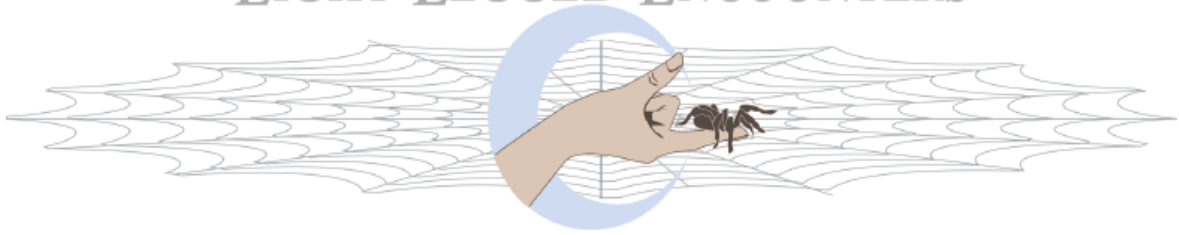


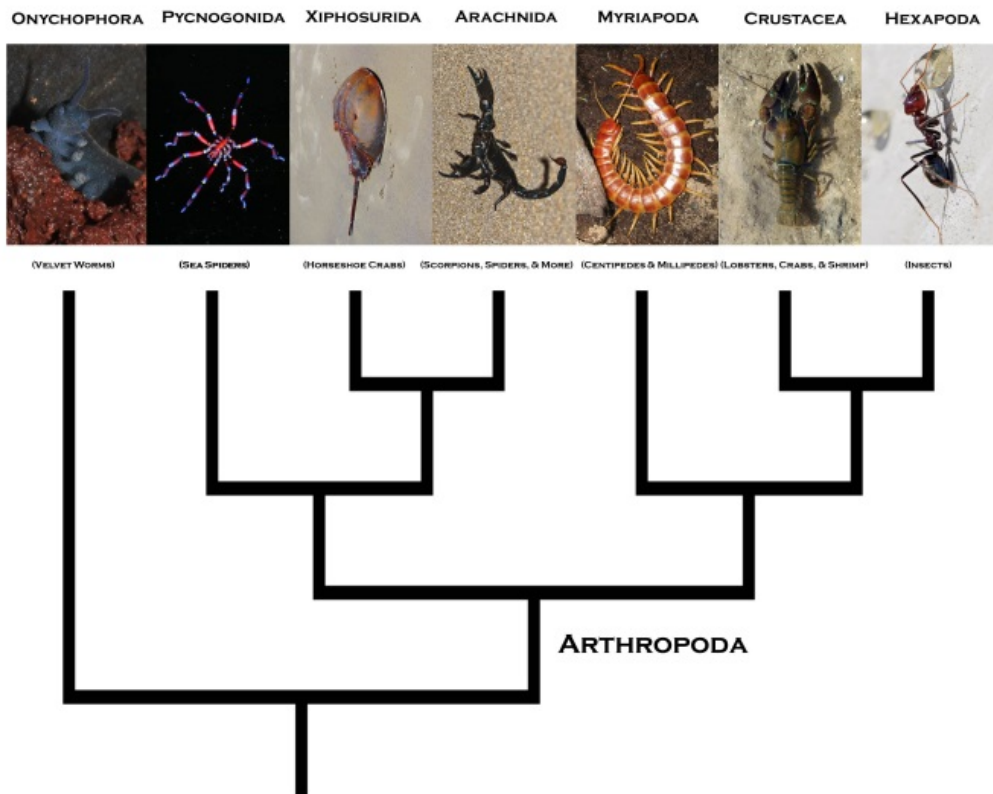
EIGHT LEGGED ENCOUNTERS



I. WHAT IS AN ARTHROPOD?

GOAL: To introduce the arthropods, with a focus on the major groups within this phylum and the basic characteristics associated with each group.

BACKGROUND: Arthropods are invertebrates that have an exoskeleton, a segmented body, and jointed appendages. The Phylum Arthropoda is separated into multiple sub-phyla including the extinct *Subphylum Trilobitomorpha* (trilobites); as well as the extant (or living) *Subphylum Chelicerata* (arachnids, sea spiders, horseshoe crabs, eurypterids), *Subphylum Hexapoda* (insects), *Subphylum Myriapoda* (centipedes and millipedes) and *Subphylum Crustacea* (crabs, lobsters, shrimp). The most recent hypothesized phylogenetic relationships among these groups can be seen in the phylogeny below:



MATERIALS:

- Ideally you would have live representatives of as many of the above groups as possible.
- For the game, you will need the following:
 - 5 large squares outlined in white tape on the floor (one representing each of the arthropod subphyla).
 - Within one of the squares (the one representing the Subphylum Chelicerata), you will need two big squares outlined in blue.
 - (one representing the Class Meristomata and one representing the Class Arachnida)
 - A large tub with numerous plastic animal examples of all of the above groups. On the underside of each animal, place a dot of paint to match the color of the card to which it belongs (e.g. green dots on the bottom of insects, blue dots on the bottom of crustaceans, red dots on the bottom of myriapods, etc.). These colors are seen on the borders of the cards that go with the game and will enable participants to check their “answers”.

