

Name _____

Atmosphere in a Jar Data Sheet

Initial observations: what do you notice about the materials in the jar?

Group directions:

1. Take a sample from the “atmosphere” jar using your sample cup
2. Separate all the different types of beans in your sample
3. Count the number of each type of bean
4. Record the name of the bean and the number in the data table
5. Add up the total number of beans in your sample, and write it on your data table
6. Write the ratio of the number of beans in each sample to the total
7. Calculate the percentage of each bean in your sample using the formula below:

$$\text{Percent of total} = \frac{\text{number in sample}}{\text{total}} \times 100\%$$

My group's sample data:

Material (bean)	Number in sample	Ratio of number to total	Percent of total
Total			

Class data:

Material (bean)	Number in sample	Ratio of number to total	Percent of total
Total			

What gas do you think each bean represents?

Material (bean)	My guess	Actual gas	Percentage of Earth's atmosphere

Name _____

Atmosphere in a Jar Follow-Up Questions

Answer the questions below based on the Atmosphere in a Jar activity.

1. Which estimate of the gases in the atmosphere do you think is more accurate?

My group's estimate

The class data estimate

Why do you think your choice is more accurate?

2. If the beans in the jar were not mixed up before you took your sample, do you think you could make a good estimate of the gases in the atmosphere? Why or why not?

3. Why is it more useful to know the percentage of each gas in the atmosphere instead of the amount of each gas? Hint: When you take a quiz, it is more useful to know how many questions you got right, or the percentage of questions you got right?
