Cambrian study guide: Submit question 4a to Moodle in form of a short doc or docx (no more than ½ a page) file to receive credit for Homework.

1. Describe common animals found in the Vendian. What were some of the problems in identifying fossils as animals?

2. On the movie:

a. Who is Charles Wolcott?

c. What does the story of the reconstruction of *Anomalocaris* teach us about the importance as well as imperfection of the fossil record?

3. After viewing the Burgess shale list of Cambrian species, review what you learned about the characteristics of annelids. Can you speculate as to why some fossils on this list are simply called worms and not annelids?

**4. a. How did discovery of the Burgess Shale fossils change our view of animal evolution? Answer this for homework.**

**b. Compare Vendian and Cambrian animals. This will be a question on the take home portion of your first exam.**

5. a. What is a genetic toolkit or box? b. Explain, using this concept of a master genetic toolkit or box and regulation of such, the fact that most of major bauplans observed in living animals can be traced back to Cambrian ancestors.

c. Have major bauplans (crown clades or phyla), increased or decreased in number since the Cambrian. If they have decreased, then how have animals become more diverse in time? d. Summarize the take home message of this section on molecular evidence and the Cambrian explosion or revolution.