both the cleaner and the “client”.
- How can both the cleaner and the “client” cheat the system?



3. Ecology and Economics (pg. 224)

- Define scarcity and demography. Then describe how ecology and economics are similar in using scarcity and demography.



- Describe how have ecologists helped with the understanding of global banking systems.