

GEOL 02: Historical Geology
Lab 11: Mesozoic

Name: _____ Date: _____

“Earth Through Time” Readings: p. 385-412 (Chap 13) p. 417-464 (Chap 14)

Part I. Define the following terms:

- Tectonostratigraphic Terranes (Exotic or Suspect Terranes)
- Sr 0.706 line
- Phytoplankton – diatoms
- Angiosperms
- Archosaurs
- Saurischia
- Ornithischia

Part II.

- a. **Provide the requested information for each of the Mesozoic events listed. This information can be found in Chapter 13 and 14 of the textbook. Write your answers on separate sheets of paper.**
- **Atlantic Rift Basins** – provide time, describe locations and characteristics of rock types produced.
 - **Breakup of Pangea** – provide the time and the continental landmasses involved.
 - **Sonoma Orogeny** – provide time, location, and tectonic setting (what moved where)
 - **Nevadan Orogeny** - provide time, location, and tectonic setting (what moved where)
 - **Sevier Orogeny** - provide time, location, and tectonic setting (what moved where)
 - **Sundance Sea (part of Zuni Sequence/Transgression)** – provide time, general location, and resulting rocks.
 - **Cretaceous Epicontinental Sea (also called Western Interior Seaway)** – describe the extent and location.

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b. Life Events

- **Appearance of Dinosaurs** – provide time and a description of this general group.
- **Appearance of Mammals** – provide time
- **Appearance of Placental mammals** – provide time
- **Appearance of Birds** – provide time and a description of their lineage (what they evolved from)
- **Abundance of Ammonites** – provide the time when these were most abundant in the Mesozoic.
- **Appearance of Angiosperms (flowering plants)** – provide time and description
- **Cretaceous Extinction** – provide the time (hint: this defines the end of the Mesozoic Era), and a description of possible causes of extinction.

Part III. Use the sheets of graph paper provided to make a time scale of the events and features you listed in section 2 of this lab.

1. Your graph paper should extend from the Beginning of the Paleozoic (542 Ma) to the end of the Paleozoic (251 Ma). Note, that you will be adding events to the upper portion of your graph (359 to 251 Ma) after you complete the second part of the Paleozoic lab.
2. You need to devise a scale that fits this time span – how many millions of years will each block on your graph paper represent?
3. Plot the time scale as a column on the left side of the graph and leave room on the right.
4. To the right of each appropriate time, list the events and features described in the questions of 2a and 2b of this lab (Tectonic events, Rock Sequences, Orogenies, Life)
5. Provide short descriptions next to the events listed.