**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Geologic Time Scale Toilet Paper Lab**

**PUPROSE**

* To demonstrate the enormous extent of geologic time compared to recent time

**MATERIALS**

* One roll of toilet paper, 230 sheets or more.
* Felt-tip marker(s) or fluid writing utensil(s), preferably several colors.
* Clear tape for repairs.

**PREPARATION**

1. On a flat, protected surface, unroll the first sheet or so of the roll. Test the marker(s) for clarity and bleed-through. Change markers or gear your writing based on the text. If you wish to draw long, dashed lines to show the eons, eras, and periods, try one on your test sheet. Discard the test sheet(s).
2. Using the perforations between sheets as a ruler (the first is zero), mark the dates and names of items as listed in the table below.
3. Re-roll the toilet paper. If it tears, repair with tape.

**PROCEDURE**

1. Starting at one end of the room, start unrolling the toilet paper, stopping to mark each time event. If the roll becomes too long, then carefully roll the other end.
2. When finished, call Ms. Price over to check
3. Re-roll your toilet paper neatly so we can use it again

**SPACING OF TOILET PAPER**

|  |  |  |  |
| --- | --- | --- | --- |
| sheets | Event | Geological time (Number of years before present) | Comments |
| *0.00* | *Present* | *0* |  |
| 0.0005 | Modern man | 10,000 |  |
| **1.0** | **Beginning of Quaternary period (end Tertiary/Neogene)** | **23,000,000** |  |
| **1.15** | **Beginning of Tertiary/Neogene period (end Paleogene)** | **23,000,000** |  |
| 2.00 | Collision of India with Asia | 40,000,000 |  |
| 2.50 | Separation of Australia and Antarctica | 50,000,000 |  |
| 3.00 | Early primates | 60,000,000 |  |
| **3.25** | **Beginning of Tertiary/Paleogene period** | **65,000,000** |  |
| **3.25** | **Beginning of Cenozoic Era** | **65,000,000** | **"recent life"** |
| **3.25** | **Cretaceous Period, Mesozoic Era end** | **65,000,000** |  |
| 3.25 | Dinosaurs became extinct | 65,000,000 |  |
| 4.00 | Rocky Mountains form | 80,000,000 |  |
| **7.00** | **Cretaceous Period begins (Jurassic ends)** | **140,000,000** |  |
| 9.00 | Early birds and mammals | 180,000,000 |  |
| **10.40** | **Jurassic Period begins (end Triassic)** | **208,000,000** |  |
| **12.25** | **Triassic Period begins** | **245,000,000** |  |
| **12.25** | **Beginning of Mesozoic Era (end Paleozoic)** | **245,000,000** | **"middle life"** |
| 14.00 | Final assembly of Pangaea | 280,000,000 |  |
| **14.50** | **Beginning of Permian period (end Carboniferous/Pennsylvanian)** | **290,000,000** |  |
| 16.25 | First reptiles | 325,000,000 |  |
| **16.15** | **Beginning of Carboniferous/Pennsylvanian period (end Mississippian)** | **323,000,000** |  |
| 18.15 | Early trees, formation of coal deposits | 363,000,000 |  |
| **18.15** | **Beginning of Carboniferous/Mississippian period (end Devonian)** | **363,000,000** |  |
| **20.45** | **Beginning of Devonian period (end Silurian)** | **409,000,000** |  |
| **21.95** | **Beginning of Silurian period (end Ordovician)** | **439,000,000** |  |
| 24.50 | Early fish | 490,000,000 |  |
| **25.50** | **Beginning of Ordovician period (end Cambrian)** | **510,000,000** |  |
| **28.50** | **Beginning of Cambrian period (end of Precambrian time)** | **570,000,000** | **rise of multicellular animals** |
| **28.50** | **Beginning of Paleozoic Era** | **570,000,000** | **"ancient life"** |
| **28.50** | **Beginning of Phanerozoic Eon (end Proterozoic)** | **570,000,000** | **"visible life" (or 544 million years ago)** |
| **125** | **Beginning of Proterozoic Eon (end Archeon)** | **2,500,000,000** | **"earlier life"** |
| 135 | Buildup of free oxygen in atmosphere | 2,700,000,000 |  |
| 190 | Oldest known Earth rocks | 3,800,000,000 |  |
| **200** | **Beginning of Archeon Eon** | **4,000,000,000** |  |
| **230** | **Precambrian time begins** | **4,600,000,000** |  |
| 230 | Origin of earth | 4,600,000,000 |  |