

Appendix F Draft Taxonomy for Museum Collections to be used in the Computerized Catalog

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1. 2. 3. 4. 5. 6. 7. 8. 9. 1

MONERA

schizomycetes---slime molds
cyanophyta---bluegreen algae

ANIMALIA---animals

protozoa---single celled organisms
porifera---sponges
mesozoa---mesozoans
coelenterata(cnidaria)---coelenterates
anthozoa---corals, sea anemones
hydrozoa---hydroids
scyphozoa---jellyfishes
ctenophora---combjellies
platyhelminthes---flatworms
cestoda---tapeworms
trematoda---flukes
turbellaria---free-living flatworms
nemertina(rhynchozoela)---nemertine worms
acanthocephala---thorny-headed worms
aschelminthes---aschelminths
gastrotricha---gastrotrichs
kinorhyncha---kinorhynchs
nematoda---roundworms
nematomorpha---horsethair worms
entoprocta---entoprocts
priapulida---priapulids
ectoprocta(bryozoa)---bryozoans
gymnolaemata
phylactolaemata
phoronida---lophophorates
brachiopoda---brachiopods
articulata---hinged-valve brachiopods
inarticulata---hingless brachiopods
mollusca---molluscs
amphineura(polyplacophora)---chitons
aplacophora---solenogasters
cephalopoda---squid, octopus, nautilus
gastropoda---snails
monoplacophora---monoplacophores
pelecypoda---bivalved molluscs (clams, oysters, mussels)
scaphopoda---tusk shells
sipunculida---sipunculids
echiurida---marine proboscis worms
annelida---segmented worms
hirudinea---leaches
oligochaeta---earthworms
polychaeta---marine worms
onychophora---onychophorans
tardigrada---water bears
pentastomida---pentastomid parasites

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.
- arthropoda
- chelicera---chelicerates
 - arachnida---spiders, tics, scorpions, whip-tail scorpions
 - chilopoda---centipedes
 - crustacea---aquatic and marine mandibulates
 - branchiopoda---branchiopods
 - cirripedia---barnacles
 - copepoda---copepods
 - eucarida---eucarids
 - hoplocarida---hoplocarids
 - malacostraca---malacostracans
 - ostracoda---ostracods
 - peracarida---peracarids
 - phyllocarida---phyllocarids
 - syncarida---syncarids
 - diplopoda---millipedes
 - eurypoterida(extinct)---giant water scorpions
 - insecta---insects
 - anoplura---sucking lice
 - coleoptera---beetles
 - collembola---springtails
 - dermaptera---earwigs
 - diptera---flies, craneflies
 - embiopota---web-spinners
 - ephemeroptera---mayflies
 - hemiptera---bugs
 - homoptera---cicadas, hoppers, whiteflies, aphids,
 - scale insects
 - hymenoptera---sawflies, ichneumons, chalcids, ants,
 - wasps, bees
 - isoptera---termites
 - lepidoptera---butterflies and moths
 - mallophaga---chewing lice
 - meoptera---scorpionflies
 - neuroptera---dobsonflies, fishflies, alderflies,
 - lacewings, antlions
 - odonata---dragonflies, damselflies
 - orthoptera---grasshoppers, crickets, cockroaches,
 - mantids, walkingsticks
 - plecoptera---stoneflies
 - protura---proturans
 - psocoptera---booklice, barklice
 - siphonaptera---fleas
 - strepsiptera---twisted-winged parasites
 - thysanura---bristletails
 - trichoptera---caddisflies
 - zoraptera---zorapterans
 - pauropoda---pauropods
 - pycnogonida---pycnogonids (pantopods)
 - symphyla
 - xyphosura---horseshoe crabs

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|----|----|----|----|----|----|----|----|----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|----|----|----|----|----|----|----|----|----|
- trilobita(extinct)---trilobites
 echinodermata---echinoderms
 asteriodea---starfish
 crinoidea---sea lillies, feather stars
 echinoidea---sea urchins
 holothuroidea---sea cucumbers
 ophiuroida---brittle stars
 chaetognatha---arrow worms
 pogonophora---beard worms
 hemichordata---hemichordates
 enteropneusta---acorn worms
 pterobranchia---pterobranchs
 chordata
 urochordata---tunicates
 ascidiacea---sea squirts
 larvacea---appendicularians
 thaliacea---scalps
 vertebrata---vertebrates
 agnatha
 cyclostomata(marsipobranchii)---cyclostomates
 myxiniiformes---hagfishes
 petromyzontiforma-s---lampreys
 ostracodermi(extinct)---ostracoderms
 placodermi
 acanthodii(extinct)
 antiarchi(extinct)
 arthrodira(extinct)
 macropetalichthyida(extinct)
 phenanida(extinct)
 chondrichthyes
 elasmobranchii
 cladoselachiformes(extinct)
 rajiiformes(hypotremata or batoidei)
 ---skates, rays
 squaliformes(pleurotremata)---sharks
 xenacanthiformis(extinct)
 holocephali
 chimaeriformes---chimaeras
 chondrencheliformes(extinct)
 osteichthyes
 actinopterygii
 acipensiriformes---sturgeons, paddlefishes
 amiiformes---bowfin
 anguilliformes(apodes)---morays,
 ---longneck eels, freshwater eels
 ateleopiformes---deepsea ateleopids
 bathyclupeiformes---deepsea herrings
 batrachoidiformes(haplodoci)---toadfishes
 beloniformes(syngnathii)---flying fish,
 ---needle fishes
 beryciformes---lanterneye fishes, beard
 ---fishes, squirrel fishes,
 ---pinecone fishes
 clupeiformes---smelts, salmon, trouts,
 ---anchovies, herring, tarpons,
 ---bone fishes, whitefishes

1.	2.	3.	4.	5.	6.	7.	8.	9.	1
					cypriniformes (ostariophysii)---	characids,			
						---gasteropelecids, loaches,			
						---catfishes, electric eels,			
						---minnows, carps			
					cyprinodontiformes (microcyprini)---				
						---killifishes, topminnows,			
						---livebearers, cavefishes			
					echeneiformes (discocephali)---	shark sucke			
					gadiformes (anacanthini)---	codfishes,			
						---hakes, grenadiers			
					galaxiiformes---	galaxiids (New Zealand trou			
					gasterosteiformes (thoracostei)---	seahorse			
						---sticklebacks, tube snouts,			
						---trumpet fishes			
					giganturiformes---	deep sea giganturids			
					halosauriformes (lyopomi)---	halosaurid eel			
					gobiesociformes (xenopteri)---	cling fishes			
					lampridiformes (allotriognathi)---	opahs,			
						---tube-eyes, crest fishes,			
						---oar fishes, ribbon fishes			
					lepisosteiformes---	gars			
					lophiiformes (pediculati)---	goose fishes			
						---goose fishes, frog fishes,			
						---angler fishes, bat fishes			
					mastacembeliformes (opisthomi)---				
						---mastacembelid eels			
					mormyriiformes (scyphophori)---	mormyriads,			
						---gymnarchids			
					myctophiformes (iniomi)---	lizard fishes,			
						---pearl eyes, lantern fishes			
					notocanthiformes (heteromi)---	spiny eels			
					ophicephaliformes (labyrinthici, in part)				
						---snake heads			
					pegasiformes (hypostomides)---	sea moths			
					perciformes (percomorphi)---	snappers,			
						---perches, darters, sunfishes,			
						---black basses, grunts, cichlids,			
						---wrasses, mackerels, tunas,			
						---swordfishes, gobies, mud-			
						---skippers, sculpins, flounders,			
						---barracudas			
					percopsiformes (salaopercae)---	trout-perch			
						---pirate-perches			
					phallostethiformes---	priapium fishes			
					saccopharyngiformes (lyomeri)---	gulpers,			
						---swallowers			
					stephanoberyciformes (xenoberyas)---				
						---pricklefishes, rodeletiids			
					synbranchiformes (synbranchii)---	cuchia,			
						---swamp eels			
					tetraodontiformes (plectognathi)---	puffers,			
						---triggerfishes, ocean sunfishes			
					zeiformes (zeomorphi)---	dories, boarfishes			

