

ANALYSIS



1. Look carefully at your completed table.
 - a. How has the amount of carbon dioxide gas in the atmosphere changed over the earth's history?
 - b. How has the amount of oxygen gas in the atmosphere changed over the earth's history?



2. What effect have living organisms (including people) had on the composition of the earth's atmosphere? Support your answer with examples from this activity.



3. **Reflection:** Do you think that the atmosphere will have different amounts of oxygen and carbon dioxide in the future? Explain your reasoning.

Sample Student Table: "Earth's Atmosphere Through Time"

Card	Gases Present in the Atmosphere (and percentage, if listed)	Important Date and Event
B	hydrogen, helium	Earth formed more than 4.5 billion years ago
E	water vapor, carbon dioxide, nitrogen, sulfur dioxide	erupting volcanoes
C	70% carbon dioxide, 30% nitrogen	water condensed into liquid water on the earth's surface
H	20% carbon dioxide	3.5 billion years ago, the oceans absorbed carbon dioxide
G	15% carbon dioxide, less than 1% oxygen	2–3 billion years ago, living organisms produce oxygen
D	21% oxygen	400–500 million years ago, land plants produce oxygen
A	78% nitrogen, 21% oxygen, less than 1% carbon dioxide	modern atmosphere
F	0.0377% carbon dioxide	19% increase in carbon dioxide from 1959 to 2004