Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_

History of the Universe: Worksheet and Scaled Booklet

What happens if you try to show the history of the universe in one year? If the universe was born on January 1st, New Year’s Day, and today is midnight on December 31st, when did the most significant events occur during that year? You are going to make a booklet of a typical 12 month year showing each of the following events and when they occurred.

1. Below are some of the most significant events in the history of the universe. Put these events in order of occurrence with 1 being the first event (oldest) to occur and 14 being the most recent event.

Order of Events in the History of the Universe

|  |  |  |
| --- | --- | --- |
| Predicted Order of Occurrence | Event | Approximate Age (billion of years ago BYA) |
|  | Earth’s atmosphere begins to accumulate oxygen |  |
|  | Formation of our solar system |  |
|  | Early human ancestors (australopithecines) appear |  |
|  | The K-T event/extinction of the dinosaurs |  |
|  | The Big Bang |  |
|  | Primitive life on Earth appears |  |
|  | Grand Canyon begins to form |  |
|  | Modern humans (Homo sapiens) appear |  |
|  | Your birth |  |
|  | Formation of Pangaea |  |
|  | Formation of the Moon |  |
|  | Sudden flourishing of animal life (Cambrian explosion) |  |
|  | Formation of galaxies |  |
|  | First dinosaurs appear |  |

1. Use the Key to Approximate Ages to check your work. Make corrections in the order of events above and write the approximate age next to each event.

3. Identify the oldest event. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. How many years ago did that event occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. If your booklet has a page for each month of the year starting with the big bang on January 1st, how many billions of years will each month (page) represent?

Given: 12 months = \_\_\_\_\_\_\_\_\_\_\_\_ billion years

This question involves making a conversion from billions of years to months. A method that can always be used to make conversions between units is the factor label method. Use the factor label method and show all of your work to make the following conversions.

6. Complete the following table. Starting with December and working backward will be easiest!

Time Span for “Months” (Pages) in History of Earth

|  |  |
| --- | --- |
| Month in Calendar | Time span represented (billions of years ago BYA) |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |
| November |  |
| December | 0 – 1.2 BYA |

7. Follow instructions from your teacher to make a booklet using 7 pieces of printer paper.

8. Open your book to the first inside page and write the **month and time span for January** at the top of the left page (refer to table above). Turn the page and continue with the following month and time span for February. Label each left-hand page with the following month and time span at the top. Continue until you have completed December. Each month will have 2 pages. See example below\*\*.

9. Use the Key to Approximate ages and the time span above to write each event on the appropriate page.

10. Using the rubric for the History of the Universe Book, explain how or why each event occurred and describe the evidence scientists use to support this explanation.

11. Illustrate each event with a picture, diagram, or graph.

12. For all of the events that occurred in “December,” write one sentence to describe the event and 1 picture or graphic.

|  |  |
| --- | --- |
| January  13.2 – 14.4 BYA  Big Bang  Explanation of event and evidence that supports this explanation | This will be space for pictures, graphics, or examples. |

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