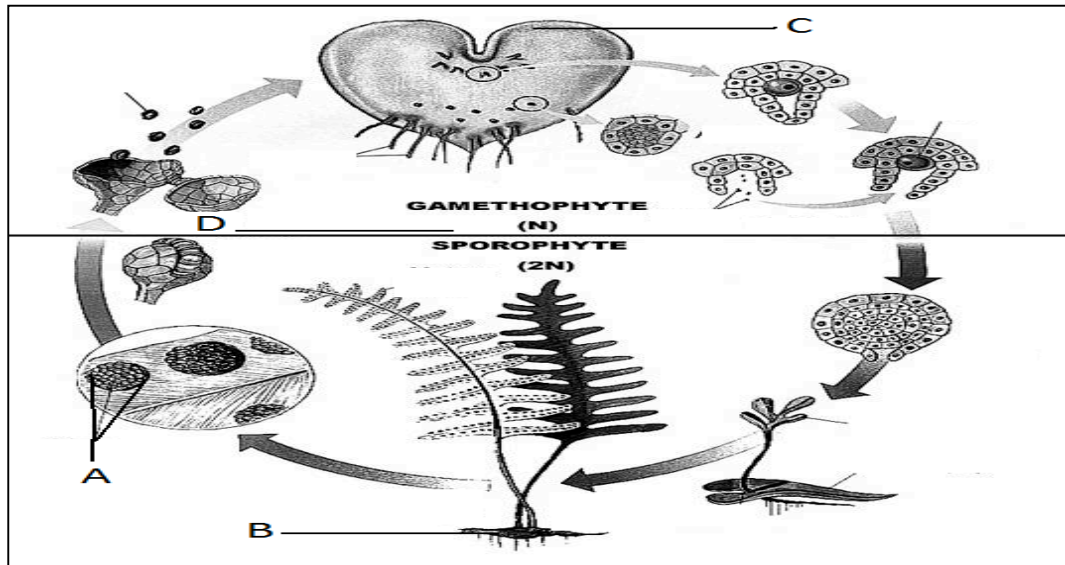


1. **Algae do not have specialized cells for reproduction:**
 - a) True
 - b) False
2. **An example of a multicellular green algae is:**
 - a) ulva
 - b) kelp
 - c) chlamydomonas
 - d) oedogonium
3. **In Bryophytes, water passes from cell to cell by**
 - a) mitosis.
 - b) meiosis.
 - c) **osmosis.**
 - d) tracheids.
4. **The structures in Bryophytes that penetrate the ground to anchor the plant are:**
 - a) xylem.
 - b) phloem.
 - c) rhizomes.
 - d) rhizoids.
5. **Fern spores are produced in structures known as**
 - a) antheridia.
 - b) archegonia.
 - c) sporangia
 - d) seeds
6. **Haploid spores of ferns are produced**
 - a) in the sporangia
 - b) by meiosis
 - c) by gametophytes
 - d) in protonema
7. **The cuticle of tracheophytes:**
 - a) Prevents carbon dioxide loss
 - b) are part of the roots
 - c) is part of a vein
 - d) is a waxy covering on the leaf
8. **The gametophyte of a fern flattens out into a thin heart-shaped structure called a(n)**
 - a) protonema
 - b) prothallium
 - c) frond.
 - d) archegonium
9. **The plant structure we recognize as ferns are the**
 - a) spenophytes
 - b) prothllytes.
 - c) **sporophytes.**
 - d) gametophytes.

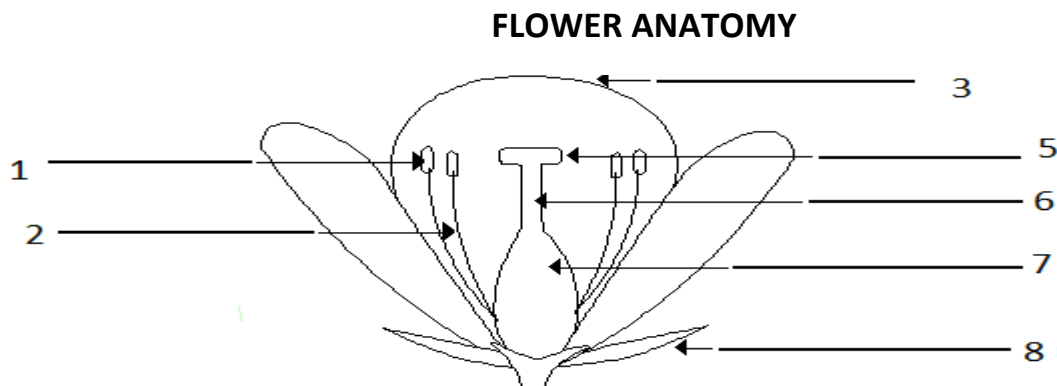
Lifecycle of a Fern:



10. In the lifecycle above, the structure marked A is :
- a **sorus**
 - a single sporangium
 - a capsule
 - a megaspore mother cell
11. In the lifecycle above, the structure marked B is:
- a rhizoid
 - a holdfast
 - a fiddlehead
 - a **rhizome**
12. In lifecycle above, the structure marked C has:
- archegonia only
 - antheridia only
 - arthrodia and antheridia
 - archegonia and antheridia**
13. The function of xylem is to
- carry water from roots to leaves.**
 - be the site of photosynthesis
 - anchor plants
 - carry products of photosynthesis throughout the plant
14. The alternation of generations in plants is characterized by
- haploid gametophytes and diploid sporophytes.**
 - diploid gametophytes and haploid sporophytes.
 - haploid gametophytes and haploid sporophytes.
 - diploid gametophytes and diploid sporophytes.
15. The “naked seed” plants are the
- monocotyledons
 - dicotyledons.
 - angiosperms.
 - Gymnosperms**


16. The trees known as evergreens are
- cycads.
 - dicots.
 - ginkgoae
 - conifers.
17. A difference between monocots and dicots is that monocots have:
- one cotyledon.
 - two seed leaves.
 - flowers.
 - seeds.
18. After fertilization, the zygote grows into a tiny plant called a(n)
- scale.
 - pollen grain.
 - seed coat
 - embryo.
19. The following is not an example of a tracheophyte
- rose
 - moss
 - daffodil
 - Fern
20. Flowering plants are
- monocotylsperms
 - dicotylsperms
 - gymnosperms
 - angiosperms
21. Pollen grains can be distributed by
- air currents
 - birds
 - insects
 - all of the above.
22. This is a specific adaptation of plants to life on land:
- holdfast
 - stems with a water vascular system
 - chloroplasts for photosynthesis
 - alternation of generations
23. The following is an example of seed dispersion:
- a cutting (a piece) of a bamboo plant is planted in a different pot from its original pot
 - a root grows a runner which produces multiple plants from the same underground stem
 - a bear eats berries and does not digest the seeds, the seeds remain viable once the bear passes it's feces
 - a bee brings pollen from one flower to another
24. The reproductive structure of gymnosperms are
- flowers.
 - fruit.
 - scales.

- d) spores.
25. The seeds of angiosperms
- are **protected by the fruit.**
 - sit exposed on the cone.
 - are called scales.
 - are grouped together in cones.
26. The gametophyte generation in plants is:
- Haploid**
 - Diploid
 - The zygote
 - The embryo
27. Which parts of the flower make up the male reproductive organ?
- Pistil
 - Style
 - Stigma
 - Anther**
28. The pollen grain of the seed plants are a:
- Male sporophyte
 - female gametophyte
 - female sporophyte
 - male gametophyte**
29. If a plant has large yellow flowers and a sweet scent it is probably pollinated by:
- bats
 - mammals
 - bees**
 - wind



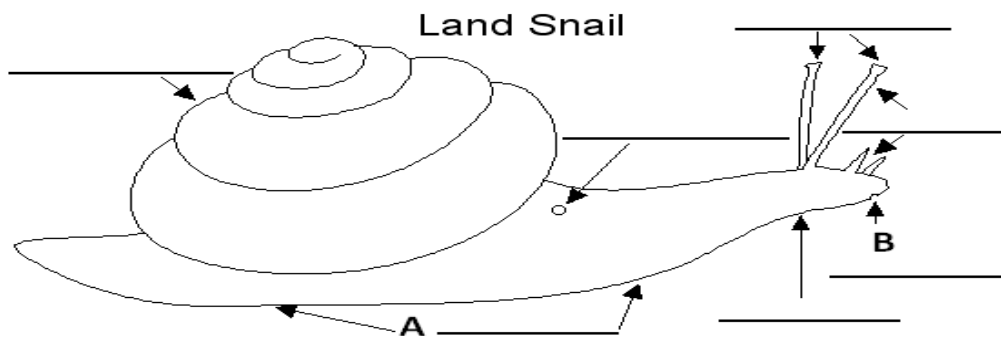
30. In diagram above, the anther is labeled:
- 1**
 - 2
 - 1 and 2 together
 - 5
31. In diagram above, the fruit develops from:
- 5
 - 3
 - 7**
 - 8