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|----|----|----|----|----|----|----|----|----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|----|----|----|----|----|----|----|----|----|
- amphibia---amphibians
 apsidospondyli
 labyrinthodontia(extinct)
 anthracosauria(extinct)
 temnospondyli(extinct)
 salientia---frogs and toads
 acris---cricket frogs
 ascaphus---tailed frogs
 bufo---toads
 gastrophryne---narrowmouth to
 hyla---treefrogs
 hylactophryne---barking frogs
 hypopachus---sheep frogs
 leptodactylus---white-lipped-
 --- -frogs
 limnaeodius---grass frogs
 osteopilus---west indian tree-
 --- -frogs
 proanura(extinct)
 pseudacaris---chorus frogs
 pternohyla---burrowing tree-
 --- -frogs
 rana---true frogs
 rhinophrynus---burrowing frogs
 scaphiopus---spadefoot toads
 smilisca---mexican treefrogs
 syrrhophus---chirping frogs
 lepospondyli
 aistopoda
 caudata (urodela)---salamanders
 ambystoma---mole salamanders
 amphiuma---amphiumas
 aneides---climbing salamanders
 batrachoseps---slender salaman-
 --- -ders
 cryptobranchus---hellbenders
 desmognathus---dusky salamander
 dicamptodon---giant salamanders
 ensatina---ensatinas
 euryceia---brook salamanders
 gryinophilus---spring salaman-
 --- -ders
 haideotriton---georgia blind
 --- salamanders
 hemidactylum---four toed
 --- salamanders
 leurognathus---shovelnose
 --- salamanders
 necturus---waterdogs, mudpuppie
 notophthalmus---eastern newts
 phaeognathus---red hills
 --- salamanders
 plethodon---woodland salamander
 pseudobranchus---dwarf sirens
 pseudotriton---red salamanders
 rhyacotriton---olympic salaman-
 --- -ders

6.

1.	2.	3.	4.	5.	6.	7.	8.	9.	1
						siren---sirens			
						stereochilus---many-lined			
						---salamanders			
						taracha---pacific newts			
						typhlomolge---texas blind			
						---salamanders			
						typhlotriton---grotto salaman-			
						--- -der			
				reptilia---reptiles					
				anapsida					
					chelonia(testudines)---turtles				
					caretta---loggerhead sea turtle				
					chelonia---green sea turtles				
					chelydra---snapping turtles				
					chrysemys---basking turtles				
					clemmys---pond turtles				
					deirochelys---chicken turtles				
					dermochelys---leatherback				
					---sea turtles				
					emydoidea---blanding's turtles				
					eretmochelys---hawksbill				
					---sea turtles				
					gopherus---gopher tortoises				
					graptemys---map turtles				
					kinosternon---mud turtles				
					lepidochelys---ridley sea				
					---turtles				
					macroclemys---alligator snappin;				
					---turtles				
					malaclemys---diamondback terra-				
					--- -pins				
					sternotherus---musk turtles				
					terrapene---box turtles				
					trionyx---softshell turtles				
				archosauria					
					crocodilia---crocodilians				
					.. crocodylus---crocodiles				
					ornithischia(extinct)				
					pterosauria(extinct)				
					saurischia(extinct)				
					thecondontia(extinct)				
				ichthyopterygia					
					ichthyosauria (extinct)				
				lepidosauria					
					eosuchia				
					rhynchocephalia---sphenodon				
					sauria---lizards				
					anniella---legless lizarda				
					anolis---anoles				
					callisaurus---zebratail lizards				

1.	2.	3.	4.	5.	6.	7.	8.	9.
						cnemidophorus--whiptails, ---racerunners		
						coleonyx--banded geckos		
						cophosaurus--greater earless ---lizards		
						crotaphytus--collared lizards		
						dipsosaurus---desert iguanas		
						eumeces---skinks		
						gambelia---leopard lizards		
						gerrhonotus---alligator lizard		
						heloderma---gila monsters		
						holbrookia---earless lizards		
						neoseps---sand skinks		
						ophisaurus---glass lizards		
						petrosaurus---rock lizards		
						phrynosoma---horned lizards		
						phyllodactylus---leaf-toed ---geckos		
						rhineura---worm lizards		
						saromalus---chuckwallas		
						sceloporus---spiny lizards		
						scincella---ground skinks		
						sphaerodactylus---dwarf geckos		
						uma---fringe-toed lizards		
						urosaurus---tree lizards		
						uta---side-blotched lizards		
						xantusia---night lizards		
					serpentes--snakes			
						agkistrodon---copperheads, ---cottonmouths		
						arizona---glossy snakes		
						carphophis---worm snakes		
						cemophora---scarlet snakes		
						charina---rubber boas		
						chilomeniscus---sand snakes		
						chionactis---shovelnose snakes		
						clonophis---kirtland's snakes		
						coluber---racers		
						coniophanes---black-striped sna		
						crotalus---rattlesnakes		
						diadophis---ringneck snakes		
						drymarchon---indigo snakes		
						drymobius---speckled racers		
						elaphe---rat snakes		
						farancia---mud and rainbow snak		
						ficimia---mexican hooknose snak		
						gyalopion---plateau hooknose ---snakes		
						heterodon---hognose snakes		
						hypsiglena---night snakes		
						lampropeltis---kingsnakes and ---milk snakes		

1.	2.	3.	4.	5.	6.	7.	8.	9.
								ryncopidae---skimmers
								scolopacidae---woodcock, snipe
								---sandpipers
								stercorariidae---jaegers, skuas
								ciconiiformes
								ardeidae---herons, bitterns
								ciconiidae---storks, wood ibise
								phoenicopteridae---flamingos
								threskiornithidae---ibises,
								---spoonbills
								columbiformes
								columbidae---pigeons and doves
								coraciiformes
								alcedinidae---kingfishers
								cuculiformes
								cuculidae---cuckoos, roadrunner
								---anis
								dinornithiformes (extinct)
								falconiformes
								accipitridae---hawks, old world
								---vultures, harriers
								cathartidae---american vultures
								falconidae---caracaras, falcons
								pandionidae---ospreys
								galliformes
								cracidae---curassows, guans,
								---chachalacas
								meleagrididae---turkeys
								phasianidae---quail, pheasants,
								---peacocks
								tetraonidae---grouse, ptarmigan
								gaviiformes
								gaviidae---loons
								gruiformes
								aramidae---limpkins
								gruidae---cranes
								rallidae---rails, gallinules,
								---coots
								hesperornithiformes (extinct)
								ichthyornithiformes (extinct)
								passeriformes
								alaudidae---larks
								bombcylillidae---waxwings
								certhiidae---creepers
								chamaeidae---wrentits
								cinclidae---dippers
								coerebidae---honeycreepers
								corvidae---jays, magpies, crows
								cotingidae---cotingas
								fringillidae--- grosbeaks, finches
								---sparrows, buntings
								hirundinidae---swallows
								icteridae---meadowlarks,
								---blackbirds, troupia
								laniidae---shrikes
								mimidae---mockingbirds, thrashers
								motacillidae---wagtails, pipits

