Name:	Assigned: Tuesday, March 24	
	Due: Friday, April 3	

Focus Sheet

The History of Life and Scientific Organization
Portions from Chapters 10, 11, 12, and 17 **300** Points

1. Vocabulary Skills: Complete One Option (30 points)

Design Vocabulary **Cards** OR a **Flipbook** that could be given to 5th graders to help them understand these vocabulary words. On one side or page, write the word and create an illustration that would help a younger student understand the meaning. On the back, give two definitions: the book's definition, and one you have written that may be easier to understand.

The Vocabulary: punctuated equilibrium, fossil, gradualism, geologic time scale, index fossil, era, period, epoch, species, phylogeny, cladistics, cladogram, derived characters

2. Concept Skills: Insect Cladogram (50 points)

Complete the attached Cladogram activity. We will complete an example in class, but for more help, see section 17.2 in your book. Answer the questions and draw the cladogram on your own paper.

3. In-Class Activities (220 points)		
A. Geologic Time Scale (50 points) - Thursday 26th - 27th.		
Due by end of class Friday 27th.		
B. Cladogram: Hardware Organisms (50 points) - Monday 30th. Due by end of class.		
C. Fossil Record Part 1 (50 points) - Tuesday 31st - Wednesday 1st.		
Due during class, 1st.		
D. Fossil Record Part 2 (50 points) - Wednesday 1st - Thursday 2nd		
Due end of class, 2nd.		
E. Documentary Notes (20 points) - Friday 3rd.		

INSECT CLADOGRAM

- 1. Use the times in the descriptions of the insect species below to make a list of species from oldest to most recent.
- 2. Use the times to help you determine the position of the species. Older organisms will appear earlier on the cladogram.
- 3. Use the species' description to determine features that are shared among the insects. These are **synapomorphies**. Make your notes in the table below:

Feature (Synapomorphy)	Shared by the following species:

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4. Use the species' descriptions to determine features that are unique to one insect. These are called **automorphies**. Make your notes in the table below:

Feature (Automorphy)	Unique to this species:	

5. Use the times, synapomorphies and automorphies you listed above to determine how to create your cladogram.

Description of Insect Species	Insect Picture
Species 1 - Fossils of this species date back to 30,000 years ago. The organism has a single antenna that is branched (like a Y). It has two eyes positioned on top of the head and a non-segmented body.	100
Species 2 - Fossils of this species date back to 8,000 years ago. This organism has branched antennae, 3 body segments, and the middle segment has fleshy appendages with a bendable joint.	8
Species 3 - Fossils of this species date back to 25,000 years ago. The organism has a branched antenna, body divided into 2 segments, and eyes positioned on the top of the head. In addition, the last segment of the body has a long curly tail.	1000 N
Species 4 - Fossils of this species date back to 10,000 years ago. This organism has branched antennae, 2 body segments, eyes positioned on the top of the head,and fleshy appendages on the last segment have a bendable joint.	8
Species 5 - Fossils of this species date back to 50,000 years ago. The organism has a single antennae, two eyes positioned on top of the head, and a non-segmented body.	8
Species 6 - Fossils of this species date back to 20,000 years ago. This organism has branched antennae, 2 body segments, eyes positioned on the top of the head, and small flesh appendages on the last segment. This organism also has a ridge of spines on the last segment.	8
Species 7 - Fossils of this species date back to 31,000 years ago. The organism has a single branched antennae (like a Y) and a club-like structure at the end of the branches of the antennae. It ahs eyes positioned on the top of its head and a non-segmented body.	8