

## Guided Reading Questions for Material Covered on Exam 3

*You do not have to know all of the material in every chapter listed on the syllabus. To help you pick and choose what to focus on, I have selected the following questions as being most relevant to the material we will cover in class. As you study, try to answer these questions without looking at your book or your notes.*

### Chapter 15

Sec. 15.1

- Mastering Concepts #2

Sec. 15.2

- Mastering Concepts #1, 2, 3, 4

Sec. 15.3

- Mastering Concepts #1, 2, 3

Sec. 15.4

- Mastering Concepts #1, 2, 3, 4

Sec. 15.5

- Mastering Concepts #1, 2, 3

Sec. 15.6

- Mastering Concepts #1, 2, 4

Multiple Choice #4, 5, 6, 7, 8, 9, 10

Testing Knowledge #1, 3, 4, 5, 6, 7, 8, 10

Thinking as a Scientist #1, 2, 3, 6, 7, 10

### Chapter 16 (part 1)

Sec. 16.4

- Mastering Concepts #1, 2

Testing Knowledge #6

Thinking as a Scientist #4

### Chapter 13

Sec. 13.1

- Mastering Concepts #1, 3, 4, 5

Sec. 13.2

- Mastering Concepts #1, 2, 3, 4, 5, 7

Sec. 13.3

- Mastering Concepts #1, 4

Sec. 13.4

- Mastering Concepts #1, 2, 3, 4, 5

Multiple Choice #2, 3, 4, 5, 7

Testing Knowledge #2, 3, 5, 6, 8, 13

Thinking as a Scientist #1, 4, 6, 7, 8, 9, 10, 11

Make a concept map using the following terms: mutation, variation, natural selection, genetic drift, bottleneck effect, founder effect, artificial selection, allele frequency, population, evolution, adaptation, fitness, sexual selection, fossils, DNA, proteins, homologous structures, biogeography, evidence

## Chapter 14

Sec. 14.1

- Mastering Concepts #1, 2, 3

Sec. 14.2

- Mastering Concepts #1, 2, 3

Sec. 14.4

- Mastering Concepts #1

Multiple Choice #1, 2, 3

Testing Knowledge #2, 4, 5

Thinking as a Scientist #1, 4

**Make a concept map** using the following terms: biological species, speciation, reproductive barriers, postzygotic, prezygotic, gradualism, punctuated equilibrium

## Chapter 16 (part 2)

Sec. 16.1

- Mastering Concepts #1, 2, 3, 6, 7

Sec. 16.2

- Mastering Concepts #1, 2, 3, 4, 5

Multiple Choice #1, 3, 4, 5

Testing Knowledge #1, 2

Thinking as a Scientist #1, 2

**Make a concept map** using the following terms: prokaryote, eukaryote, endosymbiosis, membrane infolding, chloroplast, mitochondrion, ribosomes, DNA, nucleus, endoplasmic reticulum

## Chapter 18

Sec. 18.1

- Mastering Concepts #1, 2, 3

Sec. 18.3

- Mastering Concepts #1, 3, 4

Sec. 18.5

- Mastering Concepts #1, 2, 4

Multiple Choice #1, 4, 5, 10

Testing Knowledge #5, 7

Thinking as a Scientist #4, 8

## Chapter 19

Sec. 19.1

- Mastering Concepts #1, 2, 3, 4

Sec. 19.2

- What mode of nutrition do the algae use?

Sec. 19.3

- Mastering Concepts #1

Sec. 19.4

- What mode of nutrition do the protozoa use?

Multiple Choice #1, 5

Testing Knowledge [none]

Thinking as a Scientist #3, 6, 8, 9, 10

**Make a concept map** using the following terms from chapters 18 and 19: prokaryote, eukaryote, bacteria, archaea, protista, algae, protozoa, slime molds, autotrophs, heterotrophs, water molds

## Chapter 20

Sec. 20.1

- Mastering Concepts #1, 2, 4, 5, 6

Sec. 20.2

- Mastering Concepts #3

Sec. 20.3

- Mastering Concepts #1, 4

Sec. 20.4

- Mastering Concepts #1, 2, 4

Sec. 20.5

- Mastering Concepts #1, 3
- What is the relationship between flowers and fruits?