embiziidae →

1.	2.	3.	4.	5.	6.	7.	8.	9.
								muscicapidae---thrushes, ---solitaires, blueb. ---old world warbler ---gnatcatchers, ---kinglets paridae---titmice, verdins ---bushtits parulidae---wood warblers ploceidae---weaver finches prunellidae---accentors ptilonotidae---silky flycatcher sittidae---nuthatches sturnidae---starlings thraupidae---tanagers troglodytidae---wrens tyrannidae---tyrant flycatcher vireonidae---vireos pelecaniiformes anhingidae---darters fregatidae---frigate-birds pelecanidae---pelecan phaethontidae---tropicbirds phalacrocoracidae---cormorants sulidae---boobies, gannets piciformes picidae podicipediformes podicipedidae---grebes procellariiformes diomedidae---albatrosses hydrobatidae---storm petrels procellariidae---shearwaters, ---fulmars psittaciformes psittacidae---lories, parrots ---macaws strigiformes strigidae---typical owls tytonidae---barn owls trogoniformes trogonidae---trogons <u>mammalia</u> prototheria monotremata---echidna, duckbill platypus allotheria multituberculata(extinct) "uncertain" triconodonta(extinct) theria-pantotheria pantotheria(extinct) symetrodonta(extinct) theria-metatheria marsupialia---opossums theria-eutheria

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|----|----|----|----|----|----|----|----|----|-----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. |
|----|----|----|----|----|----|----|----|----|-----|
- artiodactyla---even-toed ungulates
 antilocapridae---peccaries
 bovidae---cattle, bison, goat,
 ---sheep, muskox
 cervidae---cervids (deer, moose,
 ---elk, caribou)
 suidae---pigs
 tayassuidae---peccaries
- carnivora---carnivores
 canidae---canids (coyotes, dogs,
 ---wolves, foxes)
 felidae---cats
 mustelids---skunks, weasels, mink
 ---wolverine, badger,
 ---otters, ferret, fisher
 ---marten, ermine
 procyonidae---ringtail, racoon,
 ---coati
 ursidae---bears
- cetacea---cetaceans
 balaenidae---baleen whales
 balaenopteridae---balaenopterid
 ---whales
 delphinidae---dolphins and
 ---porpoises
 eschrichtidae---gray whale
 kogidae---pygmy sperm whales
 monodontidae---beluga and narwhal
 physeteridae---sperm whale
 ziphidae---beaked whales
- chiroptera---bats
 molossidae---molossid bats
 mormoopidae---mormoopid bats
 phyllostomatidae---phyllostomatid
 bats
 vespertilionidae---vespertilionid
 bats
- edentata---edentates
 dasypodidae---armadillos
- insectivora---insectivores
 soricidae---shrews
 talpidae---moles
- lagomorpha---lagomorphs
 leporidae---hares and rabbits
 ochotonidae---pikas
- pinnipedia
 otariidae---eared seals
 phocidae---hair seals

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

rodentia---rodents

- aplodontidae---mountain beaver
- capromyidae---capromyds (nutria)
- castoridae---beavers
- cricetidae---new world rats and mice
- erethizontidae---new world porcupines
- geomyidae---pocket gophers
- heteromyidae---heteromyids ^{10 new species}
- muridae---old world rats and mice
- sciuridae---squirrels
- zapotidae---jumping mice

sirenia--- seacows

- trichechidae---manatees

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|----|----|----|----|----|----|----|----|----|---|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 1 |
|----|----|----|----|----|----|----|----|----|---|
- PLANTAE---plants
- thallophyta---thallus plants
 - euglenophyta---euglena
 - chlorophyta---green algae
 - charophyceae
 - chlorophyceae
 - chrysophyta---yellow-green/and golden brown algae; diatoms
 - bacillariophyceae
 - chrysophyceae
 - xanthophyceae
 - pyrrhophyta---dinoflagellates
 - phaeophyta---brown algae
 - rhodophyta---red algae
 - myxomycophyta---slime molds or slime fungi
 - acrasiae
 - labyrinthuleae
 - myxomycetes
 - plasmodiophoreae
 - eumycophyta---true fungi
 - ascomycetes---sac fungi
 - basidiomycetes---basidium fungi, club fungi
 - fungi imperfecti---imperfect fungi
 - phycomycetes---algal fungi
 - embryophyta
 - bryophyta---bryophytes
 - anthocerotae---horned liverworts or hornworts
 - hepaticae---liverworts
 - musci---mosses
 - tracheophyta---vascular plants
 - psilopsida---psilopsids
 - psilophytales(extinct)
 - psilotales---tsilotum, tmesipteris
 - lycopsida
 - isoetales---quillworts
 - lepidodendrales(extinct)---giant club mosses
 - lycopodiales---club mosses
 - selaginellales---small club mosses
 - sphenopsida
 - calamitales---calamites
 - equisetales---horsetails
 - sphenophyllales(extinct)
 - pteropsida
 - filicinae---ferns
 - filicales---typical ferns
 - marattiales---marattiaceous ferns
 - ophioglossales---adder's tongue ferns
 - gymnospermae
 - bennettitales(extinct)
 - cycadales---cycads
 - coniferales---conifers
 - cordaitales---early conifers(extinct)
 - ginkgoales---ginkos
 - gnetales---ephedras
 - angiospermae

1. 2. 3. 4. 5. 6. 7. 8. 9. 1

dicotyledonae

acanthaceae---acanthus
 aceraceae---maples
 adoxaceae
 agavaceae
 alzoaceae---mesembryanthemum
 amaranthaceae---amaranths
 anacardiaceae---cashews
 amonaceae---custard-apple
 apiaceae---carrots
 apocynaceae---dogbane
 aponogetonaceae---aponogetone
 aquifoliacea---holly
 araliaceae---ginseng
 aristolochiaceae---birthwort
 asclepiadaceae---milkweed
 asteraceae---composit
 balanophoraceae---balanophorales
 balsaminaceae---balsam
 basellaceae---basella
 batidaceae---batis
 begoniaceae---begonias
 berberidaceae---barberry
 betulaceae---birch family
 bignoniaceae---bignonia
 bixaceae---bixa
 bombacaceae---bombax
 boraginaceae---borag
 brassicaceae---mustard
 brunelliaceae---South American rose
 burseraceae---bursera
 buxaceae---boxwood
 cactaceae---cactus
 callitrichaceae---water starwort
 calycanthaceae---calycanthus
 calyceraceae---calycera
 campanulaceae---bell flower
 canellaceae---wild cinnamon
 capparidaceae---caper
 caprifoliaceae---honeysuckle
 caricaceae---carica
 caryophyllaceae---pinks
 casuarinaceae---casuarina
 celastraceae---staff-tree
 ceratophyllaceae---hornwort
 chenopodiaceae---goosefoot
 chloranthaceae---chloranthus
 cistaceae---rock-rose
 clethraceae---pepperbush
 clusiaceae---garcinia
 combretaceae---combretum
 conmaraceae---pan tropic rose

