

	Phylum Porifera	Phylum Cnidaria	Phylum Platyhelminthes
Defining Traits	collar cells (choanocytes)	stinging tentacles	flattened bodies cephalization
Symmetry	asymmetrical	radial or biradial	bilateral
Coelom	NONE	NONE	acoelomate
Level of Organization	cellular level	tissue level	organ-system level
Nervous	NONE	nerve net	ganglia double nerve cord sense organs
Skeletal	INTERNAL spongin spicules	EXTERNAL (corals) or NONE	NONE
Muscular	NONE	contracting cells in epidermis	well-developed contracting cells in mesoderm
Digestive	collar cells remove food from water through phagocytosis and release wastes back into water	gastrovascular cavity	gastrovascular cavity muscular pharynx
Respiratory	diffusion through collar cells	diffusion	diffusion

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Circulatory	NONE	NONE	NONE
Excretory	NONE (diffusion)	NONE (diffusion)	flame cells filter body fluids
Reproduction	-asexual budding -sexual reproduction involving release of egg and sperm into water → zygote → larva	-asexual budding -sexual reproduction involving release of egg and sperm into water → zygote → planula larva	-asexual fission -asexual regeneration -sexual reproduction (hermaphrodites) egg + sperm → zygote → larva
Classes	1.Hexactinillida 2.Calcarea 3.Demospongiae 4.Sclerospongiae (based on spicules)	1.Hydrozoa 2.Scyphozoa 3.Anthozoa 4.Cubozoa	1.Turbellaria 2.Trematoda 3.Cestoda 4.Monongea
Miscellaneous	sessile-attached to bottom of ocean/lake three body plans: Asconoid, Syconoid, Leuconoid	life cycles include polyp and medusa stages three body layers: epidermis (outside) gastrodermis (inside) mesoglea (in between) planula-type of larva	larva of Tremotoda, Cestoda, and Monongea resemble the planula larva of Cnidarians Some have complex parasitic life cycles involving multiple hosts