**Earth’s History Projected on a 24 Hour Day… The Clock Assignment ☺**

**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

In this assignment you will be drawing and labeling different events in the history of the earth. You will be doing work on the 24 hour clock.

Procedure:

1. Every hour on the 24 hour clock represents 200 Millions of years. You need to start at midnight and move counter clockwise and label the times of the earth in millions of years. Example: at 11p.m. on the clock you would write 200 MYA. At 7 p.m. you would write 1 billion years ago.
2. Now Label the following items on the clock.
	1. At 5 a.m. the very first rocks were formed on the earth
	2. At 6 a.m. the first single celled organism fossils are found
	3. At 8 a.m. the first photosynthetic bacteria are found
	4. At 1 p.m. the first Multi-Celled organisms are found
	5. At 9:18 p.m. the first shelled fish and invertebrates are found
	6. At 9:30 p.m. the first fish are found
	7. At 9:57 p.m. the first land plants appear
	8. At 10:00 p.m. the first insects on land appear
	9. At 10:06 p.m. the first amphibians appear
	10. At 10:18 p.m. the first Reptiles appear
	11. At 10:51 p.m. the first Conifers appear (trees like pines)
	12. At 10:57 p.m. the dinosaurs appear and flourish
	13. At 11:16 p.m. the first birds appear
	14. At 11:22 p.m. the first flowering plants appear
	15. At 11:30 p.m. the dinosaurs went extinct
	16. At 11:52 p.m. grasses appear
	17. At 11:59 p.m. the first early humans appear

Answer the following questions about the clock

1. Explain how the complexity of organisms changes over time:
2. Where do you see the most biodiversity (most organisms) on the clock? Explain why this might be
3. Photosynthesis appears quite early in the timeline. Before photosynthesis there was no oxygen in the atmosphere. Explain why the evolution of photosynthesis led to the appearance of animals that breathe oxygen:

**This is a 24 hour clock. Keep this in mind as you label the clock**

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1

3 A.M.

 9 A.M.

 6 A.M.

 9 P.M.

 3 P.M.

6 P.M.

 NOON

 Midnight