

Earth's Time Line

To give you some perspective on the great lengths of time involved in the Earth's history, you will make a timeline stretching back from today to the origin of the Earth 4,600,000,000 (4.6 billion) years ago . You will need a pencil, a ruler, and a strip of adding machine paper.

1. Lay the adding machine paper on your desk and write your **NAME** and **SECTION** at the far right end.
2. Just to the left of this, use a ruler to draw a straight line right across the adding machine paper and label this line "**TODAY**".
3. You will now add a scale to mark off time backwards (to the left) 4.6 billion years. On our time lines, every **3CM** will represent 100 million years, so you will have to measure back **138CM** to go back 4.6 billion years. Start by carefully measuring back **30CM**, making a mark on the edge of the paper and label this mark 1BYA (billion years ago). Measure back another **30CM**, make another mark and label this 2BYA. Repeat this for 3 BYA and 4 BYA. Now go back and make a smaller mark every **3CM** between the marks you've already made. These smaller marks each represent 100 million years and will help you place events at the correct locations for when they occurred. Continue these "every 3CM" marks back to 4.6 billion years (**18CM** beyond your 4 BYA mark).
4. The Earth was created 4.6 billion years ago. Locate this point on your time line and write "The Origin of the Earth – 4.6 BYA".
5. Use your laptops to determine when each of the four eras began. Record these dates in the table below and then calculate the distance back from "Today" on the time line for each. Remember that 100 million years is **3CM**, so 1 billion years is **30CM**, 10 million years is **3MM**! Record the beginning of each era at the appropriate place on your time line

Era	Date of Event: Years Before Today	Distance back from "Today" on Time Line
Cenozoic		
Mesozoic		
Paleozoic		
Precambrian		

6. Use the internet and the other resources provided to find out when each of the events listed below occurred. Fill in the table with the dates and then calculate the distance back from "Today" on the time line. Place them in the correct places on your time line. (Hint: although not in the right order, the times of these events were 3.5 billion, 544 million, 260 million, 225 million, 65 million, and 100 thousand years ago).

Event	Date of Event: Years Before Today	Distance back from "Today" on Time Line
Oldest fossils appear		
<i>Homo sapiens</i> appear		
Invertebrate "explosion" occurs		
Dinosaurs become extinct		
Pangaea forms		
First dinosaurs appeared		

7. Also, add the following events to your time line:
 - First trilobite
 - First mammal
 - First vertebrate
 - First multicellular organism (algae)
 - First flowering plant
 - First land animal

EACH EVENT MUST INCLUDE A DRAWN PICTURE AS WELL.