

Name:

Date:

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Oxygen and the Earth

Directions: Use a **bar graph** to plot the data about the **Earth's atmosphere** in Table 1.

Table 1: Composition of the Atmosphere at Sea Level, Excluding water:

Element	Chemical Composition	Volume in Atmosphere
Nitrogen	N ₂	78.1%
Oxygen	O ₂	20.9%
Argon	Ar	0.9%
Carbon Dioxide	CO ₂	0.03%
All other gases except H ₂ O	He, Xe, Ne, etc.	0.07%
Total		100%

Directions: Use a **bar graph** to plot the data about the **Earth's crust** in Table 2.

Table 2: Chemical Composition of the Earth's crust:

Element	Symbol	Weight in Crust	Volume in Crust
Oxygen	O	46.6%	93.8%
Silicon	Si	27.7%	0.9%
Aluminum	Al	8.1%	0.5%
Iron	Fe	5.0%	0.4%
Calcium	Ca	3.6%	1.0%
Sodium	Na	2.8%	1.3%
Potassium	K	2.6%	1.8%
Magnesium	Mg	2.1%	0.3%
All other elements		1.5%	
Total		100%	100%

Analysis Questions: Answer the following questions on a separate sheet of notebook paper.

1. How much oxygen is in the air you breathe?
2. What is the most abundant element in the Earth's crust by weight?
3. What is the most abundant element in the Earth's crust by volume?
4. What is the second most common element in the Earth's crust by weight?
5. Draw Lewis Dot Diagrams for Silicon and Oxygen.
6. Show how Silicon and Oxygen bond. (Hint: It's a covalent bond.)
7. Do Silicon and Oxygen form a stable bond?
8. What is the name of this compound?
9. What common substance is this? (Hint: It's found on beaches.)