32. In diagram above, a female structure would be:
a) 6
b) 1
c) 8
d) 3
33. If the flower above has 4 petals it would be considered:
a) a gymnosperm
b) a angiocot
c) a monocot
d) a dicot
34. All animals are
a) eukaryotic.
b) heterotrophic
c) multicellular
d) all of the above
35. Cnidarians exhibit
a) symmetry
b) radial symmetry.
c) bilateral symmetry.
d) asymmetry.
36. Animals that have a backbone are
a) invertebrates.
b) primates
c) sponges.
d) vertebrates
37. The scientific name Porifera means
a) bottom dwelling.
b) soft bodied
c) pore-bearing.
d) absorbent material.
38. Water enters the central cavity of a sponge through:
a) Collar cells
b) Spicules
c) Pores
d) Osculum
39. Cnidarians are highly cephalized:
a) True
b) False
40. This is an example of a scyphozoan:
a) Hydra
b) Anemone
c) Jellyfish
d) Coral

41. This is the phylum and class to which earthworms belong:
 a) phylum Annelida, class Hirudinea
 b) **phylum Annelida, class Oligochaeta**
 c) phylum Nematoda, class Cestoda
 d) phylum Nematoda, class Trematoda
42. Earthworms always have separate sexes:
 a) True
 b) **False**
43. Choose the correct sequence of structures an earthworm's food would travel:
 a) esophagus, pharynx, gizzard, crop, intestine, anus
 b) pharynx, aortic arches, crop, esophagus, intestine, anus
 c) pharynx, intestine, gizzard, crop, anus
 d) **pharynx, esophagus, crop, gizzard, anus**
44. Earthworms and planarians belong to the same phylum:
 a) True
 b) **False**
45.  In the image to the left, the structure labeled A is used to:
 a) **Feed**
 b) Respire
 c) see
 d) sense humidity
46. The motile (moving) stage of a cnidarians lifecycle is called the:
 a) polyp
 b) **medusa**
 c) hydra
 d) anemone
47. Mollusca exhibit all of the following except
 a) **respiration through lungs**
 b) A closed circulatory system.
 c) A complete digestive system with mouth and anus.
 d) External fertilization.
48. Planaria show this type of response to light: * you will not need to know this in 2017
 a) **negative**
 b) neutral
 c) positive
 d) autotrophic
49. These animals have specialized tissues or organs for respiration:
 a) **snails**
 b) earthworms
 c) planaria
 d) anemones

50. This is the common name for a squid's shell:
- siphon
 - mantle
 - pen**
 - pharynx
51. The mollusk with the least developed nervous system would be:
- clam**
 - octopus
 - squid
 - nudibranch
52. The following is a method of defenses or response found in octopi:
- hissing through the siphon
 - changing colour to match surroundings using chromatophores**
 - releasing poisons through the sucking discs
 - attacking with stinging cells called nematocysts

Use the diagram to below to answer the following three questions:



53. If you were dissect at point B you would most likely find:
- a beak
 - a buccal mass
 - a radula**
 - a siphon
54. The above organism belongs to this class:
- bivalve
 - gastropoda**
 - cephalopoda
 - gastropedius
55. The structure identified by the lines extending from A is called:
- the foot**

- b) visceral mass
 - c) gastropede
 - d) radula
56. Members of the class bivalve typically use this method to feed:
- a) scraping of a radula
 - b) scraping of a beak
 - c) capturing and hunting prey
 - d) filter feeding using gills
57. Echinodermata are characterized by
- a) spiny skin
 - b) bilateral symmetry.
 - c) an external skeleton.
 - d) internal fertilization.
58. Members of the phylum echinodermata have:
- a) only herbivorous feeding methods
 - b) only carnivorous feeding habits
 - c) bilateral symmetry in the adult form
 - d) radial symmetry in the adult form
59. Echinoderms show greater cephalization than the mollusks.
- a) True
 - b) False
60. The following is not a member of the phylum Echinodermata:
- a) sea urchin
 - b) sea stars
 - c) sea cucumbers
 - d) sea anemones
61. The sea cucumbers have:
- a) an endoskeleton
 - b) an exoskeleton
 - c) swimming fins
 - d) complex eyes
62. Sea stars are only able to reproduce sexually:
- a) True
 - b) False
63. All sea urchins are sessile (are unable to move)
- a) True
 - b) False
64. A general feature of arthropods is:
- a) compound eyes
 - b) respiration using gills
 - c) bilateral symmetry
 - d) radial symmetry
65. The spider respiratory structure is:

- a) book gills
- b) book lungs
- c) gills
- d) alveoli

66. Crabs and crayfish are members of the subphylum Chelicerata:

- a) True
- b) False

67. Scorpions are more closely related to spiders than they are to insects:

- a) True
- b) False

68. The arthropods have:

- a) an endoskeleton made from chitin
- b) an exoskeleton made from chitin
- c) an endoskeleton made from calcium carbonate
- d) an exoskeleton made from calcium carbonate

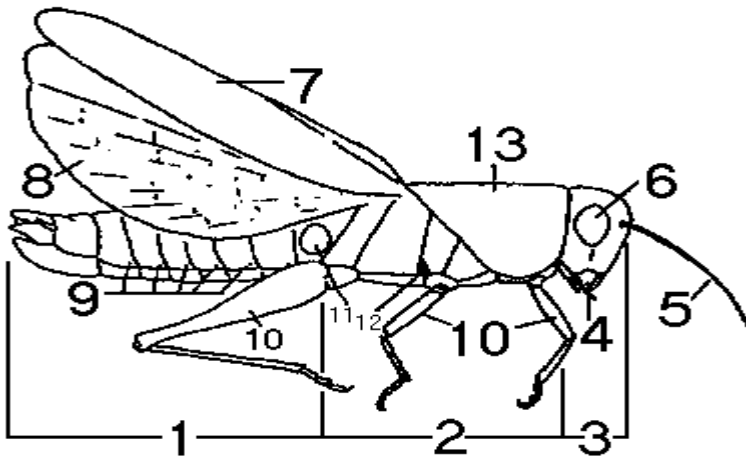
69. Arthropods respire using

- a) gills.
- b) book gills and book lungs.
- c) tracheal tubes.
- d) all of the above.

70. The organism below goes through incomplete metamorphosis:

- a) flies (think maggots... ewwwww)
- b) butterflies
- c) moths
- d) grasshoppers

Use the image below to help answer the following three questions.



71. Structure 5 is used to:

- a) attack prey
- b) sense humidity
- c) move food around in the mouth
- d) sense sound

72. Spiracles would be found at number:

- a) 13

- b) 11
- c) 9
- d) 4

73. Number 6 is a:

- a) tympanum
- b) compound eye
- c) simple eye
- d) ocelli

74. This is the upper lip mouthpart of the grasshopper:

- a) labrum
- b) maxibles
- c) Librium
- d) mandillas

75. Insects belong to the subphylum:

- a) arthropodist
- b) uniramia
- c) chelicerata
- d) crustacea

76. The three main body parts of an insect are:

- a) head, cephalothorax, abdomen
- b) head, carapace, thorax
- c) head, thorax, abdomen
- d) thorax, carapace, abdomen

77. A difference between animals and plants is:

- a) animals are autotrophic and plants are heterotrophic
- b) animals are eukaryotic and plants are prokaryotic
- c) animals are prokaryotic and plants are eukaryotic
- d) animals are heterotrophic and plants are autotrophic

78. Unlike humans, grasshoppers:

- a) use their mouths to breathe
- b) use their mouths to eat
- c) breathe through openings in their abdomen
- d) have closed circulatory system

79. Arachnids have:

- a) 3 pairs of legs
- b) 4 pairs of legs
- c) 4 legs
- d) 6 legs

80. The name "Platyhelminthes" means:

- a) flat animals
- b) water living worms
- c) flatworms
- d) parasitic worms

81. The name "Echinodermata" means:
- a) many armor
 - b) smooth skin
 - c) tough skin
 - d) spiny skin
82. Water enters the water vascular system of a sea star through the:
- a) mouth
 - b) anus
 - c) madreporite
 - d) tube feet
83. The name "arthropoda" means:
- a) jointed foot
 - b) jointed mouth
 - c) man foot
 - d) man-like mover
84. Osteichthyes are fish characterized by
- a) jaws
 - b) skeleton of bone
 - c) paired fins
 - d) all of the above.
85. Chondrichthyes (such as sharks) are also known as
- a) bony fishes
 - b) jawless fishes
 - c) cartilaginous fishes.
 - d) all of the above.
86. Amphibians need water because
- a) eggs are laid in water.
 - b) The larval stage is aquatic
 - c) They need a moist skin to breathe
 - d) All of the above.
87. The following adaptation(s) allow Aves to fly,
- a) hollow bones.
 - b) specialized feathers.
 - c) the lack of a bladder
 - d) All of the above.
88. Mammals are characterized by
- a) a viviparous lifestyle
 - b) skin with scales.
 - c) Laying Eggs
 - d) External fertilization