

WHITTAKER'S FIVE KINGDOMS

FEATURES KINGDOMS	TYPE OF CELL	NUMBER OF CELL	MODE OF NUTRITION	SPECIAL FEATURES	EXAMPLES
MONERA	Prokaryotic (do not have well defined nucleus and membrane bound cell organelles).	Unicellular	Autotrophic or Heterotrophic.	.Some has cell wall while some do not have cell wall.	Bacteria, Mycoplasma, Blue-green algae, Cynobacteria etc...
PROTISTA	Eukaryotic (have well defined nucleus and membrane bound organelles).	Unicellular	Autotrophs (Euglena) Hetetotrophs (protozoans).	.Have appendages for locomotion. Amoeba-pseudopodia Euglena-flagella Paramecium-cilia	Amoeba, Euglena, Paramecium etc...
FUNGI	Eukaryotic	Multicellular	Heterotrophs (saprophytes or parasites).	.Symbiotic relationship, e.g.: lichen. .Cell-wall is made up of complex sugar called chitin.	Yeast, Agaricus(mushroom), Aspergillus etc...
PLANTAE	Eukaryotic	Multicellular	Autotrophs	.Have cell-wall made of cellulose. .Have chlorophyll to perform photosynthesis.	All plants Mango tree Ferns Pines
ANIMALIA	Eukaryotic	Multicellular	Heterotrophs	.Do not have cell-wall.	All animals Man, Cat, Dog, Whale, Bat

FIVE DIVISIONS OF PLANTAE

FEATURES KINGDOMS	PLANT BODY	VASCULAR TISSUE	PRESENCE/ABSENCE OF SEEDS	EXAMPLES
THALLOPHYTA	Do not have well differentiated plant body.	Do not have vascular tissue and are predominantly aquatic.	—	Algae –red/grey/blue-green, Spirogyra, Cynobacteria etc...
BRYOPHYTA	Plant body is differentiated into stem and leaf like structures.	Do not have vascular tissue and grow near water, hence are called amphibians of plant kingdom.	—	Moss (Funaria), Marchantia, Riccia etc...
PTERIDOPHYTA	Plant body is differentiated into root, stem and leaves.	Have vascular tissue.	Do not produce seeds but have naked embryos called spores.	Marselia, Fern etc...
GYMNOSPERM	Have well differentiated plant body with woody stem.	Have vascular tissue.	Bear naked seeds and are called non-flowering plants.	Pinus, Cycas etc...
ANGIOSPERM	Have well differentiated plant body.	Have vascular tissue.	Bear seeds inside fruits and are called flowering plants.	Monocot-Wheat, Maize, Rice etc... Dicot-Pea, Groundnut, Ipomoea etc...

EIGHT PHYLLUM OF ANIMALIA/NON CHORDATES/INVERTEBRATA

FEATURES PHYLLUM	LEVEL OF ORGANISATION	NUMBER OF LAYERS OF CELLS	SYMMETRY	Coelom	SPECIAL/DISTINCTIVE FEATURES	EXAMPLES
PORIFERA	Cellular level	Group of cells	Asymmetrical	—	Body is made of pores and canals; they are non-motile and are attached to solid support.	Spongella, Euplectella
COELENTERATA	Tissue level	Diploblastic	Radial symmetry	—	Some live in colonies while some have solitary life span-hydra.	Hydra ,Coral ,Jellyfish
PLATYHELMINTHES	Organ level	Triploblastic	Bilateral symmetry	Acoelomate (do not have coelom)	They have unsegmented and flat body.	Tapeworm, Planaria
NEMATODA	Organ level	Triploblastic	Bilateral symmetry	Pseudocoelom (False coelom)	They are long, cylindrical body, pointed at both ends.	Ascaris(round worm),Wuchereria (Filarial worm)
ANNELIDA	Organ level	Triploblastic	Bilateral symmetry	Coelomates (true coelom)	They have soft body with segmented rings/annuli from head to tail.	Earthworm, Leech
ARTHROPODA	Organ level	Triploblastic	Bilateral symmetry	Ceolomic cavity is blood filled and has open circulation.	There are 3 segments- head, thorax and abdomen, have jointed appendages and exoskeleton made of chitin.	Cockroach, Spider
MOLLUSCA	Organ level	Triploblastic	Bilateral symmetry	Coelomates Ceolomic cavity is reduced	They have soft body, exoskeleton is made of shell.	Snail, Octopus
ECHINODERMATA	Organ level	Triploblastic	Bilateral symmetry	Coelomates	They have peculiar water-driven tubesystem.	Starfish

FIVE CLASSES OF VERTEBRATES

FEATURES CLASSES	HABITAT	BODY TEMPERATURE	EXOSKELETON	ENDOSKELETON	LOCOMOTION	RESPIRATION	HEART	DEVELOPMENT	EXAMPLES
PISCES	Aquatic	Cold blooded	Slimy scales	Bony OR Cartilaginous	Fins	Gills	Two chambered	Oviparous (lay eggs in water)	Bony fish- labeo, Sea horse. Cartilaginous fish-electric ray, sting ray.
AMPHIBIA	Aquatic and Terrestrial	Cold blooded	Smooth, slimy and non scaly skin	Bony	Limbs	Gills, lungs and skin	Three chambered	Oviparous (lay eggs on water)	Frog, Toad, Hyla, Salamander etc...
REPTILIA	Aquatic but mostly Terrestrial	Cold blooded	Dry scales	Bony	Limbs	Lungs	Three chambered (four in crocodile)	Oviparous (lay eggs on land)	Snakes, Lizard, Crocodile, Chameleon etc...
AVES	Arboreal (on trees)	Warm blooded	Feathers	Hollow bones	Wings	Lungs	Four chambered	Oviparous (lay eggs on land)	Crow, Parrot, Pigeon etc...
MAMMALS	Aquatic, Terrestrial and Arboreal(bat)	Warm blooded	Hair	Bones	Limbs	Lungs	Four chambered	Viviparous (except platypus and echidna)	Man, Cat, Dog, Whale, Bat etc...

NOTE:-MAMMALS HAVE EXTERNAL EAR AND MAMMARY GLANDS

Prepared By: Mrs. Asfia Bader (Secondary Girls Section)