Exam 2 Study questions

### Fungi: ch 31

* what are the major subclades of Unikonts?
* what are the synapomorphies of this eukaryote clades?
* what are some characteristics of fungi that separate them from plants?
* what are the molecular and morphological features that place fungi closer to plants than animals?
* in particular what do the gametes and mitochondria of both animals and fungi have in common?
* what are some species of fungus?
* what is peculiar about the armillaria honey fungus?
* which subclades of fungus are unicellular? what are these called?
* do they have both stages or just one?
* what are hyphae? there are two types. what structure do each form?
* what are the different types of fruiting bodies? for zygomycota? ascomycota? basidiomycota?
* the ascomycota has ascocarp, asci, and ascospores. define each.
* what are the features of multicelular fungi morphology? (cell wall made of what?)
* some species are septate, some are aseptate. what does this mean?
* what does septate fungi allow to happen within the organism?
* what is the classification of fungi’s nutrition? how is it different than plants and animals?
* what are the three ways fungi can obtain nourishment? what are the names?
* \*\*ask about sapbroic fungi slide (15)
* what are hustorium? how do they work? 16
* where do fungi live? 17
* explain the transitions of plasgmogamy, karyogamy, germination, etc. slide 18
* how do unicellular fungi reproduce?
* what are the 3 multicelular sexual reproduction mechanisms in eukaryotes?
* explain the fungi haploid dominant cycle
* explain the difference between haploid and diploid development
* explain generalized sexual reproduction in multicellular fungi
* explain generalized asexual reproduction in fungi
* what is plasmogamy?
* explain the heterokaryotic stage
* what is karyogamy?
* how does the sexual system reproduce spores
* what are the 5 clades of fungi?
* what are some features of the Chytrids? what is their habitat, how do they eat, what is the typical reproductive system? any unique characteristics?
* what is interesting about their gametes and spores?
* what type of hyphae do zygomycetes have?
* where do they usually live?
* are they dominantly sexual or asexual reproduction?
* what is a zygosporangium?
* what are some prominent features of glomeromycetes? are they septate?
* what are endomychorrizae? arbuscules?
* what are ectomycorrizae? what are the hyphae called? what clades use this?
* what are some features of the ascomycetes?
* where are their sexual spores produced? where are their asexual spores produced?
* what are some features of basidiomycetes? examples?
* where are their sexual spores produced?
* what do fungi contribute to the world? 41
* how do they decompose things? what does this do?
* what are some examples of plant pathogens?
* what is mycosis? what are some examples?
* what are some commercial and medical uses?
* explain the simbyoiss between fungus and plants 51
* explain the symbiotic system of lichens. what is their ecological importance? 56
* ambrosia beeetle and fungus
* basidiomycota fungus and termite symbiosis. how do people benefit as well?
* Amoebozoans:
* what are the two clades? what are the habitats? 71
* how do they move? how do they eat? 71
* how do they utilize the contractile vacuole?71
* amebozoa, slime molds: what are some features?
* what is the difference between slime molds and fungi?
* within amoebozoa is sublclade plasmodial slime mold. what are some features?
* what is it’s reproductive method?
* what does plasmodium mean?
* describe the plasmodial slime mold life cycle
* in the amoebozoa is the subclade cellular slime mold. what type of reproduction? and in times of stress?
* how do they spend most of their live cycle?
* are they haploid or diploid? when?
* Chapter 29 and section 28.5: Plant Diversity 1
* Archaeplastida contains four subclades. name them. what is the synaptomorphy.
* explain primary endosymbiosis. 3
* is red algae mostly multi or unicellular? habitat?
* what are some synaptomorphies of this group?
* explain their red color
* what are some commercial uses?
* is green algae mono, poly, or para phyletic?
* there are two subgroups. what are they?
* the group viridiplantae contains which three groups?
* what are the synaptomorphies? 8
* the claade chlorophyta has which synaptomorphies?
* what are the forms it takes? (3) slide 10
* what does volvox show us about the origins of multicellularity?
* what is the colonial hypothesis?
* what groups are in the clade streptophyta?
* what are the synaptomorphies?
* what are charophyta the closest living relative to? 13
* what are the morphological similarities within this group?
* within streptophyta is another clade. what is the sister taxa of charophyta?
* 18 what is the plant life at the arctic and antarctic?
* 19; wat was the first plant live on land? when did it start?
* 20 in what period did land plants begin? how long ago??
* when did vascular seedless plants emerge? (period and #years ago) 21
* when did seed plants emerge? (period and #years ago) 22
* 23 what sorts of vascular seedless plants dominated? when did dominance switch to seeded?
* 24 what is the name of the period where seed plants began to dominate
* what are some derived plant traits? (name 5) slide 32
* where are the plant’s “stem” cells located? what are they called? 26
* alternation of generations occurs in most plants. explain the cycle. 28
* is the sporophyte stage diploid or haploid? is the gametophyte stage diploid or haploid? 28
* what is the difference between the diploid dominant and haploid dominant alternation of generation cycles? 29
* what is the benefit to having walled spores in sporangia? 30
* what are the male and female gametangia in plants? 31
* why would multicellular dependent embryos be beneficial? 32
* what does the gametophyte produce? where ? what is the ploidy? does it use mitosis or meiosis? 33
* what does the sporophyte produce? where? what is the ploidy? does it use mitosis or meiosis? 33
* which, gametophytes or spores, requires fusion with another cell to develop an organism? 33

