Honors Biology Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
NDHS Per: \_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_

**ANIMALS**

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| **Name** | **Characteristics** | **Examples** |
| Porifera | * No true tissues
* Collection of Cells that work together
* Filter feeders
* Made of glass or sponging
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| Cnidarians | * Two layers of tissue
* Radial symmetry
* Gastrovascular Cavity
* Stinging cells: Cnidoblasts
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| Acoelomate | * Unsegmented flatworms
* Bilateral symmetry
* Gastrovascular cavity
* Cephalization
* Eye spots
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| Psuedocoelomate | * Unsegmented round worms
* Bilateral symmetry
* Cephalization
* Complete digestive system
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| Coelomates | * Complete digestive system
* Fluid filled cavity around internal organs
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| Annelids  | * Segmented Round Worms
* Bilateral
* Segmented, repeated body plan
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| Mollusks | * Bilateral, radial or no symmetry
* Complete digestive track
* Some show cephalization
* 3 parts:visceral mass = internal organs

Mantle – secretes shellFoot – muscle for movement |  |
| Bivalves | * Shells
* Filter feeders
* No cephalization
* No symmetry
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| Gastopods | * “stomach” footed animals
* Bilateral
* Cephalization
* Move on foot
* Radula tongue – scraping
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| Cephalopods | * Head
* Large eyes
* Foot split into 8 arms
* Very intelligent
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| Arthropods | * Segmented external skeleton made of chitin
* Bilateral/cephalization
* Open circulatory systems
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| Insect | * Head, thorax, abdomen
* 6 appendages on thorax
* Various mouth parts for feeding
* Complete or incomplete metamorphosis
* Breath through tracheal tubes that start at openings in the abdomen called spiracles
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| Arachnids | * One or Two body segments: Abdomen and cephalothorax
* Spiders breath using book lungs
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| Myriapods | * Many segments, many legs
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| Crustaceans  | * 19 pairs of appendages
* Gills for breathing
* Copper based blood
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| Echinoderm | * Spiny Skin
* Radial symmetry as adult
* Bilateral as young
* Large capacity for regeneration
* Tube Feet
* Water Vascular System
* Eat by ejecting their stomach out of their body
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| Agnatha | * Jawless fish
* Cartilaginous skeleton
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| Vertebrates | * Protective bones around spinal chord called vertebrae (spinal column)
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| Chondrichthes | Cartilagenous FishLower JawLateral Line2 chambered heartGills |  |
| Osteoichthes | Bony FishSwim Bladder for Buoyancy Lateral Line2 chambered heartGills |  |

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| Amphibians | “Both Lives”- land and water stage- water needed for reproduction- unprotected egg- three chambered heart- lungs |  |
| Reptiles | * Scaled made of keratin
* Leathery shell on eggs
* Three chambered heart (except Crocs and Allis)
* Lungs
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| Aves | * Feathers
* Honeycomb “hollow” bones
* Hard shells of calcium carbonate
* Four chambered heart
* Lungs
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| Mammals | * Hair
* Four chambered heart
* Lungs
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| Monotremes | * Egg Laying Mammals
* Leather Eggs
* Young hatch very immature
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| Marsupials | * Young born very immature
* Crawl to the mother’s pouch
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| Placental  | * Young grow in the uterus and are fed by the umbilical cord which grows from the placenta – lining of the uterus
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**Important Terms and Roots:
Gastrovascular Cavity**: digestive system with one opening – both mouth and anus
**Cephalization** – the head – cluster of sensory organs
**Bilateral** – split into two even sides
**Radial** – distributed evenly around a central point
**Coelom** – fluid filled space between intestinal walls and musculature of the abdomen
**Chondro** - cartilage
**Osteo** – bone
**Ichthes** –fish
**Gnath** – jaw