1.	2.	3.	4.	5.	6.	7.	8.	9.
					convolvulaceae---	morning glory		
					cornaceae---	dogwood		
					corynocarpaceae			
					crassulaceae---	orpins		
					crossosomataceae---	crossoma		
					cucurbitaceae---	gourd		
					cunoniaceae---	cuconia		
					cyrtillaceae---	cyrilla		
					datiscaceae---	datisca		
					diapensiaceae---	diapensia		
					dilleniaceae---	tropical dillenia		
					dipsacaceae---	teasel		
					droseraceae---	sundew		
					ebenaceae---	ebony		
					elaegnaceae---	oleaster		
					elaecarpaceae---	elaecarpus		
					elatinaceae---	waterwort		
					empetraceae---	crowberry		
					epacridaceae---	epacris		
					ericaceae---	heath		
					erythroxyllaceae---	coco		
					euphorbiaceae---	spurge		
					fabaceae			
					fagaceae---	beech		
					flacouftiaceae---	flacourtia		
					flagellariaceae---	candlewood		
					frankeniaceae---	frankenia		
					garryaceae---	garrya		
					gentianaceae---	gentian		
					geraniaceae---	geranium		
					gesneriaceae---	gesneria		
					goodeniaceae---	goodenia		
					haloragaceae---	water milfoil		
					hamamelidaceae---	witch-hazel		
					hernaniaceae---	hernandia		
					hippocastanaceae---	horse-chestnut		
					hippuridaceae---	hippuris		
					hydrophyllaceae---	waterleaf		
					icacinaceae---	icacina		
					illiciaceae---	illicium		
					iridaceae---	iris		
					juglandaceae---	walnut		
					krameriaceae			
					lamiaceae---	mint		
					lardizabalaceae---	lardizabala		
					lauraceae---	laurel		
					leitneriaceae---	corkwood		
					lemnoaceae---	lemnoa		
					lentibulariaceae---	bladderwort		
					limnanthaceae---	limnethus		
					linaceae---	flax		
					loasaceae---	loasa		
					loganiaceae---	logania		
					loranthaceae---	mistletoe		
					lythraceae---	loosestrife		

1.	2.	3.	4.	5.	6.	7.	8.	9.	1
					magnoliaceae	---	magnolia		
					malpighiaceae	---	malpighia		
					malvaceae	---	mallow		
					marcograviaceae				
					martyniaceae	---	martynia		
					melastomataceae	---	melastoma		
					melianthaceae	---	melianthus		
					menispermaceae	---	moonseed		
					menyanthaceae	---	buckbean, bogbean		
					moraceae	---	mulberry		
					moringaceae	---	moring		
					musaceae	---	banana		
					myoporaceae	---	myopora		
					myricaceae	---	sweetgale		
					myrsinaceae	---	myrsine		
					myrtaceae	---	myrtle		
					nyctaginaceae	---	four-o'clock		
					nympheaceae	---	water lily		
					nyssaceae	---	nyssa		
					ochraceae	---	ochra		
					olacaceae	---	olax		
					oleaceae	---	olive		
					onagraceae	---	evening primrose		
					orobanchaceae	---	broomrape		
					oxalidaceae	---	oxalis		
					paeonia	---	paeoniaceae		←
					papaveraceae	---	poppy		
					passifloraceae	---	passion-flower		
					pedaliaceae	---	pedalium		
					phytolaccaceae	---	pokeweed		
					piperaceae	---	pepper		
					pittosporaceae	---	pittosporum		
					plantaginaceae	---	plantago		
					plantanaceae	---	plane-tree		
					plumbaginaceae	---	leadwort		
					podostemaceae	---	river-weed		
					polemoniaceae	---	flox		
					polygalaceae	---	milkwort		
					polygonaceae	---	buckwheat		
					portulacaceae	---	purselane		
					primulaceae	---	primula		
					proteaceae	---	protea		
					punicaceae	---	pomegranite		
					rafflesiaceae	---	rafflesia		
					ramunculaceae	---	buttercup		
					resedaceae	---	mignonette		
					rhamnaceae	---	buckthorn		
					rhizophoraceae	---	mangrove		
					rosaceae	---	rose		
					roxburghiaceae	---			
					rubiceae	---	madder		
					rutaceae	---	rue		

1. 2. 3. 4. 5. 6. 7. 8. 9. 10

sabiaceae—sabis
 salicaceae—willow
 santalaceae—sandalwood
 sapindaceae—soapberry
 sapotaceae—sapote
 sarraceniaceae—pitcherplant
 saururaceae—lizzard's tail
 saxifragaceae—soxifrog
 schisandraceae—schisandra
 scrophulariaceae—figwort
 simaroubaceae—quassia
 solanaceae—nightshade
 staphyleaceae—bladdernut
 sterculiaceae—sterculia
 styracaceae—storox
 symplocaceae—symploce
 tamaricaceae—tamerisk
 theaceae—tea
 theophrastaceae—Joewood
 thymelaeaceae—mezeruem
 tiliaceae—linden
 trapaceae—water chestnut
 tropaeolaceae—nosturtium
 turneraceae—turnera
 ulmaceae—elm
 urticaceae—nettle
 valerianaceae—valerian
 verbenaceae—verbena
 violaceae—violet
 vitaceae—grape
 zammichelliaceae—zammichellia
 zygophyllaceae—cattrop

monocotyledonae

alismaceae—water-plantains
 araceae—arum
 arecaceae—palm
 bromeliaceae—bromeliads-pineapple
 burmanniaceae—büfmannia
 butomaceae—flowering rush
 cannaceae—canna
 commelinaceae—spiderwort
 cyperaceae—sedge
 dioscoreaceae—yam
 eriocaulaceae—pipewort
 haemodoraceae—bloodwort
 hydrocharitaceae—frog's-bit
 juncaceae—rush
 lemnaeae—duckweed
 liliaceae—lilly
 marantaceae—arrowroot

1. 2 3 4. 5. 6. 7. 8. 9. 10.

Poaceae --- grass →

- mayacaceae—bog moss
- najadaceae—najas
- orchidaceae—orchids
- pandaceae—screw-pine
- pontederiaceae—pickeralweed
- potamogetonaceae—pond weed
- scheuchzeriaceae—arrow grass
- smilacaceae
- sparganiaceae—bur-reed
- taccaceae -
- typhaceae—cat-tail
- Xyridaceae—yellow-eyed grass
- zingiberaceae—ginger
- zoosteraceae—zoostera

1. 2. 3. 4. 5. 6. 7. 8. 9.

paleozoology---animal fossils

protozoa---single celled organisms
 porifera---sponges
 mesozoa---mesozoans
 coelenterata(cnidaria)---coelenterates
 anthozoa---corals, sea anemones
 hydrozoa---hydroids
 scyphozoa---jellyfishes
 ctenophora---combjellies
 platyhelminthes---flatworms
 cestoda---tapeworms
 trematoda---flukes
 turbellaria---free-living flatworms
 nemertina(rhynchocoela)---nemertine worms
 acanthocephala---thorny-headed worms
 aschelminthes---aschelminths
 gastrotricha---gastrotrichs
 kinorhyncha---kinorhynchs
 nematoda---roundworms
 nematomorpha---horsehair worms
 entoprocta---entoprocts
 priapulida---priapulids
 ectoprocta(bryozoa)---bryozoans
 gymnolaemata
 phylactolaemata
 phoronida---lophophorates
 brachiopoda---brachiopods
 articulata---hinged-valve brachiopods
 inarticulata---hingless brachiopods
 mollusca---molluscs
 amphineura(polyplacophora)---chitons
 aplacophora---solenogasters
 cephalopoda---squid, octopus, nautilus
 gastropoda---snails
 monoplacophora---monoplacophores
 pelecypoda---bivalved molluscs (clams, oysters, mussels)
 scaphopoda---tusk shells
 sipunculida---sipunculids
 echiurida---marine proboscis worms
 annelida---segmented worms
 hirudinea---leaches
 oligochaeta---earthworms
 polychaeta---marine worms
 onychophora---onychophorans
 tardigrada---water bears
 pentastomida---pentastomid parasites

