**Earth’s Atmosphere through Time**

Below is a chart showing how our atmosphere has evolved over time. The data starts from Earth’s early history 4,500 million years ago onto the present. You will create a **line graph** with the percentages of each gas. Make each gas a different colored line and include a key under the graph.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 4500 mya | 4000 mya | 3500 mya | 3000 mya | 2500 mya | 2000 mya | 1500 mya | 1000 mya | 500 mya | Present |
| Carbon Dioxide | 80% | 20% | 10% | 8% | 5% | 3% | 1% | 0.07% | 0.04% | 0.025% |
| Nitrogen | 10% | 35% | 55% | 65% | 72% | 75% | 76% | 77% | 78% | 78% |
| Hydrogen | 5% | 3% | 1% | 0.5% | 0% | 0% | 0% | 0% | 0% | 0% |
| Oxygen | 0% | 0% | 0% | 0% | 0% | 1% | 5% | 10% | 15% | 21% |
| Other Gases | 5% | 42% | 34% | 26% | 23% | 21% | 18% | 13% | 7% | 1% |

\*mya: Millions of years ago

Answer the following questions based on your graph:

1. Which gas increased the most over the past 4.5 billion years? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Which gas decreased the most over the past 4.5 billion years? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. When did the greatest change in carbon dioxide occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. When did the greatest change in oxygen occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   1. What probably led to the sudden increase in oxygen? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Earth’s Atmosphere through Time**

Below is a chart showing how our atmosphere has evolved over time. The data starts from Earth’s early history 4,500 million years ago onto the present. You will create a **line graph** with the percentages of each gas. Make each gas a different colored line and include a key under the graph.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 4500 mya | 4000 mya | 3500 mya | 3000 mya | 2500 mya | 2000 mya | 1500 mya | 1000 mya | 500 mya | Present |
| Carbon Dioxide | 80% | 20% | 10% | 8% | 5% | 3% | 1% | 0.07% | 0.04% | 0.025% |
| Nitrogen | 10% | 35% | 55% | 65% | 72% | 75% | 76% | 77% | 78% | 78% |
| Hydrogen | 5% | 3% | 1% | 0.5% | 0% | 0% | 0% | 0% | 0% | 0% |
| Oxygen | 0% | 0% | 0% | 0% | 0% | 1% | 5% | 10% | 15% | 21% |
| Other Gases | 5% | 42% | 34% | 26% | 23% | 21% | 18% | 13% | 7% | 1% |

\*mya: Millions of years ago

Answer the following questions based on your graph:

1. Which gas increased the most over the past 4.5 billion years? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Which gas decreased the most over the past 4.5 billion years? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. When did the greatest change in carbon dioxide occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. When did the greatest change in oxygen occur? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   1. What probably led to the sudden increase in oxygen? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_