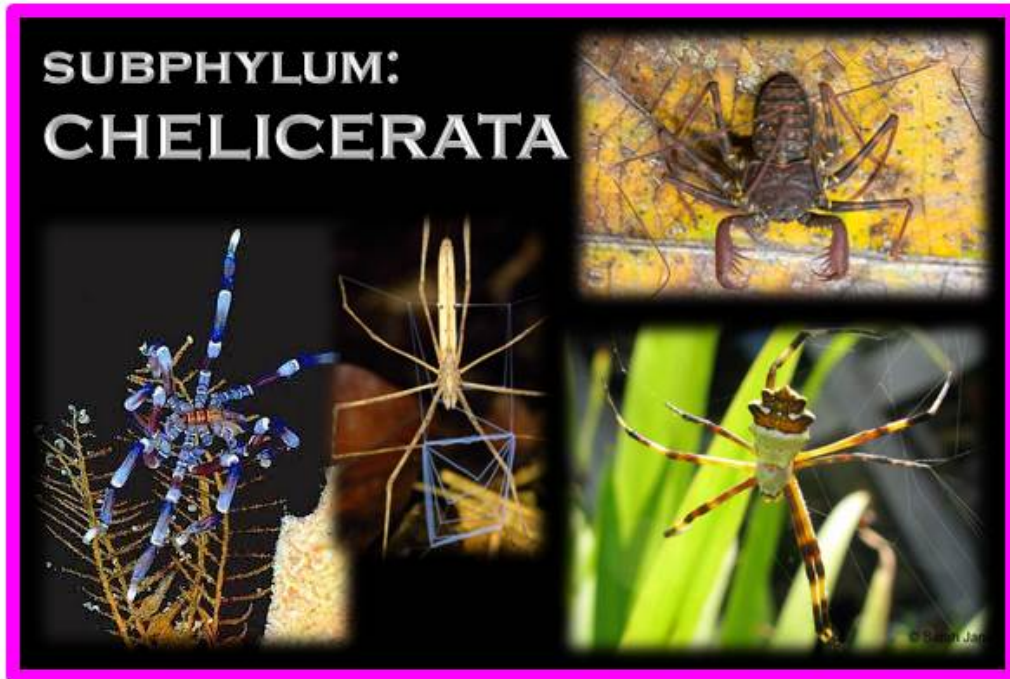
PROCEDURE:

- Place within each square a laminated card with a list of characteristics describing animals that belong in that square.
- Invite participants to go through the bucket of animals on the floor and try to place animals in their appropriate squares.
- When participants feel that they are done, allow them to flip the card over to see pictures of animals that should be represented in each square. Laminated cards also provide taxonomic information regarding each arthropod group.



- **6 LEGS**
- **3 BODY PARTS**
- **1 PAIR OF ANTENNAE**
- **COMPOUND EYES**
- **MANY HAVE WINGS**
- **COMMON & DIVERSE**

- **3 BODY PARTS**
- **2 PAIR OF ANTENNAE**
- **PRIMARILY AQUATIC**
- **MANY SPECIES HAVE
10 LEGS (5 PAIR)**
- **COMMONLY EATEN BY
HUMANS**



- **2 BODY PARTS**
- **CHELICERAE PRESENT**
(APPENDAGES IN FRONT OF MOUTH)
- **PEDIPALPS PRESENT**
(APPENDAGES IN FRONT OF WALKING LEGS)
- **8 WALKING LEGS**
- **NO ANTENNAE**

- **2 BODY PARTS**
- **PAIRED APPENDAGES**
ALONG LENGTH OF
BODY
- **1 PAIR OF ANTENNAE**



- 2 BODY PARTS; CHELICERAE PRESENT; PEDIPALPS PRESENT; 8 WALKING LEGS; NO ANTENNAE
- **NO EXTERNAL SEGMENTATION ON BODY PARTS**
- **BODY PARTS JOINED BY STALK (PEDICEL)**

- **UNSEGMENTED CARAPACE (HARD SHIELD)**
- **SPINELIKE TELSON (TAILPIECE)**
- **BREATH THROUGH BOOK GILLS**



- **EXTINCT**
- **3 BODY PARTS**
- **COMPOUND EYES**
- **COMMON ARTHROPOD
FOSSIL**