- 1.
 - 2.
 - 3.
 - 4.
 - 5.
 - 6.
 - 7.
 - 8.
 - 9.
 - 10.
- arthropoda
- chelicera---chelicerales
 - arachnida---spiders, tics, scorpions, whip-tail scorpions
 - chilopoda---centipedes
 - crustacea---aquatic and marine mandibulates
 - branchiopoda---branchiopods
 - cirripedia---barnacles
 - copepoda---copepods
 - eucarida---eucarids
 - hoplocarida---hoplocarids
 - malacostraca---malacostracans
 - ostracoda---ostracods
 - peracarida---peracarids
 - phyllocarida---phyllocarids
 - syncarida---syncarids
 - diplopoda---millipedes
 - eurypterida(extinct)---giant water scorpions
 - insecta---insects
 - anoplura---sucking lice
 - coleoptera---beetles
 - collembola---springtails
 - dermaptera---earwigs
 - diptera---flies, crane flies
 - embiopoda---web spinners
 - ephemeroptera---mayflies
 - hemiptera---bugs
 - homoptera---cicadas, hoppers, whiteflies, aphids,
 - scale insects
 - hymenoptera---sawflies, ichneumons, chalcids, ants,
 - wasps, bees
 - isoptera---termites
 - lepidoptera---butterflies and moths
 - mallophaga---chewing lice
 - mecoptera---scorpionflies
 - neuroptera---dobsonflies, fishflies, alderflies,
 - lacewings, antlions
 - odonata---dragonflies, damselflies
 - orthoptera---grasshoppers, crickets, cockroaches,
 - mantids, walkingsticks
 - plecoptera---stoneflies
 - protura---proturans
 - psocoptera---booklice, barklice
 - siphonaptera---fleas
 - strepsiptera---twisted-winged parasites
 - thysanura---bristletails
 - trichoptera---caddisflies
 - zoraptera---zorapterans
 - pauropoda---pauropods
 - pycnogonida---pycnogonids (pantopods)
 - symphyla
 - xyphosura---horseshoe crabs

1.	2.	3.	4.	5.	6.	7.	8.	9.	1
					cypriniformes(ostariophysii)---	characids,			
						---gasteropelecids, loaches,			
						---catfishes, electric eels,			
						---minnows, carps			
					cyprinodontiformes(microcyprini)---				
						---killifishes, topminnows,			
						---livebearers, cavefishes			
					echeneiformes(discocephali)---	shark sucke			
					gadiformes(anacanthini)---	codfishes,			
						---hakes, grenadiers			
					galaxiiformes--galaxiids(New Zealand trou				
					gasterosteiformes(thoracostei)---	seahorse			
						---sticklebacks, tube snouts,			
						---trumpet fishes			
					giganturiformes---	deep sea giganturids			
					halosauriformes(lyopomi)---	halosaurid eel			
					gobiesociformes(xenopteri)---	cling fishes			
					lampridiformes(allotriognathi)---	opahs,			
						---tube-eyes, crest fishes,			
						---oar fishes, ribbon fishes			
					lepisosteiformes---	gars			
					lophiiformes(pediculati)---	goose fishes			
						---goose fishes, frog fishes,			
						---angler fishes, bat fishes			
					mastacembeliformes(opisthomi)---				
						---mastacembelid eels			
					mormyriformes(scypophori)---	mormyriads,			
						---gymnarchids			
					myctophiformes(iniomi)---	lizard fishes,			
						---pearl eyes, lantern fishes			
					notocanthiformes(heteromi)---	spiny eels			
					ophicephaliformes(labyrinthici, in part)				
						---snake heads			
					pegasiformes(hypostomides)---	sea moths			
					perciformes(percomorphi)---	snappers,			
						---perches, darters, sunfishes,			
						---black basses, grunts, cichlids,			
						---wrasses, mackerels, tunas,			
						---swordfishes, gobies, mud-			
						---skippers, sculpins, flounders,			
						---barracudas			
					percopsiformes(salmo-percae)---	trout-perches,			
						---pirate-perches			
					phallostethiformes---	priapium fishes			
					saccopharyngiformes(lyomeri)---	gulpers,			
						---swallowers			
					stephanoberyciformes(xenoberyas)---				
						---pricklefishes, rodeletids			
					synbranchiformes(synbranchii)---	cuchia,			
						---swamp eels			
					tetraodontiformes(plectognathi)---	puffers,			
						---triggerfishes, ocean sunfishes			
					zeiformes(zeomorphi)---	dories, boarfishes			

- | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|-----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. |
|----|----|----|----|----|----|----|----|----|-----|
- amphibia---amphibians
 apsidospondyli
 labyrinthodontia(extinct)
 anthracosauria(extinct)
 temnospondyli(extinct)
 salientia---frogs and toads
 acris---cricket frogs
 ascaphus---tailed frogs
 bufo---toads
 gastrophyrne---narrowmouth toa
 hyla---treefrogs
 hylactophyrne---barking frogs
 hypopachus---sheep frogs
 leptodactylus---white-lipped-
 --- -frogs
 limnaoedus---grass frogs
 osteopilus---west indian tree-
 --- -frogs
 proamura(extinct)
 pseudacaris---chorus frogs
 pternohyla---burrowing tree-
 --- -frogs
 rana---true frogs
 rhizophrymus---burrowing frogs
 scaphiopus---spadefoot toads
 smilisca---mexican treefrogs
 syrrhophus---chirping frogs
 lepospondyli
 aistopoda
 caudata (urodela)---salamanders
 ambystoma---mole salamanders
 amphiuma---amphiumas
 aneides---climbing salamanders
 batrachoseps---slender salaman-
 --- -ders
 cryptobranchus---hellbenders
 desmognathus---dusky salamander:
 dicamptodon---giant salamanders
 ensatina---ensatinas
 eurycea---brook salamanders
 gryinophilus---spring salaman-
 --- -ders
 haideotriton---georgia blind
 ---salamanders
 hemidactylum---four toed
 ---salamanders
 leurognathus---shovelnose
 ---salamanders
 necturus---waterdogs, mudpuppie:
 notophthalmus---eastern newts
 phaeognathus---red hills
 ---salamanders
 plethodon---woodland salamander:
 pseudobranchus---dwarf sirens
 pseudotriton---red salamanders
 rhyacotriton---olympic salaman-
 ---ders

1.	2.	3.	4.	5.	6.	7.	8.	9.	1
							siren---sirens		
							stereochilus---many-lined		
							---salamanders		
							taracha---pacific newts		
							typhlomolge---texas blind		
							---salamanders		
							typhlotriton---grotto salaman-		
							--- -der		
						reptilia---reptiles			
						anapsida			
						chelonia(testudines)---turtles			
						caretta---loggerhead sea turtle			
						chelonia---green sea turtles			
						chelydra---snapping turtles			
						chrysemys---basking turtles			
						clemmys---pond turtles			
						deirochelys---chicken turtles			
						dermochelys---leatherback			
						---sea turtles			
						emydoidea---blanding's turtles			
						eretmochelys---hawksbill			
						---sea turtles			
						gopherus---gopher tortoises			
						graptemys---map turtles			
						kinosternon---mud turtles			
						lepidochelys---ridley sea			
						---turtles			
						macroclemys---alligator snappin;			
						---turtles			
						malaclemys---diamondback terra-			
						--- -pins			
						sternotherus---musk turtles			
						terrapene---box turtles			
						trionyx---softshell turtles			
						archosauria			
						crocodilia---crocodilians			
						.. crocodylus---crocodiles			
						ornithischia(extinct)			
						pterosauria(extinct)			
						saurischia(extinct)			
						thecondontia(extinct)			
						ichthyopterygia			
						ichthyosauria (extinct)			
						lepidosauria			
						eosuchia			
						rhynchocephalia---sphenodon			
						sauria---lizards			
						amnielia---legless lizards			
						anolis---anoles			
						callisaurus---zebratail lizards			

