

Table 4: Vertebrate Worksheet

Subphylum Gnathostomata							
Characteristic	Subphylum Agnatha (Jawless Fish)	Class Chondrichthyes (Cartilaginous Fish)	Class Osteichthyes (Bony Fish)	Class Amphibia (Amphibians)	Class Reptilia (Reptiles)	Class Aves (Birds)	Class Mammalia (Mammals)
Endoskeleton	<i>cartilage (no jaw)</i>	<i>cartilage</i>	<i>cartilage and bone</i>	<i>cartilage and bone</i>	<i>cartilage and bone</i>	<i>cartilage and bone</i>	<i>cartilage and bone</i>
Respiratory	<i>multiple gill openings no operculum</i>	<i>multiple gill openings no operculum</i>	<i>one gill opening covered by operculum</i>	<i>gills, skin, lungs (low surface area)</i>	<i>lungs (moderate surface area)</i>	<i>lungs (air sacs, high surface area)</i>	<i>lungs (high surface area)</i>
Circulatory	<i>two chambered heart</i>	<i>two chambered heart</i>	<i>two chambered heart</i>	<i>three chambered heart</i>	<i>three chambered heart (incomplete septum for fourth chamber)</i>	<i>four chambered heart</i>	<i>four chambered heart</i>
Reproduction	<i>external fertilization and development</i>	<i>external fertilization (internal for sharks) and development</i>	<i>external fertilization and development</i>	<i>external fertilization and development</i>	<i>internal fertilization and external development</i>	<i>internal fertilization and external development</i>	<i>internal fertilization and internal development</i>
Examples	<i>lamprey, hagfish</i>	<i>sharks, skates, rays</i>	<i>trout, cod, salmon</i>	<i>frogs, salamanders</i>	<i>snakes, turtles</i>	<i>birds</i>	<i>humans, whales</i>