

Study questions - test 3

Echinoderms

structure and function

- 1) What are the deuterostomes?
- 2) What is a water vascular system? how does it work?
- 3) What is the madreporite?
- 4) What are ampullae?
- 5) What are dermal branchiae?
- 6) What are pedicellaria?
- 7) What are tube feet? what are they used for?
- 8) What kinds of symmetry are found in the echinoderms? why?
- 9) What is the skeleton of an echinoderm?
- 10) What are some structures that represent modifications of the endoskeleton of echinoderms?
- 11) What is the ambulacrum?

asteroidea

- 12) what is gastric eversion?
- 13) What is the ambulacral groove used for?
- 14) what larval forms occur in the asteroidea?
- 15) How do asteroidea move?

ophiuroida

- 16) how do brittle stars differ from sea stars?
- 17) what are genitorespiratory bursae used for?

echinoidea

- 18) what types of symmetry are found in the echinoidea?
- 19) know the basic characteristics of echinoidea.
- 20) How do echinoidea move?
- 21) What is Aristotle's lantern, and what is it used for?

holothuroidea

- 22) know the basic characteristic of sea cucumbers.
- 23) how do sea cucumbers deter predators?
- 24) How do sea cucumber exchange gases?

crinoidea

- 25) In what ways are crinoids probably similar to ancestral echinoderms?
- 26) How do crinoids feed?

Hemichordates

- 27) know the basic characteristics of hemichordates.
- 28) what are the two classes of hemichordates?
- 29) What characteristics do hemichordates share with the chordates?

chordates

anatomy

- 30) What are the basic characteristics shared by chordates?
- 31) What is an endostyle?
- 32) What were the earliest pharyngeal slits probably used for?

urochordata

- 33) What chordate characteristics are possessed by the adult sea squirt?
- 34) What chordate characteristics are possessed by the larval sea squirt?
- 35) Where does the name "tunicate" come from?
- 36) How do sea squirts feed?
- 37) What are the three classes of urochordates?

cephalochordata

- 38) What are the basic characteristics of cephalochordates?
- 39) How do cephalochordates feed?
- 40) Describe the lifestyle of cephalochordates.

craniata

- 41) what are the major groups of craniata?
- 42) why is craniata a better name than vertebrata?

fish, bony and otherwise

- 43) In what way are the agnatha not a monophyletic group?
- 44) know the basic characteristics of hagfish and lampreys.

- 45)how do hagfish defend themselves?
 46)describe the lifestyle of lampreys.
 47)what is an ammocoetes larva?
 48)what does ammocoetes imply about the origin of vertebrates?
 49)know the different scale types we talked about, characteristics of each, and which groups they are found in.
 50)know the basic fins that we discussed.
 51)know the different tail types we talked about and which groups possess each.
 52)What is the lateral line system? How is it used?
 53)what are the two subclasses of chondrichthyes?
 54)how can you tell the sexes apart in chondrichthyes?
 55)know the modes of reproduction in each class of craniata.
 56)What are the different types of swim bladders?
 57)how are swim bladders related to lungs?
 58)know the basic characteristics of actinopterygians.
 59)know the basic characteristics of sarcopterygii.
 60)how might lobe-fins have been helpful for fish?

amphibians

- 61)What are the lissamphibia?
 62)know the basic characteristics of each order of amphibians.
 63)Why is metamorphosis helpful?
 64)what do perennibranchiate, paedomorphic, and neotenic mean?
 65)Describe the skin and glands of amphibians.
 66)How are poisons used by amphibians?
 67)how does gas exchange happen in amphibians?
 68)what is amplexus?
 69)how is circulation different in fish and amphibians?

mammals anatomy

- 70)what group did the mammals evolve from?
 71)describe the differences in the skulls of reptiles and mammals.
 72)what characteristics are common to most mammals?
 73)How did hair originate?

groups of mammals

- 74)what are the two subclasses of mammals? characteristics of each?
 75)what are the two infraclasses of the theria?
 76)orders of mammals. know the basic characteristics, examples, etc. that we talked about for the following orders:
- monotremata
 - marsupialia
 - chiroptera
 - cetacea
 - carnivora
 - primates
 - artiodactyla
 - perissodactyla
 - rodentia
 - lagomorpha
- 77)know the families of carnivora that we talked about and characteristics of each.

reptiles

anatomy

- 78)how does the skin of reptiles help them in a terrestrial environment?
 79)how does the amniotic egg aid in terrestrial reproduction?
 80)how did venom glands probably arise in the snakes and lizards?
 81)what types of dentition are found in the reptiles?
 82)know the basic characteristics of reptiles.

groups

- 83)know the big groups of dinosaurs and other groups of extinct reptiles we talked about.
 84)Know the orders of reptiles, and characteristics of each.
 85)What are the two big clades of turtles?
 86)How is the jaw of squamates special?
 87)Know the different fang orientations in

snakes.

88) Know how snakes move.

birds

anatomy

89) What characteristics are found in all (or almost all) modern birds?

90) Understand the evolutionary context of birds.

91) Know the basic characteristics, types, and evolutionary history of feathers.

92) In what way does wing shape reflect the type of flight found in a particular group of birds?

93) How does gas exchange work in birds?

groups

94) orders of birds. know the basic characteristics, examples, etc. that we talked about for the following orders:

- galliformes
- anseriformes
- falconiformes
- strigiformes
- coraciiformes
- piciformes
- psittaciformes
- passeriformes
- columbiformes