|  |  |  |
| --- | --- | --- |
| fill out table. slide 34 | spore | gamete |
| ploidy? |  |  |
| where formed? |  |  |
| how formed? |  |  |
| develop into? |  |  |
| wall covering? |  |  |

* why are vascular plants able to grow larger than bryophytes?
* what are the three types of bryophytes? 36
* \*\*remember: liverwort is a bryophyte, stonewort is green algae. 36
* in the bryophyte life cycle, which is the longest stage, gametophyte or sporophyte?
* what is one reason bryophytes are limited to damp environments?
* what is the relationship between the gametophyte and sporophyte of bryophytes?
* where are the eggs and sperm located in bryophytes? what life stage do we find these structures? 43
* what do we find in the sporophyte’s capsule?
* where are some places we can find sphagnum moss? (peat moss)? 45
* what are some characteristics of these bogs? 46
* when did vascular plants emerge? what era? 49
* what does vascular tissue do for the plant? what are the two types of vascular tissue? 50
* what does xylem transport? is it dead or alive? 50
* what does phloem transport? is the tissue dead or alive? 50
* within the vascular plants are two main categories. what are they? 51
* do seedless plants require water for reproduction? why? 52
* what are the two clades of seedless vascular plants? 53
* name three types of lycophytes:
* \*\*remember, though “moss” is in their name, they aren’t actually. mosses are bryophytes.
* name the three types of pterophytes
* are vascular plants sporophyte or gametophyte dominant? (longest-lived) 57
* are the sporophytes dependent upon the gametophytes? 57
* bryophytes do not have roots, vascular plants do. what are three functions of roots?58
* which go together? lycophyte, pterophyte, microphylls, megaphylls. what are microphylls and megaphylls?
* sporophylls are modified leaves that bear sporangia. they are located in different places on the lycophyta and pterophyta. which structure goes with which? 60
* in ferns, describe the following parts: fiddlehead, leaflet, leaf, rhizome, midrib, roots 62
* in ferns, describe the following parts: frond, sorus, sporangia, inusium. 63
* what is the nutritional relationship between fern sporophytes and gametophytes? 64
* in most species, does the gametophyte produce only male/female or both? 64 why?
* are most seedless vascular plants homosporous or heterosporous?
* in homosprous plants, what is the sexuality of the gametophyte produced?
* all seed plants (and a few seedless vasculars) are homosporous or heterosporous? 67
* in heterosporous plants, explain the sexuality of the next (gametophyte) generation. what are the types of reproductive structures contained in the gametophyte?
* what is produced in the megaspore? what about the microspore?