

Biology Chapter 1: Study Guide

Section 1

- Definitions

Science	Data	Hypothesis
Observation	Inference	

- Know what science is
- Be able to list and define the steps of the scientific method
- Know laboratory safety rules and why they exist

Section 2

- Definitions

Spontaneous generation	Manipulated variable	Theory
Controlled experiment	Responding variable	

- Know why controlled experiments are important
- Be able to compare controlled, manipulated and responding variables
- Know Redi, Needham, and Spallazani (hypothesis, procedure, conclusion)
- Know who Pastuer is and what he did
- Know what types of things are not allowed in scientific experimentation
- Know what the Belmont Report is and why it is important

Section 3

- Definitions

Biology	Asexual reproduction	Homeostasis
Cell	Metabolism	Evolution
Sexual reproduction	Stimulus	

- Know the characteristics of living things and be able to describe in detail
- Know the difference between sexual and asexual reproduction
- Be able to list at one example of an organism that reproduces sexually and asexually
- Be able to describe at least one example of how a living thing maintains homeostasis
- Know why it is important to main homeostasis
- Know the branches of biology
- Know the levels of organization

Section 4

- Definitions

Metric system	Electron microscope	Cell fractionation
Microscope	Cell culture	Compound light microscope

- Know what the metric system or SI units are and why we use them
- Know the SI units for length, mass, volume and temperature
- Be able to compare light microscopes with electron microscopes
- Know the two different types of electron microscopes
- Know what cell culture is and what it is used for
- Know what cell fractionation is and how it separates components (based on what)