1.	2.	3.	4.	5.	6.	7.	8.	9.	1
						cnemidophorus	--whiptails,		
							---racers		
						coleonyx	--banded geckos		
						cophosaurus	--greater earless		
							---lizards		
						crotaphytus	--collared lizards		
						dipsosaurus	---desert iguanas		
						eumeces	---skinks		
						gambelia	---leopard lizards		
						gerrhonotus	---alligator lizards		
						heloderma	---gila monsters		
						holbrookia	---earless lizards		
						neoseps	---sand skinks		
						ophisaurus	---glass lizards		
						petrosaurus	---rock lizards		
						phrynosoma	---horned lizards		
						phyllodactylus	---leaf-toed		
							---geckos		
						rhineura	---worm lizards		
						saromalus	---chuckwallas		
						sceloporus	---spiny lizards		
						scincella	---ground skinks		
						sphaerodactylus	---dwarf geckos		
						uma	---fringe-toed lizards		
						urosaurus	---tree lizards		
						uta	---side-blotched lizards		
						xantusia	---night lizards		
						serpentes	---snakes		
						agkistrodon	---copperheads,		
							---cottonmouths		
						arizona	---glossy snakes		
						carphophis	---worm snakes		
						cemophora	---scarlet snakes		
						charina	---rubber boas		
						chilomeniscus	---sand snakes		
						chionactis	---shovelnose snakes		
						clonophis	---kirtland's snakes		
						coluber	---racers		
						coniophanes	---black-striped sna		
						crotalus	---rattlesnakes		
						diadophis	---ringneck snakes		
						drymarchon	---indigo snakes		
						drymobius	---speckled racers		
						elaphe	---rat snakes		
						farancia	---mud and rainbow snak		
						ficimia	---mexican hooknose snak		
						gyalopion	---plateau hooknose		
							---snakes		
						heterodon	---hognose snakes		
						hypsiglena	---night snakes		
						lampropeltis	---kingsnakes and		
							---milk snakes		

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
						leptodeira---	cat-eyed snakes		
						leptotyphlops---	blind snakes		
						lichanura---	roxy boas		
						masticophis---	whipsnakes and		
							---coachwhips		
						micruroides---	western coral		
							---snakes		
						micrurus---	eastern coral snakes		
						nerodia---	water snakes, salt		
							---marsh snakes		
						opheodrys---	green snakes		
						oxybelis---	vine snakes		
						phyllorhynchus---	leafnose snake		
						pituophis---	bullsnakes, pine		
							---snakes, gopher		
							---snakes		
						regina---	crayfish snakes		
						rhadinæa---	pine woods snakes		
						rhinocheilus---	longnose snakes		
						salvadora---	patchnose snakes		
						seminatrix---	swamp snakes		
						sistrurus---	pigmy rattlesnakes,		
							---massasaugas		
						sonora---	ground snakes		
						stilosoma---	short-tailed snakes		
						storeria---	brown snakes and		
							---redbelly snakes		
						tantilla---	blackhead snakes,		
							---crowned snakes		
						thamnophis---	garter snakes and		
							---ribbon snakes		
						trimorphodon---	lyre snakes		
						tropidoclonion---	lined snakes		
						virginia---	earth snakes		
						aves---	birds		
						archaeornithes	(extinct)		
						neornithes			
						aepyornithiformes	(extinct)		
						anseriformes			
							anatidae---swans, geese, ducks		
						apodiformes			
							apodidae---swifts		
							trochilidae---hummingbirds		
						caprimulgiformes			
							caprimulgidae---goatsuckers		
						charadriiformes			
							alcidae---auks, murres, puffins		
							charadriidae---plovers, turn-		
							---stones, surfbirds		
							haematopodidae---oystercatchers		
							jacanidae---jacanas		
							laridae---gulls and terns		
							phalaropodidae---phalaropes		
							recurvirostridae---avocets and		
							---stilts		

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|----|----|----|----|----|----|----|----|----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. |
|----|----|----|----|----|----|----|----|----|
- muscicapidae---thrushes,
 ---solitaires, bluebirds
 ---old world warblers
 ---gnatcatchers,
 ---kinglets
 paridae---titmice, verdins
 ---bushtits
 parulidae---wood warblers
 ploceidae---weaver finches
 prunellidae---accentors
 ptilagonatidae---silky flycatchers
 sittidae---nuthatches
 sturnidae---starlings
 thraupidae---tanagers
 troglyodytidae---wrens
 tyrannidae---tyrant flycatchers
 vireonidae---vireos
 pelecaniiformes
 anhingidae---darters
 fregatidae---frigate-birds
 pelecanidae---pelecan
 phaethontidae---tropicbirds
 phalacrocoracidae---cormorants
 sulidae---boobies, gannets
 piciformes
 picidae
 podicipediformes
 podicipedidae---grebes
 procellariiformes
 diomedeidae---albatrosses
 hydrobatidae---storm petrels
 procellariidae---shearwaters,
 ---fulmars
 psittaciformes
 psittacidae---lories, parrots
 ---macaws
 strigiformes
 strigidae---typical owls
 tytonidae---barn owls
 trogoniformes
 trogonidae---trogons
mammalia
 prototheria
 monotremata---echidna, duckbill platypus
 allotheria
 multituberculata (extinct)
 "uncertain"
 triconodonta (extinct)
 theria-pantotheria
 pantotheria (extinct)
 symetrodonta (extinct)
 theria-metatheria
 marsupialia---opossums
 theria-eutheria

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|----|----|----|----|----|----|----|----|----|-----|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 10. |
|----|----|----|----|----|----|----|----|----|-----|
- artiodactyla---even-toed ungulates
 antilocapridae---peccaries
 bovidae---cattle, bison, goat,
 ---sheep, muskox
 cervidae---cervids (deer, moose,
 ---elk, caribou)
 suidae---pigs
 tayassuidae---peccaries
- carnivora---carnivores
 canidae---canids (coyotes, dogs,
 ---wolves, foxes)
 felidae---cats
 mustelids---skunks, weasels, mink
 ---wolverine, badger,
 ---otters, ferret, fisher
 ---marten, ermine
 procyonidae---ringtail, racoon,
 ---coati
 ursidae---bears
- cetacea---cetaceans
 balaenidae---baleen whales
 balaenopteridae---balaenopterid
 ---whales
 delphinidae---dolphins and
 ---porpoises
 eschrichtidae---gray whale
 kogidae---pygmy sperm whales
 monodontidae---beluga and narwhal
 physeteridae---sperm whale
 ziphidae---beaked whales
- chiroptera---bats
 molossidae---molossid bats
 mormoopidae---mormoopid bats
 phyllostomatidae---phyllostomatid
 bats
 vespertilionidae---vespertilionid
 bats
- edentata---edentates
 dasypodidae---armadillos
- insectivora---insectivores
 soricidae---shrews
 talpidae---moles
- lagomorpha---lagomorphs
 leporidae---hares and rabbits
 ochotonidae---pikas
- pinnipedia
 otariidae---eared seals
 phocidae---hair seals

1. 2. 3. 4. 5. 6. 7. 8. 9. 10.

