

Life Explosion by Kate Ruttle

About 525 million years ago, there was an explosion of life on planet Earth.

4.5 – 4.1 billion years ago

From its beginnings, about 4.5 billion years ago (that's 4.5 thousand million years) the Earth was too hot and its atmosphere was too poisonous to sustain life. Most of the gases in Earth's atmosphere came from constant volcanic eruptions and, at first, nothing could survive.

4.1 – 2.5 billion years ago

Then, about 4.1 billion years ago, the Earth's surface – its crust – began to cool, creating a rocky surface. As the Earth cooled, it created clouds of steam that fell back to Earth as rain. This rain formed Earth's oceans. As the Earth cooled, simple bacteria began to live in the oceans. Only they could survive in the toxic atmosphere.

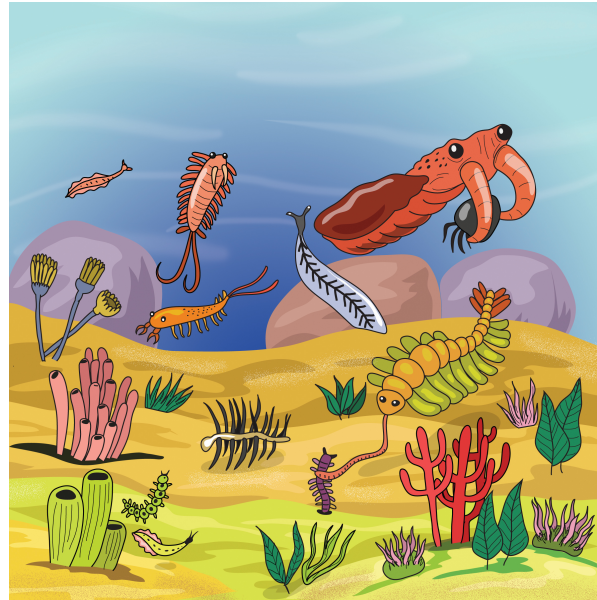
2 billion – 550 million years ago

Around 1.8 billion years ago, the atmosphere of the Earth began to include some oxygen and this allowed more varied life forms to emerge. Some of the simple life-forms included blue-green algae that could make food from sunlight, much as plants do today. Some of these early life forms developed into cells called Eukaryotes (say 'you-KARY-otes'). Eukaryotes later divided into three different groups which were the earliest ancestors of plants, fungi and animals.

550 – 490 million years ago

Now that the planet had water and oxygen, life in the oceans could really begin to flourish! This is known as the Cambrian period. The land was still too hot, too volcanic and too rocky for life to thrive on land, but the seas swarmed with living things. Early ancestors of sea-snails, worms, sponges, star fish and sea urchins began to appear.

The Cambrian period began with an explosion of life, but ended in a mass extinction as the ice age spread around the planet, cooling the seas and changing the oxygen levels. However, not all of the Cambrian life-forms died out. Those that survived became the earliest ancestors of all life as we know it today.



Name:	Class:	Date:
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1 In paragraph 2 it says: *the Earth was too hot and its atmosphere was too poisonous to sustain life.*

In this sentence the word “sustain” means the same as: Choose **one**

eat

experience

support

withstand

2a

1 mark

2 Look at paragraph 3, beginning
Then, about 4.1 billion years ago.

Why does the writer tell you that the atmosphere is toxic?

2g

1 mark

3 List the two main things that allowed life to explode in the oceans during the Cambrian period (550-490 million years ago).

2b

1 mark

4 Why do you think the writer used headings telling you *when* things happened, not *what* happened

2f

1 mark

5 Read about life on Earth more than 4.1 billion years ago, and 490 million years ago.
Write about **one** thing that was different.

2h

1 mark

6 Number the events to show the order in which they occurred.

- an ice age caused mass extinction
- simple bacteria lived in the oceans
- algae made food from sunlight
- the atmosphere was too poisonous for life

2c

1 mark