

ZOOL 10 - REVIEW OF VERTEBRATES

cwh F95

CLASS	A G N A T H A	CHONDRICHTHYES	OSTEICHTHYES	A M P H I B I A	R E P T I L I A	A V E S	M A M M A L I A
EXAMPLES	lampreys & hagfish	sharks, rays, skates	bony fishes	frogs & salamanders	lizards, snakes, turtles	birds	marsupials, placentals
NO. OF SPECIES	70	800	24,000	3,900	7,000	9,000	4,000
HABITATS	marine & freshwater	marine	marine & freshwater	freshwater, moist land	terrestrial (esp. dry)	all (exc. underwater)	all (exc. underwater)
TEMPERATURE	ectothermic	ectothermic	ectothermic	ectothermic	ectothermic (behav.)	endothermic	endothermic
INTEGUMENT	mucoid, no scales	dermal scales	dermal scales	mucoid, no scales	epidermal scales	feathers, leg scales	hair/fur, scent glands
SKELETON	cartilage only	cartilage with calcium	true bone, fin rays	bones few & fused	carapace in turtles	bones hollow, keel	pelvis wider in female
SKULL	no jaw, indistinct neck	powerful jaw	numerous bones	teeth few or absent	jaws split in snakes	bill with no teeth	horns/antlers in some
APPENDAGES	no paired fins	2 pairs of fins	2 pairs of fins	2 pairs of legs	2 pairs of legs	pair wings & pair legs	pair arms & pair legs
SENSE ORGANS	photophores or eyes	lateral line, Lorenzini	lateral line	Jacobson, larynx	Jacobson, pineal eye	sclerotic ring, syrinx	vibrissae, larynx
CIRCULATION	single path, 5 hearts	single pathway	single pathway	partial separation	improved separation	double pathway	double pathway
HEART	2 chambers	2 chambers	2 chambers	3 chambers	3-1/2 chambers	4 chambers	4 chambers
RESPIRATION	gill pouches	gill slits & spiracle	int. gills & opercula	ext. gills, lungs, skin	pair of lungs	pair of lungs, air sacs	pair of lungs
EXCRETION	ammonia	ammonia	ammonia	ammonia or urea	uric acid	uric acid	urea, sweat
FERTILIZATION	external, monocious	internal (claspers)	external	external	internal (hemipenes)	int. (cloaca), 1 ovary	internal (penis)
DEVELOPMENT	oviparous	most ovoviviparous	oviparous	oviparous, gelatin egg	oviparous, shelled egg	oviparous, shelled egg	viviparous, placenta
OTHER	no swim bladder, notochord retained	no swim bladder, storage of oil & urea	swim bladder, lung in lungfish	toxic glands in some, tail absent in frogs	legs absent in snakes, loreal pits in vipers	flipper in penguins, salt gland in marine	mammary glands, marsupium in some