rodentia---rodents

aplodontidae---mountain beaver

capromyidae---capromyds (nutria)

castoridae---beavers

cricetidae---new world rats and
mice

erethizontidae---new world

porcupines

geomyidae---pocket gophers

heteromyidae---heteromyids ^{jumping mice}

muridae---old world rats and mice

sciuridae---squirrels

zapodidae---jumping mice

sirenia---seacows

trichechidae---manatees

- | | | | | | | | | | |
|----|----|----|----|----|----|----|----|----|---|
| 1. | 2. | 3. | 4. | 5. | 6. | 7. | 8. | 9. | 1 |
|----|----|----|----|----|----|----|----|----|---|
- paleobotany---plant fossils
- thallophyta---thallus plants
 - euglenophyta---euglena
 - chlorophyta---green algae
 - charophyceae
 - chlorophyceae
 - chrysophyta---yellow-green/^{and} golden brown algae; diatoms
 - bacillariophyceae
 - chrysophyceae
 - xanthophyceae
 - pyrrhophyta---dinoflagellates
 - phaeophyta---brown algae
 - rhodophyta---red algae
 - myxomycophyta---slime molds or slime fungi
 - acrasiae
 - labyrinthuleae
 - myxomycetes
 - plasmodiophoreae
 - eumycophyta---true fungi
 - ascomyzetes---sac fungi
 - basidiomycetes---basidium fungi, club fungi
 - fungi imperfecti---imperfect fungi
 - phycomycetes---algal fungi
 - embryophyta
 - bryophyta---bryophytes
 - anthocerotae---horned liverworts or hornworts
 - hepaticae---liverworts
 - musci---mosses
 - tracheophyta---vascular plants
 - psilopsida---psilopsids
 - psilophytales(extinct)
 - psilotales---tsilotum, mesopteris
 - lycopsida
 - isoetales---quillworts
 - lepidodendrales(extinct)---giant club mosses
 - lycopodiales---club mosses
 - selaginellales---small club mosses
 - sphenopsida
 - calamitales---calamites
 - equisetales---horsetails
 - sphenophyllales(extinct)
 - pteropsida
 - filicinae---ferns
 - filicales---typical ferns
 - marattiales---marattiaceous ferns
 - ophioglossales---adder's tongue ferns
 - gymnospermae
 - bennettitales(extinct)
 - cycadales---cycads
 - coniferales---conifers
 - cordaitales---early conifers(extinct)
 - ginkgoales---ginkos
 - gnetales---ephedras
 - angiospermae

1. 2. 3. 4. 5. 6. 7. 8. 9.

dicotyledonae

acanthaceae---acanthus
 aceraceae---maples
 adoxaceae
 agavaceae
 aizoaceae---mesembryanthemmm
 amaranthaceae---amaranths
 anacardiaceae---cashews
 ammonaceae---custard-apple
 apiaceae---carrots
 apocynaceae---dogbane
 aponogetonaceae---aponogetone
 aquifoliaceae---holly
 araliaceae---ginseng
 aristolochiaceae---birthwort
 asclepiadaceae---milkweed
 asteraceae---compositis
 balanophoraceae---balanophorales
 balsaminaceae---balsam
 basellaceae---basella
 batidaceae---batis
 begoniaceae---begonias
 berberidaceae---barberry
 betulaceae---birch bamily
 bignoniaceae---bignonia
 bixaceae---bixa
 bombacaceae---bombax
 boraginaceae---borag
 brassicaceae---mustard
 brumelliaceae---South American rose
 burseraceae---bursera
 buxaceae---boxwood
 cactaceae---cactus
 callitrichaceae---water starwort
 calycanthaceae---calycanthus
 calyceraceae---calycera
 campanulaceae---bell flower
 canellaceae---wild cinnamon
 capparidaceae---caper
 caprifoliaceae---honeysuckle
 caricaceae---carica
 caryophyllaceae---pinks
 casuarinaceae---casuarina
 celastraceae---staff-tree
 ceratophyllaceae---hornwort
 chenopodiaceae---goosefoot
 chloranthaceae---chloranthus
 cistaceae---rock-rose
 clethraceae---pepperbush
 clusiaceae---garcinia
 combretaceae---combretum
 connaraceae---pan tropic rose

1.	2.	3.	4.	5.	6.	7.	8.	9.	1
					convolvulaceae---morning glory				
					cornaceae---dogwood				
					corynocarpaceae				
					crassulaceae---orpins				
					crossosomataceae---crossoma				
					cucurbitaceae---gourd				
					cunoniaceae---cuconia				
					cyrillaceae---cyrilla				
					datisceae---datisca				
					diapensiaceae---diapensia				
					dilleniaceae---tropical dillenia				
					dipsacaceae---teasel				
					droseraceae---sundew				
					ebenaceae---ebony				
					elaeagnaceae---oleaster				
					elaecarpaceae---elaecarpus				
					elatinaceae---waterwort				
					empetraceae---crowberry				
					epacridaceae---epacris				
					ericaceae---heath				
					erythroxylaceae---coco				
					euphorbiaceae---spurge				
					fabaceae				
					fagaceae---beech				
					flacourtiaceae---flacourtia				
					flagellariaceae---candlewood				
					frankeniaceae---frankenia				
					garryaceae---garrya				
					gentianaceae---gentian				
					geraniaceae---geranium				
					gesneriaceae---gesneria				
					goodeniaceae---goodenia				
					haloragaceae---water milfoil				
					hamamelidaceae---witch-hazel				
					hernaniaceae---hernandia				
					hippocastanaceae---horse-chestnut				
					hippuridaceae---hippuris				
					hydrophyllaceae---waterleaf				
					icacinaceae---icacina				
					illiciaceae---illicium				
					iridaceae---iris				
					juglandaceae---walnut				
					krameriaceae				
					lamiaceae---mint				
					lardizabalaceae---lardizabala				
					lauraceae---laurel				
					leitneriaceae---corkwood				
					lemnaceae---lemna				
					lentibulariaceae---bladderwort				
					limnaceae---limnaceae				
					linaceae---flax				
					loasaceae---loasa				
					loganiaceae---logania				
					loranthaceae---mistletoe				
					lythraceae---loosestrife				

1.	2.	3.	4.	5.	6.	7.	8.	9.
					magnoliaceae	---	magnolia	
					malpighiaceae	---	malpighia	
					malvaceae	---	mallow	
					marcograviaceae			
					martyniaceae	---	martynia	
					melastomataceae	---	melastoma	
					melianthaceae	---	melianthus	
					menispermaceae	---	moonseed	
					menyanthaceae	---	buckbean, bogbean	
					moraceae	---	mulberry	
					moringaceae	---	moring	
					musaceae	---	banana	
					myoporaceae	---	myopora	
					myricaceae	---	sweetgale	
					myrsinaceae	---	myrsine	
					myrtaceae	---	myrtle	
					nyctaginaceae	---	four-o'clock	
					nymphaeaceae	---	water lilly	
					nyssaceae	---	nyssa	
					ochraceae	---	ochra	
					olacaceae	---	olax	
					oleaceae	---	olive	
					onagraceae	---	evening primrose	
					orobanchaceae	---	broomrape	
					oxalidaceae	---	oxalis	
					paeonia	---	paeoniaceae ←	
					papaveraceae	---	poppy	
					passifloraceae	---	passion-flower	
					pedaliaceae	---	pedalium	
					phytolaccaceae	---	pokeweed	
					piperaceae	---	pepper	
					pittosporaceae	---	pittosporum	
					plantaginaceae	---	plantago	
					plantanaceae	---	plane-tree	
					plumbaginaceae	---	leadwort	
					podostemaceae	---	river-weed	
					polemoniaceae	---	flox	
					polygalaceae	---	milkwort	
					polygonaceae	---	buckwheat	
					portulacaceae	---	purselane	
					primulaceae	---	primula	
					proteaceae	---	protea	
					punicaceae	---	pomegranite	
					rafflesiaceae	---	rafflesia	
					ranunculaceae	---	buttercup	
					resedaceae	---	rigonette	
					rhamnaceae	---	buckthorn	
					rhizophoraceae	---	mangrove	
					rosaceae	---	rose	
					roxburghiaceae	---		
					rubiceae	---	madder	
					rutaceae	---	rue	

