**Earth’s Time Line**

![MCj04245960000[1]]()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 long paper

1. Lay the paper on your desk and write your names and core 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 inch will represent 100 million years, so you will have to measure back **46 inches** to go back 4.6 billion years. Start by carefully measuring back 10 inches, making a mark on the edge of the paper and label this mark 1BYA (billion years ago). Measure back another 10 inches, make another mark and label this 2BYA. Repeat this for 3 BYA and 4 BYA. Now go back and make a smaller mark every inch 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 one inch” marks back to 4.6 billion years (six inches 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 notes, the geologic timescales posted around the room, or the textbook 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 1 inch, so 1 billion years is 10 inches, 10 million years is 1/10th of an inch and 1 million years is only 1/100th of an inch! 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 |  |  |

1. Use your geologic time scale and any 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 |  |  |
| *Homo sapiens (early humans)* appear |  |  |
| Invertebrate life “explosion” occurs |  |  |
| Dinosaurs become extinct |  |  |
| Pangaea forms |  |  |
| First dinosaurs appeared |  |  |

1. ***If you have time remaining, add some of these “challenge” events to your time line:***
* First trilobite First multicellular organism (algae)
* First mammal First flowering plant
* First vertebrate First land animal