

Characteristics of Animals

eukaryotic
 multicellular
 lack cell wall
 heterotrophic
 mostly sex reprod
 diverse & complex developmental strats
 - gastrulation, symmetry, germ tissue

animal body plans: tissues

ectoderm outermost covers embryos surface
 endoderm innermost, digestive tube
 mesoderm middle, connective tissues

animal phylogeny- 'body plans'

combine morphological, molecular, fossil data

~ 35 animal phyla

body plan set of morphological and developmental traits
 symmetry, tissues, body cavities

animal body plans: body cavities

coelomate true coelom
 pseudocoelomate "fake" coelom
 acoelomate no coelom

General points of agreement

animals share a common ancestor
 sponges are basal animals
 eumetazoa clade with true tissues
 most animals are bilaterians
 - 3 clades

animal body plans: gastrulation

cleavage rapid cell division in zygotes
 blastula embryonic stage of multicellular hollow ball from cleavage
 gastrula embryonic stage of dif. tissue layers created thru gastrulation
 blastopore: opening on embryo.. usually becomes anus

protostomy vs deuterostomy

PROTOSTOMY	DEUTEROSTOMY
mouth first	anus first
spiral determinate	radial indeterminate
molluscs	chordates
bottom 8	middle 3



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