1. 2. 3. 4. 5. 6. 7. 8. 9. 1

sabiaceae—sabia
 salicaceae—willow
 santalaceae—sandalwood
 sapindaceae—soapberry
 sapotaceae—sapote
 sarraceniaceae—pitcherplant
 saururaceae—lizzard's tail
 saxifragaceae—soxifrog
 schisandraceae—schisandra
 scrophulariaceae—figwort
 simaroubaceae—quassia
 solanaceae—nightshade
 staphyleaceae—bladdernut
 sterculiaceae—sterculia
 styracaceae—storox
 symplocaceae—symplocos
 tamaricaceae—tamerisk
 theaceae—tea
 theophrastaceae—Joewood
 thymelaeaceae—mezeruem
 tiliaceae—linden
 trapaceae—water chestnut
 tropaeolaceae—nosturtium
 turneraceae—turnera
 ulmaceae—elm
 urticaceae—nettle
 valerianaceae—valerian
 verbenaceae—verbena
 violaceae—violet
 vitaceae—grape
 zannichelliaceae—zannichellia
 zygophyllaceae—cattrop

monocotyledonae

alismaceae—water-plantains
 araceae—arum
 arecaceae—palm
 bromeliaceae—bromeliads-pineapple
 burmanniaceae—burmannia
 butomaceae—flowering rush
 cannaceae—canna
 commalinaceae—spiderwort
 cyperaceae—sedge
 dioscoreaceae—yam
 ericaulaceae—pipewort
 haemodoraceae—bloodwort
 hydrocharitaceae—frog's-bit
 juncaceae—rush
 lemnaeae—duckweed
 liliaceae—lilly
 marantaceae—arrowroot

1. 2 3 4. 5. 6. 7. 8. 9. 10.

mayacaceae—bog moss
 najadaceae—najas
 orchidaceae—orchids
 pandaceae—screw-pine
 pontederiaceae—pickerelweed
 potamogetonaceae—pond weed
 scheuchzeriaceae—arrow grass
 smilacaceae
 sparganiaceae—bur-reed
 taccaceae
 typhaceae—cat-tail
 Xyridaceae—yellow-eyed grass
 zingiberaceae—ginger
 zoosteraceae—zoostera

POACEAE--GRASS →

1. 2. 3. 4. 5. 6. 7. 8. 9.

geological materials
rocks

igneous rocks

undifferentiated
granite-diorite group
phyolite-andesite group
syenite group
trachyte group
basic group
ultrabasic group
lamprophyre group
carbonatite group
glass
pyroclastic rocks

metamorphic rocks

undifferentiated
schist
gneiss
granite-gneiss
migmatite
orthogneiss
paragneiss
buchite
mylonite; pseudotachylyte
metaquartzite; quartzite; crush-breccia; crush-conglomerate
psammitic rock
 undifferentiated
 granulite
 gneiss
schistose grit
semi-pelitic
 undifferentiated rock
 granulite
 gneiss
slate
phyllite
pelitic rock
 undifferentiated
 gneiss
metagreywacke
calc-silicate
 rock-undifferentiated
 schist
 gneiss
hornfels
marble; limestone
skarn
other contact rocks
porcellanite; jaspilite
amphibolite
epidiorite
granulite
charnockite
eclogite

1.	2.	3.	4.	5.	6.	7.	8.	9.
			sedimentary					
			clastic					
				undifferentiated				
				boulder				
				cobble				
				gravel				
					undifferentiated			
					coarse			
					medium			
					fine			
				conglomerate; breccio-conglomerate				
				breccia; conglomero-breccia				
				sand				
					undifferentiated			
					coarse			
					medium			
					fine			
				sandstone				
					undifferentiated			
					coarse			
					medium			
					fine			
				silt				
					undifferentiated			
					coarse			
					medium			
					fine			
				siltstone				
					undifferentiated			
					coarse			
					medium			
					fine			
				silt-clay mixtures				
					mud			
					loam			
					earth			
				clay---or,				
					claystone			
					colloid			
				mudstone---				
				shale---or,				
					argillite			
				siltstone---or,				
					mudstone			
					shale			
					association			
				chemical-biochemical				
					carbonate-rock/calcareous rock-undifferentiated			
					carbonate-rock: limestone			
					dolomite-/magnesite-rock			
					carbonate-rock			
					siderite			
					ankerite			

1.	2.	3.	4.	5.	6.	7.	8.	9.
					phosphate-rock (phosphorite undifferentiated chemical			
						apatite rock collophane rock		
						biochemical		
					silica-and silicate-rocks			
					evaporite rock; mineral			
					evaporite rock/clastic/chemical-biochemical rock ---association			
					evaporite rock/clastic rock association			
					evaporite rock/rudite/arenite association			
					evaporite rock/argillite/marl/shale association			
					evaporite rock/carbonate rock association			
					rocks composed mainly of oxides/hydroxides of ---Fe, Al, Mn and Ti			
					undifferentiated			
					Fe			
					Fe/Al (more Fe than Al)			
					Al/Fe (more Al than Fe)			
					Al			
					Mn			
					Ti			
					Fe-sulphide rocks			
					carbonaceous			
						bituminous compounds		
						liquid		
						solid/plastic		
						coal series		
					soils; residual cumuloose deposits			
					undifferentiated			
					peat			
						undifferentiated		
						blanket peat		
						hill peat		
						basin peat		
						low moor; fen		
						raised moss		
						peat/clay/soil association		
						peat/soil association		
					rock without soil formation			
					acrisols			
					cambisols			
					chernozems			
					glossisols; podzoluvisols			
					rendzinas			
					ferralsols			
					gleysols			
					phaeozems			
					lithosols			
					fluviosols			
					kastanozems			
					luvisols			
					histosols			
					nitosols			
					podzols			

1.	2.	3.	4.	5.	6.	7.	8.	9.
		arenosols						
		rhegosols						
		solonetz						
		andosols						
		rankers						
		vertisols						
		planosols						
		xerosols						
		yermosols						
		solonchaks						
		mixed mineral assemblages						
		mainly metallic minerals						
		nothing else						
		with silicate(s), undifferentiated						
		with quartz; feldspar						
		with carbonate(s)						
		with halide; nitrate; borate						
		with sulfates; phosphates						
		with oxide(s)						
		with hydrocarbons						
		with acid to intermediate igneous matrix						
		with basic to ultrabasic igneous matrix						
		with metamorphic matrix						
		with sedimentary(chemical/biochemical)matrix						
		metallic and non-metallic minerals						
		nothing else						
		with silicate(s)						
		with quartz; feldspar						
		with carbonate(s)						
		with halide; nitrate; borate						
		with sulphate(s); phosphate(s)						
		with oxide(s)						
		with hydrocarbons						
		with acid to intermediate igneous matrix						
		with basic to ultrabasic igneous matrix						
		with metamorphic matrix						
		with sedimentary(clastic) matrix						
		with sedimentary (chemical/biochemical) matrix						
		mainly non-metallic						
		nothing else						
		with silicate matrix						
		with nonsilicate matrix						
		with acid to intermediate igneous matrix						
		with basic to ultrabasic igneous matrix						
		with metamorphic matrix						
		with sedimentary (clastic) matrix						
		with sedimentary (chemical/biochemical)matrix						
		minerals						
		native elements						
		sulphides						
		sulphosalts; selenides and tellurides; arsenides; antimonides and						
		---bismuthides						
		oxides						
		simple						
		hydrous simple oxides and hydroxides						
		multiple						

