Earth Science 11 Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Date: \_\_\_\_\_\_\_\_\_\_\_\_ Blk: \_\_

**THE FORMATION OF THE EARTH Notes**

1. **Glue the events of the Earth’s Formation in order:**

|  |  |
| --- | --- |
| **Order** | **Event** |
| **1** |  |
| **2** |  |
| **3** |  |
| **4** |  |
| **5** |  |
| **6** |  |
| **7** |  |
| **8** |  |
| **9** |  |
| **10** |  |
| **11** |  |
| **12** |  |
| **13** |  |
| **14** |  |
| **15** |  |
| **16** |  |
| **17** |  |

1. **Answer the following questions:**
2. Explain why the Earth and the Sun are the same age.

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1. Why are there lighter rocks in the crust of the Earth (outside layer) and heavier rocks in the core of the Earth (center)?

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1. Why are the Iron Banded Formations red?

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1. Why is an atmosphere rich in oxygen important for the evolution of life?

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1. Describe how the oceans of the Earth formed.

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**CUT OUT THE EVENTS OF THE FORMATION OF THE EARTH!**

***Cut*** *these events out and* ***glue*** *them in order to the worksheet:*



|  |
| --- |
| **4.2 BYA** - Water vapour falls as rain, forming the **oceans.** |
| Dust grain and rocks fused into **larger rocks**. |
| **3 BYA** - **Key ingredients for life** = Carbon, Methane, Ammonia, and water vapour (plus energy). Simple Cyanobacteria form – which absorbs CO2, and releases O2 as waste. |
| As the mass of the rocks grows, it started to **melt** – forming a planet of melted magma! |
| Animal and plant species **evolved**, and the Earth suffered **mass extinctions**. |
| Increased O2 altered the atmosphere, allowing for **more complex life forms** |
| Magnetic field protects the early Earth, allowing for the **atmosphere** to form. |
| **65 MYA** – **K-T Extinction** – 50% of species died. Dinosaurs wiped out, allowing for ‘modern’ animals to evolve. |
| Volcano gasses created **the early atmosphere** (N and Co2). |
| The spinning outer core of the Earth creates **the magnetic field** to shield from sun’s charged particles (which results in Aurora Borealis.) |
| **4.6 BYA** - The Sun ignited, sending out rocks and dust. |
| **2 BYA** - Undersea volcanoes expel iron, which adds to O2 = **Banded Iron Formations.** |
| Larger rocks collided, **growing** in mass. |
| **0.2 MYA** – Modern **humans** evolve, start agriculture and create art. |
| **250 MYA** - **Permian Extinction** – 95% of life died. The Great Dying. Due to climate change and mass lava flows caused by bringing all the continents together (*Pangea*) |
| **Differentiation** = denser material (rocks and minerals) sank to the center of the Earth. |
| The protective atmosphere allows for **liquid water** on Earth! |