

1  **Chapter 11**

Animal Diversification

2  **11.1**

- Animals
  - Heterotrophic
    - Eat other organisms
  - Move
    - At some point during life cycle
  - multicellular

3  **11.2**

- Grouping animals
  - Defined tissues
  - Symmetry
    - Radial or bilateral
  - Development of digestive system
    - Protostomes or deuterostomes
  - Growth
    - Molting or internal support

4 

Tissues →

Radial Symmetry →

Bilateral symmetry →

Protostomes →

Exoskeleton →

→

Chordates → Vertebrates

Deuterostomes

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5  **11.3**

- Extinct = not evolutionarily successful
  - Find food, escape predators, reproduce
  - Not higher or lower
- Divided into phyla
  - We will only cover the main 9 out of 36

6 

- Animal classifications

7  **11.4**

- Chordates
  - Notochord
  - Dorsal hollow nerve cord
  - Pharyngeal slits
  - Post-anal tail

8  **11.5-11.11 (figures)**

- Vertebrates
  - Subphylum of chordates
  - 
  -

9 

- Primates

- [Humans?](#)
- 10  **11.12**
  - Invertebrates
- 11  **11.13**
  - Echinoderms
    - Skeleton & spiny skin
    - Bilateral larvae
      - Radial adults
    - Tube feet & water vascular system
- 12  **11.14**
  - Arthropods
    - Exoskeleton
      - Chitin
    - Jointed appendages
    - Segmented body
      - Head, thorax, abdomen
- 13  **11.15**
  - Groups
  - 3 subphyla
    - Uniramia
      - Insects, millipedes, centipedes
    - Crustacea
      - Shrimp, lobsters, crabs, barnacles
    - Chelicerata
      - Spiders, ticks, mites
- 14  **11.16**
  - Molluscs
    - Shell (usually)
    - Mantle
    - Radula
  - Gastropods
    - Snails & slugs
  - Bivalve
    - Clams, scallops, oysters & mussels
  - Cephalopods
    - Nautilus, squids & octopuses
- 15  **11.18**
  - Annelida
    - Segmented worms
- 16 
  - Nematoda
    - Roundworms
  - Human diseases
    - *Trichinella sp.*
      - Cause trichinosis
    - *Wuchereria bancrofti*
      - Causes elephantias
- 17 
  - Platyhelminthes

- Flatworms
- 18  **11.19**
  - Cnidarians
    - Radial symmetry
    - Tentacles with stinging cells
- 19  **11.20**
  - Sponges
    - No tissues or organs
    - Hollow tube with pores
      - Filter feeder
    - Free swimming larvae
    - Sessile as adults
- 20 
  - Using the specimens on display in the hallway of building four identify an organism from each of the following phyla.
    1. Porifera (sponges)
    2. Cnidaria
    3. Platyhelminthes (flatworms)
    4. Annelida
    5. Mollusca
    6. Nematoda (roundworms)
    7. Arthropoda
    8. Echinodermata
    9. Chordata
  - Describe at least three characteristics which place each organism in its phylum