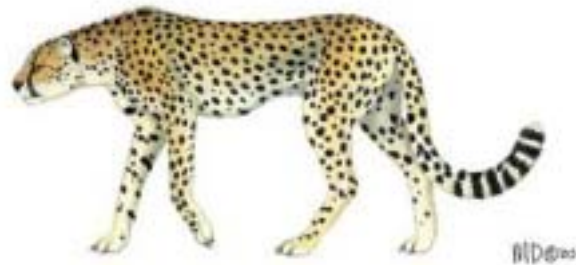


# Identification of Animal Phyla



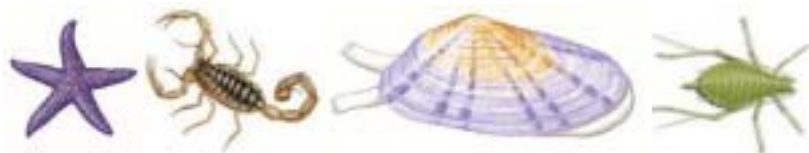
**Purpose:** Students will record characteristics and use a dichotomous key to identify phyla of the animal kingdom.

## Procedure and results

- A. Define the listed vocabulary words.
- B. Observe specimens located on the cart and record the characteristics of each on the appropriate table (Chart 1 – Invertebrates; Chart 2 – Vertebrates).
- C. Use the keys to identify the phyla of each specimen.
  - a. Use Key #1A to identify the invertebrates and complete Chart 1
  - b. Further classify the Arthropods using Key #1B and fill in the provided table
  - c. Use Key #2 to identify the vertebrates and complete Chart 2

## Vocabulary:

- Ex* Exoskeleton \_\_\_\_\_
- Ex* Radial symmetry \_\_\_\_\_
- Ex* Bilateral symmetry \_\_\_\_\_
- Ex* Segmentation \_\_\_\_\_
- Ex* Tentacles \_\_\_\_\_
- Ex* Antennae \_\_\_\_\_



| KEY #1A |                             |  |                        |
|---------|-----------------------------|--|------------------------|
| 1       | a. Body asymmetrical        |  | Phylum Porifera        |
|         | b. Body symmetrical         |  | Go to 2                |
| 2       | a. Body symmetry radial.    |  | Go to 3                |
|         | b. Body symmetry not radial |  | Go to 4                |
| 3       | a. Tentacles present.       |  | Phylum Cnidaria        |
|         | b. Tentacles absent         |  | Phylum Echinoderm      |
| 4       | a. Exoskeleton present.     |  | Go to 5                |
|         | b. Exoskeleton absent       |  | Go to 6                |
| 5       | a. Jointed legs present.    |  | Phylum Arthropod       |
|         | b. Jointed legs absent      |  | Phylum Mollusca        |
| 6       | a. Body segmented.          |  | Phylum Annelidia       |
|         | b. Body not segmented       |  | Phylum Platyhelminthes |

| Key #1B |                                |                       |
|---------|--------------------------------|-----------------------|
| 1       | a. Walking legs, > 5 pair.     | _____ Go to 2         |
|         | b. Walking legs, < 5 pair      | _____ Go to 3         |
| 2       | a. Legs, 1 pair/ body segment. | _____ Class Chilopoda |
|         | b. Legs, 2 pair/ body segment  | _____ Class Diplopoda |
| 3       | a. Antennae present.           | _____ Go to 4         |
|         | b. Antennae absent             | _____ Class Arachnida |
| 4       | a. Antennae, 1 pair.           | _____ Class Insecta   |
|         | b. Antennae, > 1 pair          | _____ Class Crustacea |

| Specimen number | Class |
|-----------------|-------|
|                 |       |
|                 |       |
|                 |       |
|                 |       |
|                 |       |

| Specimen number | Class |
|-----------------|-------|
|                 |       |
|                 |       |
|                 |       |
|                 |       |
|                 |       |

**Analysis:**

- Which invertebrate **phyla** contain animals with no symmetry? \_\_\_\_\_
- Which invertebrate **phyla** contain animals with radial symmetry? \_\_\_\_\_
- Which invertebrate **phyla** contain animals with exoskeletons? \_\_\_\_\_
- Which invertebrate **phyla** contain animals with segmented bodies? \_\_\_\_\_
- Is there any specific invertebrate characteristic that identifies the members of particular phyla? Explain your answer.

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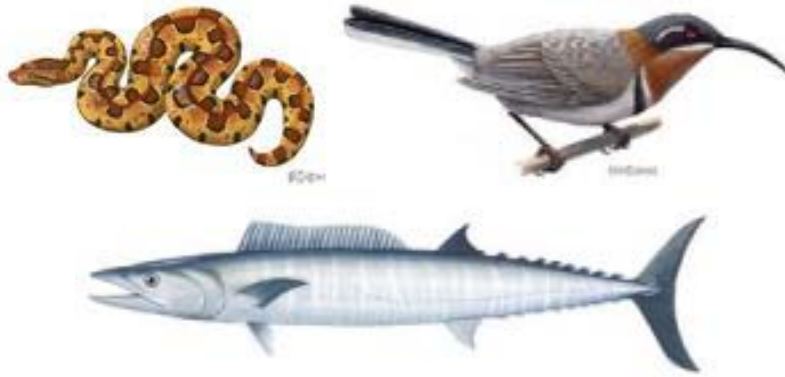


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- True or False:** An animal must be a member of the phylum Echinodermata if the organism has radial symmetry and has an exoskeleton:    T            F
- True or False:** An animal must be a member of the phylum Annelida if the organism has bilateral symmetry and has a segmented body.    T            F



| Key #2 |                           |  |                      |
|--------|---------------------------|--|----------------------|
| 1      | a. Hair present.          |  | Class Mammalia       |
|        | b. Hair absent            |  | Go to 2              |
| 2      | a. Feathers present.      |  | Class Aves           |
|        | b. Feathers absent        |  | Go to 3              |
| 3      | a. Jaws present.          |  | Go to 4              |
|        | b. Jaws absent            |  | Class Agnatha        |
| 4      | a. Paired fins present.   |  | Go to 5              |
|        | b. Paired fins absent     |  | Go to 6              |
| 5      | a. Skeleton bony.         |  | Class Osteichthyes   |
|        | b. Skeleton cartilaginous |  | Class Chondrichthyes |
| 6      | a. Skin scales present    |  | Class Reptilia       |
|        | b. Skin scales absent     |  | Class Amphibia       |

8. Is there any single characteristic that identifies the members of a particular vertebrate class? Explain your answer.

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9. Which vertebrate **classes** contain animals with jaws present? \_\_\_\_\_

10. Which vertebrate **classes** contain animals with hair present? \_\_\_\_\_

11. Which vertebrate **classes** contain animals with paired fins? \_\_\_\_\_





