Field Natural History
Exam 2

Evolution:
historical ideas and mechanisms prior to Darwin (especially Aristotle’s Great Chain of Being, Lamarck’s Use/Disuse and Acquired Characteristics, and Cuvier’s contributions to extinction and fossils)

concepts within natural selection (observations and inferences of Darwin)

artificial selection

survival of the fittest

sexual and asexual reproduction: costs and benefits

Taxonomy
Know the classification of organisms from Kingdom to species.

Know the format for writing a scientific name (scientific binomial format).

Kingdom Plantae:
Challenges to Plant Survival on Land: Water Conservation and Transport, Gravity, Reproduction, Nutrient Acquisition

4 Major Groups of Plants and Features that distinguish them

Bryophyte (non-vascular plant) Solution to Dehydration and Gravity

Tracheophyte (vascular plant) Solution to Dehydration and Gravity

Differences between Xylem and Phloem (structure and function)

Alternation of Generations (generalized life cycle)

Bryophyte Reproduction

Fern Reproduction

Gymnosperm Reproduction

Angiosperm Reproduction

Be able to explain the reproductive trend toward dominance of the sporophyte
Solution to the Problem of Reproducing on Land

Coevolution with pollinators: flowers and characteristics to attract specific pollinators.

Reproductive structures of flowers.

Characteristics of wind pollinated flowers.

Costs and benefits of wind or animal pollination.

Examples of extreme relationships between plants and pollinators or plants and seed dispersers.

**Lab Material**

Be able to construct an evolutionary tree based on a table of agglutination.

Understand the set up and concepts of the agglutination lab.

Understand the set up and concepts of the peppered moth lab.

Be able to identify a tree to genus and species using a dichotomous key.

Calculations for species diversity and pollution tolerance will be on the NEXT exam.