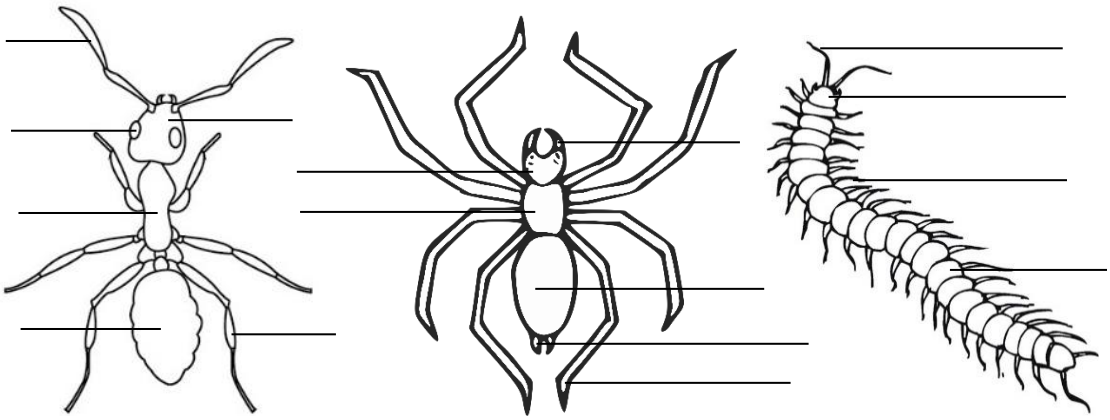
A Bug's Life

Pre – Class Activity

Introduction: There are millions of species of insects in our world. "A Bug's Life" is a class that encourages students to be curious about our insects and learn about their adaptations. This activity will introduce students to taxonomy and why scientists place living things in different groups.

1. As a class, discuss what you know about scientific taxonomy: _____
_____
2. Use mnemonic to help remind you of the 8 levels of taxonomy: **D**omain, **K**ingdom, **P**hylum, **C**lass, **O**rder, **F**amily, **G**enus, **S**pecies (**DKPCOFGS)**. For example: **D**o **K**eep **P**recious **C**reatures **O**rganized **F**or **G**rumpy **S**cientists _____
_____
3. Which of the following pair is MOST closely related according to taxonomy?
   a. Butterfly and dog
   b. Human and live oak tree
   c. Dog and human
   d. Live oak tree and bacteria
4. Which of the following groups would contain the largest number of organisms?
   a. Class
   b. Domain
   c. Order
   d. Phylum
5. If two organisms are in the same phylum, they must also be in the same:
   a. Kingdom
   b. Class
   c. Family
   d. Order
6. Why do you think scientists classify organisms?
   a. To find how closely two organisms are related.
   b. Out of habit: it was created in the 18th century and we don't want to change the textbooks.
   c. To uniquely identify animals.
   d. Both A and B
7. What is an entomologist?
   a. A scientist who studies taxonomy.
   b. A scientist who studies enchiladas.
   c. A scientist who studies insects.
   d. A scientist who studies the environment.
8. Match the word from the word bank to the correct body parts on the bugs:



Word Bank:
Head (3 uses)
Antennae (2)
Thorax (1)
Legs (3)
Abdomen (2)
Spinnerets (1)
Cephalothorax (1)
Fangs (1)
Trunk (1)

9. What do insects use antennae for?
   a. Absolutely nothing
   b. See, hear, smell, taste and feel
   c. Flying in a zigzag motion
   d. Walking on difficult terrain
10. Why bugs are important?
   a. They help in decomposing and prevent trash from piling up
   b. They pollinate flowers
   c. They are used in medical research
   d. All the above

