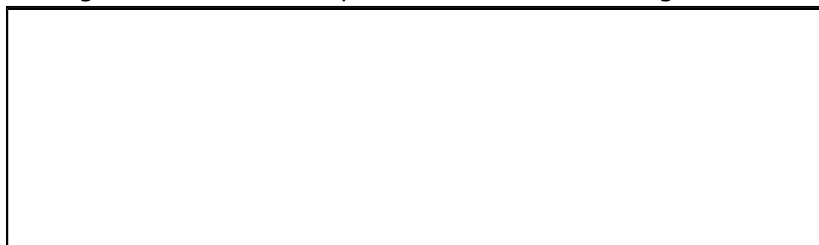


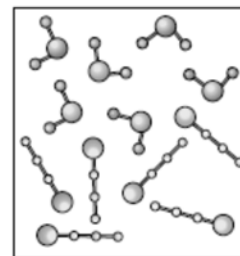
Drawing Gas Mixtures

Name: _____

1) Draw a model of a homogeneous mixture composed of three different gaseous elements.

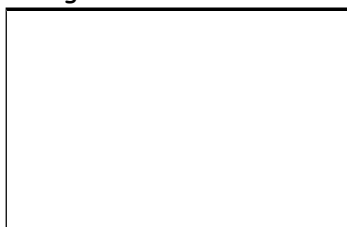


2) What kind of matter, heterogeneous or homogeneous, does the model to the right represent? Explain your answer.

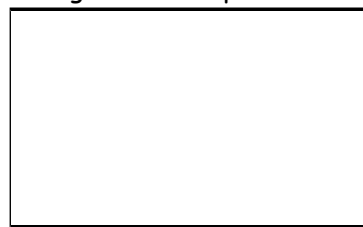


3) Draw a model of a container full of each of these samples of matter.

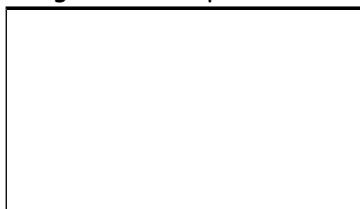
a) a mixture of gaseous elements X and Z



c) a four-atom gaseous compound of X and Z



b) a two-atom gaseous compound of X and Z



d) a five-atom gaseous compound with a 4 to 1, X to Z ratio.



4a) Compare each visual representation that you created in Question 3 with those of one other person. Comment on any similarities and differences.

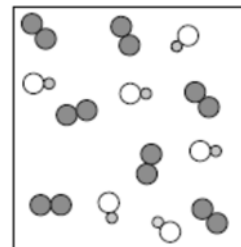
b) Do the differences help or hurt your ability to visualize the type of matter being depicted? Explain.

Gaseous Components of Dry Tropospheric Air		
Substance	Formula	Percent of All Gas Molecules
Nitrogen	N ₂	78
Oxygen	O ₂	21
Argon	Ar	0.93
Carbon dioxide	CO ₂	0.033
Neon	Ne	0.0018
Ammonia	NH ₃	0.0010
Helium	He	0.0005
Methane	CH ₄	0.0002
Krypton	Kr	0.0001

5) Draw a model of a sample of tropospheric air containing at least 20 molecules. Refer to the table for appropriate proportions of substances. Remember that you cannot draw partial molecules, so some trace components may have to be omitted from your drawing. Also, recall that some elements in air are diatomic, meaning that they normally exist as a two-atom molecule.



6) Another student was asked to draw a model of a homogeneous mixture composed of an element and a compound. Is this right? How would you have drawn it differently?



7) Your teacher has asked you to draw a heterogeneous mixture of an element and two compounds. She also tells you that the element is more dense than the two compounds that mix homogeneously.

a) Draw the mixture of gases as you would model it.

b) Describe the placement of the element compared to the compounds and explain why you put the element where you did.



8) What is the difference between a gas that has the formula XZ and another gas that has the formula Z₂?