**THE ARTHROPOD STORY.**

1. Arthropods account for what % of all animals described by science.
2. When did arthropods appear on earth.

**Habitat and Distribution.**

1. Select 4 insects from the map. Describe the harsh conditions they have adapted to survive. Conduct some research to explore HOW they survive these harsh conditions.

**Ecological Niches**

1. What is an ecological Niche? Describe the niche of 1 of these curious insects. Who is impacted and how?

The 5 branches of the arthropod tree

1. List the 5 major groups of arthropods.
2. According to the arthropod phylogenetic tree, which 2 groups are most closely related? Explain how we determine this.
3. What are the 5 defining characteristics of arthropods?
4. Sketch an arthropod, illustrating the line/s of symmetry.
5. How many segments make up the crayfish abdomen?
6. If we compared each of the segments that make up the abdomen, what would we find?
7. What is a cephalothorax?
8. Check out this link. What are the benefits of Crabyon? <http://www.swicofil.com/products/055chitosan.html>
9. What functions might the jointed appendages serve in arthropods?
10. During which time period did arthrods appear?
11. List 3 features of Cambrian life.
12. Sketch Sanctacaris. Which group of arthropods did Sactacaris most resemble? Explain. Which modern arthropods does this group contain?
13. Sketch Opabinia. Describe its feeding habits. Why have scientists struggled with classifying Opabinia?
14. What Class does Pikaia most likely belong? Why?
15. To which group does Naraoia belong and why? How does this group differ from crustaceans? Sketch Naraoia.
16. Why were trilobites so successful?
17. What features have enabled the crustaceans to be so successful. Provide examples.
18. What are evolutionary constraints?
19. How do arthropod traits limit their size? Describe 3 ways.
20. Describe the breathing mechanisms of 2 groups of arthrods.