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| **Biology 11**  **The Arthropod Story – Understanding Evolution** | **Names: Date:**  **Block:** |

This presentation provides an excellent overview of the Phylum Arthropoda while incorporating ideas we have learned previously (adaptive traits, natural selection, etc.)

What to do:

1. Access the website by googling “Arthropod Story”
   1. The link will be on the berkeley.edu site
2. Proceed through the presentation and answer the questions below. The questions will appear in the same order as the presentation.

Questions:

1. Introducing the Arthropods:
   1. List the 5 main groups of arthropods:
   2. \_\_\_\_\_\_\_\_\_% of all animals are arthropods!
   3. How many insects exist for every human? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   4. If all the ants on the earth formed a chain, how many times could the earth be circled? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. Copepods are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. What arthropod lives more than a mile below the ocean? \_\_\_\_\_\_\_\_\_
   7. Where does the largest centipede species live? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   8. What arthropod lives at high altitudes? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   9. What arthropod can withstand heats of over 60°C? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   10. Leafcutters live on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ farms
2. What is an arthropod?
   1. Draw the five branches of the arthropod tree:
   2. The five characteristics shared by arthropods are:
   3. Describe bilateral symmetry (use a diagram in necessary)
   4. Segments are grouped into larger sets, such as the abdomen and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   5. What substance is the exoskeleton made from? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   6. The crayfish has five types of limbs. What are these limbs used for?
   7. Using the checklist provided, which of the following animals are arthropods: scorpion, moth, onychophoran, mouse, millipede and jellyfish
3. Meet the Cambrian Critters
   1. How long ago was the Cambrian period? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Which animals got their start in the Cambrian period?
   3. Out of these animals from the question above, which are considered to be arthropods, members of other modern groups and not members of any group alive today.
4. Tools for success: The exoskeleton and the jointed limb
   1. How do each of the following contribute to arthropod success:
      1. Exoskeleton:
      2. Jointed limbs:
   2. Give 3 examples of limb specialization in other arthropods.
5. An evolutionary constraint: Small size
   1. Why are terrestrial arthropods small?
   2. What do the following arthropods use to respire?
      1. Spiders
      2. Crustaceans
      3. Insects
6. Conclusion: Evolution and the arthropod
   1. Identify some other adaptations of arthropods