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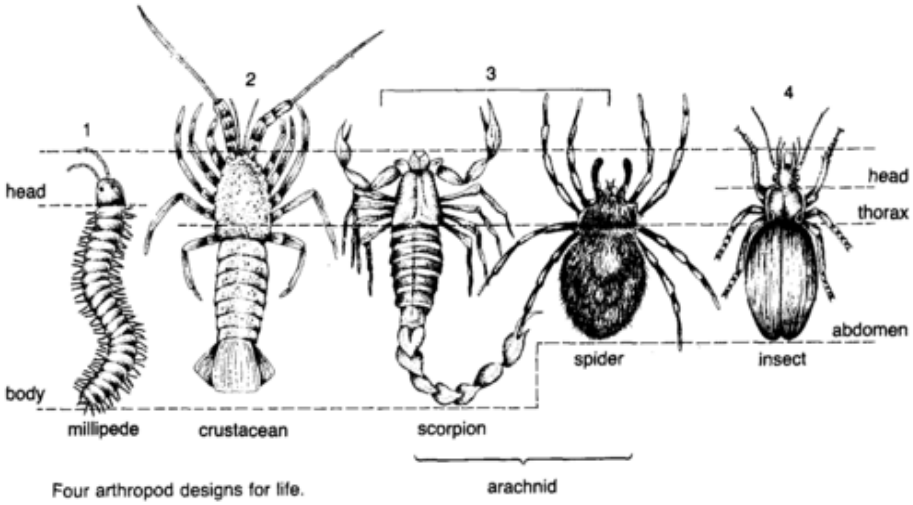
Post – Class Activity

Introduction: You have now finished the class and explored the insects at Driftwood Education Center! This activity will remind your students of what an insect is and some of their adaptations. Let's challenge your students' knowledge by "creating" a bug adapted to live in your assigned environment.

Directions:



Four arthropod designs for life.

1. What makes an insect different from other arthropods? Discuss the difference between insects, arachnids, and myriapods. Draw an insect to remind students about arthropod anatomy (head, simple eye, compound eyes, antennae, mouthparts, thorax, 6 legs, wings, abdomen, gut, stinger, metamorphosis, cephalothorax, fangs, etc.)
2. Divide the class into small groups and give them a worksheet and art supplies.
3. Assign each group to a habitat and associated available food sources. https://www.calacademy.org/sites/default/files/assets/docs/pdf/237_insecthabitatcards_refresh.pdf
4. In groups of 3-4, have your students build an insect/arachnid/myriapod on the worksheet provided. Here are the rules:
   - Their 'bug' must be suited for the assigned habitat and must eat at least one of the food sources listed.
   - Their 'bug' should be able to survive with real bug adaptations (no jet packs to fly around!).
   - Their 'bug' must have a common name.
5. Give the students time to finish their 'bug'. Once complete, have each group present their 'bug' to the class and state what habitat they were given. Have students share at least one adaptation they gave their bug and why.
6. As a class, discuss how each groups' bug was similar or different. Did any two have similar adaptations? Did any two have similar habitats, but different adaptations?
7. Once students have invented their insects, have them research real insects that live in their assigned habitat with their assigned food sources, and find a real insect that resembles their creation. Each group can use the blank back of the worksheet to compare it to the one they designed. https://www.insectidentification.org/
8. Discuss why we need insects? Name 5 ways in which bugs are important. List 4 services insects provide. Give 2 examples of insects that act as pollinators. Give an example of how insects are used in medicine?

Build a 'Bug' Worksheet

Introduction: You have now finished the class and explored the insects at Driftwood Education Center! This activity will remind you what an insect is and what some of their adaptations are. Let's challenge your knowledge by "creating" an insect adapted to living in your assigned environment.

Directions: You are an entomologist. You and your fellow scientists discovered a new species of insect. Using the skills you learned at Driftwood Education, record information about this new species.

The bug name and the date my group found it: _____

Our bug's habitat: _____

Our bug's food source: _____

How it finds and eats its food: _____

_____

_____

How our bug moves: _____

_____

_____

What eats our bug: _____

_____

How our bug escapes predators: _____

_____

_____

Draw your bug below. Be sure to label its body parts!