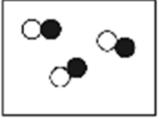
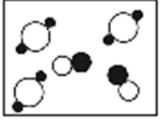
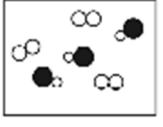
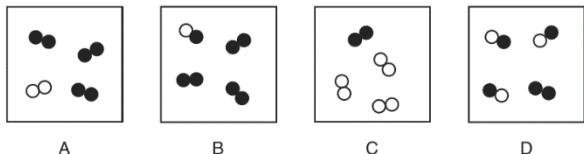


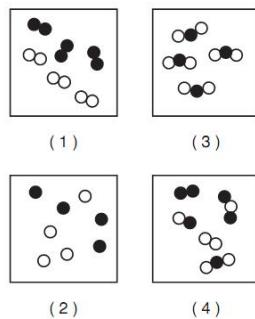
Unit 2A Quest Review

1. Which substance represents a compound?
A. C (s) C. CO (g)
B. Co (s) D. O₂(g)
2. When potassium chloride, KCl (s) is dissolved in water, the resulting solution is classified as a
A. heterogeneous compound
B. homogeneous compound
C. heterogeneous mixture
D. homogeneous mixture
3. Two substances, A and Z, are to be identified. Substance A cannot be broken down by a chemical change. Substance Z can be broken down by a chemical change. What can be concluded about these substances?
A. Both substances are elements.
B. Both substances are compounds.
C. Substance A is an element and substance Z is a compound.
D. Substance A is a compound and substance Z is an element.
6. Base your answers to the following questions on the particle diagrams below:



7. Explain, in terms of composition, why sample A represents a pure substance
8. Explain why sample C would represent a mixture of fluorine (F₂) and hydrogen chloride (HCl)
9. Contrast sample A and sample B, in terms of compounds and mixtures. Include both sample A and sample B in your answer
10. What mass contains 6.02×10^{23} atoms?
A. 7 g of nitrogen B. 40 g of calcium C. 10 g of neon D. 14 g of silicon

4. Circle the two particle diagrams that represent mixtures of diatomic elements



5. Which particle model diagram represents only one compound composed of elements X and Z?



11. How many moles are present in 34 grams of Cu(OH)₂?
12. How much does 4.2 moles of Ca(NO₃)₂ weigh?
13. How many moles are present in 2.45×10^{23} molecules of CH₄?
14. How many grams are there in 3.4×10^{24} molecules of NH₃?
15. The molecular formula of glucose is C₆H₁₂O₆. What is the empirical formula of glucose?
16. What is the percent composition by mass of oxygen in H₂SO₄ (molar mass = 98 g/mol)?
17. A compound has the empirical formula CH₂O and a gram-formula mass of 60 grams per mole. What is the molecular formula of this compound?
18. A certain blue solid contains 36.84% N and 63.16% O. What is the empirical formula of this compound?