Kingdom Animalia

PHYLA	Porifera	Cnidaria	Platyhelminthes **	Nematodes **	Annelida **	Arthropoda **	Mollusca **	Echinodermata
General features	Asymmetrical. octia, osculum, spongocoel	Nematocyst, mesoglea, diploblastic Tentacles with stinging cells, Skeleton of calcium carbonate. poisonous	Scolex, Bilateral symmetry	Round worms Cuticle, Pseudocoelom	Metameric segmentation, Setae and parapodia, Increase soil fertility	Paired limbs Chitinous exoskeleton Head thorax abdomen	Shell of calcium carbonate, Radula, mantle	Radial symmetry in adults and bilateral symmetry in larva, spiny skin, creatine phosphate,
DIGESTIVE SYSTEM	No Definite	Sac type	Sac type But absent in Tape worm	Tube within tube, mouth and anus	Tube type	Tube type	Tube type	Tube type
EXCRETORY SYSTEM	Diffusion by body surface	Diffusion by body surface	Flame cells with ducts, cilia and excretory pores. (protonephridia)	longitudinally running canals	Nephridia and nephridiopore	Malpighian tubules	Paired nephridia amoeboid cells	Amoeboid cells.way out waste by rectal caecae
NERVOUS SYSTEM	Neuron net only for water regulation	Diffused	Cerebral and ventral ganglia, nerve rings and three nerve cords	Nerve ring around pharynx and nerve cords	Simple brain double nerve cords	CNS	CNS	CNS
RESPIRATION	Diffusion	Diffusion by body surface	Diffusion by body surface	No system	General body surface by diffusion and gills in Neries	Tracheal system with spiracle Gills Book lungs in spiders	Gills and respiratory pigment haemocyanin	Gills and tube feet
CIRCULATION	No system	No	No	No	Closed, pseudohearts. blood with haemoglobin	Open, No hemoglobin, Hemocoel,	Open, hemocyanin One ventricle two auricle, blood with WBCs	Water vascular system
Reproduction	Asexually Budding Gemmules, Sexually → hermaphrodite	Budding and regeneration Polymorphism (Polyp, medusa)	Hermaphrodite, cross fertilization	Sexes separate	Hermaphrodite, trochophore larva, cross fertilization	Metamorphosisco mplete or incomplete or absent. oviparous	External fertilization	Regeneration Bipannaria larva
Examples	Sycon Spongilla Leucoselenia	Hydra,obelia, Jellyfish Corals, Sea anemone	Planaria, liverfluke Tape worm	Ascaris, pinworm	Earthworm Neries,leech	Cockroach, Ticks Butterfly, Wasp	Snail, Cuttlefish Mussel, Oyster Squid	Starfish, brittle star, sea urchin,cake urchin

Platyhelminthes (Flatworms)			
Scientific name / Common name	Primary host	Secondary host	Infestation site
Taneia solium Tape worm	Man	Cattle/cow, pig	Small intestine
Fasciola hepatica Liver fluke	Sheep (Mainly) Man Buffalo	Snail	Bile duct
Schistosoma Blood fluke	Man	Snail Insect	Blood

Aschelminthes (Round worms)		
Scientific name / Common name	Site of infestation	Symptoms
Ascaris lumbricoides	Small intestine, blood	Cough, fever, abdominal discomfort
Enterobius vermicularis Pin worm	Large intestine (Caecum, colon and appendix)	Itching, insomnia, Loss of appetite
Ancylostoma duodenale Hook worm	Small intestine	Anemia, Physical and mental retardation in children

Embryonic layer	Organ System
Ectoderm	• Integumentary system • Nervous system • Adrenal medulla • Pineal glands • Pituitary glands
Mesoderm	• Notochord • Musculo-skeletal system • Excretory system • Circulatory system • Lymphatic system • Reproductive system
Endoderm	• Digestive system • Liver • Pancrease • Thymus • Thyroid and parathyroid

	Phylum	Economic importance
1	Annelida	*Hirudo medicinalis (Class Hirudinae)* • Ectoparasite of man Characteristics • Fixed numbers of rings called annuli • No locomotory organs • Have suckers • Chitinous jaws and anticoagulant released in host
2	Mollusca	Harms: • Slugs and snails damage gardens • Ship worm (Teredo), damage wooden parts of ships Benefits: • Many molluscs used as food • Shells of molluscs used for making ornaments and also in tar of roads

	Arthropod	Importance
Benefits	Silk worm	Silk obtained
	Honey bee	Honey, wax and help in pollination
	Other insects	Predators for other animals,scavengers and food for fishes
Harms	Female Anopheles	Transmit plasmodium causing malaria
	House fly	Vector of cholera, typhoid and hepatitis
	Tse-Tse fly	Vector of trypanosome that cause African sleeping sickness in man and cattle

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