Multiple Choice #1, 5, 6, 7, 8, 10

Testing Knowledge #1, 2, 3, 4, 7, 8, 9

Thinking as a Scientist #1, 2, 4, 6, 7, 8, 9

**Make a concept map** using the following terms: plants, green algae, vascular tissue, xylem, phloem, cuticle, stomata, moss, fern, seed, flower, fruit, pollen, gymnosperm, angiosperm, lignin, cone, cellulose, chloroplast, photosynthesis

## Chapter 21

Sec. 21.1

- Mastering Concepts #1, 2, 3, 4

Sec. 21.6

- Mastering Concepts #1, 3

Multiple Choice #1, 2, 3, 9

Testing Knowledge #1, 2, 8 (a and c only), 9

Thinking as a Scientist #1, 2 (b and d only)

**Make a concept map** using the following terms: fungi, chitin, spore, hypha, heterotroph, yeast, mycorrhiza, lichen, autotroph, plant, algae

## Chapter 22

Sec. 22.1

- Mastering Concepts #1, 2, 3, 4, 6, 7, 8

Sec. 22.2

- Mastering Concepts #1, 5
- What types of evidence do biologists use to create phylogenetic trees of animals?

Sec. 22.3

- What features do all cnidarians share?
- What are some examples of cnidarians?

Sec. 22.4

- What features do all flatworms share?
- What are some examples of flatworms?
- Mastering Concepts #1

Sec. 22.5

- Mastering Concepts #1, 2
- What are some examples of mollusks?

Sec. 22.6

- What features do all annelids share?
- What are some examples of annelids?

Sec. 22.7

- Mastering Concepts #1, 2
- What features do all roundworms share?
- What are some examples of roundworms?

Sec. 22.8

- Mastering Concepts #2, 4, 5
- What features do all arthropods share?
- What are some examples of arthropods?

Sec. 22.9

- What features do echinoderms share?
- Mastering Concepts #3

Multiple Choice #4, 5, 7, 8, 9, 10

Testing Knowledge #1 (a, b, and d only), 2 (a, b, d, and e only), 4, 6, 7

Thinking as a Scientist #1, 3, 5, 6, 7, 8, 9

## Chapter 23

Sec. 23.1

- Mastering Concepts #1, 2, 3, 4, 5

Sec. 23.2

- What is the relationship among tunicates, lancelets, and the vertebrate chordates?

Sec. 23.3

- How is a hagfish different from a true fish?

Sec. 23.4

- Mastering Concepts #1, 3
- What features do all of the fishes share?

Sec. 23.5

- Mastering Concepts #1, 2
- What features do all of the amphibians share?

Sec. 23.6

- Mastering Concepts #1, 2
- What features do all reptiles share?

Sec. 23.7

- Mastering Concepts #1, 2, 3
- How are birds different from other reptiles?

Sec. 23.8

- Mastering Concepts #1, 2, 3

Multiple Choice #1, 2, 4, 6, 8, 9, 10

Testing Knowledge #1, 2, 3, 4, 5, 6, 7

Thinking as a Scientist #1, 2, 3, 5, 8, 10

**Make a concept map** using the following terms: animal, heterotroph, invertebrate, vertebrate, blastula, gastrula, radial symmetry, bilateral symmetry, coelom, pseudocoelom, incomplete digestive tract, complete digestive tract, sponge, cnidarian, flatworm, mollusk, annelid, roundworm, arthropod, echinoderm, chordate, tunicate, lancelet, hagfish, fish, amphibian, amniote, reptile, bird, mammal