**Faculty Submitting**: Allison Kelly

**Specify here whether “Pre” or “End” of Unit and the Unit #:** Pre Unit 2

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| *LOs: Distinguish elements from compounds, pure substances from mixtures, homogeneous from heterogeneous mixtures (solutions), and physical from chemical propertiesWrite formulas and names for elements, cations and anions, oxoacids, and ionic and covalent compoundsDescribe the properties of protons, neutrons, electrons, atoms, ions and isotopes* |
| **Unit 2\_ Question 1** | **Canvas Question Type: Multiple Choice****QUESTION GROUP** |
| 1a | Which of the following represents a mixture?ALT TEXT: There are three boxes representing a microscopic system. The box labelled I has only water molecules in it. The box labelled II has water molecules, anions and cations. The box lablled III has water molecules and ethanol molecules. |
|  | Correct Answer: II and IIIWrong Answers:Only IOnly IIOnly IIII and III and III |
| **1b** | Which of the following represents a pure substance?ALT TEXT: There are three boxes representing a microscopic system. The box labelled I has only water molecules in it. The box labelled II has water molecules, anions and cations. The box lablled III has water molecules and ethanol molecules. |
|  | Correct Answer: Only IIWrong Answers:Only IOnly IIIII and IIII and III and III |
| Read More | <https://openstax.org/books/chemistry-2e/pages/1-2-phases-and-classification-of-matter>  |
| **Unit 2\_ Question 2** | **Canvas Question Type: Multiple Fill in the Blank** |
|  | Elements cannot be broken down by [chemical] changes. [Compounds] are pure substances made of two or more elements. |
| Read More | <https://openstax.org/books/chemistry-2e/pages/1-2-phases-and-classification-of-matter#CNX_Chem_01_02_MattType>  |
| **Unit 2\_ Question 3** | **Canvas Question Type: Multiple Answers****QUESTION GROUP** |
| 3a | Which of the following are physical properties? |
|  | **Correct answers:** DensityMelting pointHardness**Wrong Answers:** ToxicityAcidityFlammability |
| 3b | Which of the following are chemical properties? |
|  | **Correct answers:** ToxicityAcidityFlammability**Wrong Answers**DensityMelting pointHardness |
| Read More | <https://openstax.org/books/chemistry-2e/pages/1-3-physical-and-chemical-properties>  |
| **Unit 2\_ Question 4** | **Canvas Question Type: Matching** |
|  | Atomic Number: The number of protons in an atomMass Number: The number of protons and neutrons in an atomAtomic Mass: The mass of an atom |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-3-atomic-structure-and-symbolism>  |
| **Unit 2\_ Question 5** | **Canvas Question Type: Fill in Multiple Blanks** |
|  | According to Dalton’s PostulatesA compound consists of [atoms] of two or more elements combined in a small, [whole]-number ratio. For a given compound, the atoms are always present in the same [ratio]. |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-1-early-ideas-in-atomic-theory>  |
| **Unit 2\_ Question 6** | **Canvas Question Type: Matching** |
|  | Match the laws to their definitionsLaw of Constant Proportions – The elements of a compound are present in fixed proportionsLaw of Conservation of Mass – Mass is neither created or destroyed |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-1-early-ideas-in-atomic-theory>  |
| **Unit 2\_ Question 7** | **Canvas Question Type: Multiple Choice**QUESTION GROUP |
| **7a** | Which of the following was the result of J.J. Thompson’s Cathode Ray Experiment? |
|  | Correct Answer: Observed electrons and determined the charge to mass ratioWrong Answers:Demonstrated the existence of the nucleus of the atomDetermined the charge on the electron |
| **7b** | Which of the following was the result of R.A. Millikan’s Oil Drop Experiment? |
|  | Correct Answer: Determined the charge on the electronWrong Answers:Observed electrons and determined the charge to mass ratioDemonstrated the existence of the nucleus of the atom |
| **7c**  | Which of the following was the result of Rutherford’s Gold Foil Experiment? |
|  | Correct Answer: Demonstrated the existence of the nucleus of the atomWrong Answers:Observed electrons and determined the charge to mass ratioDetermined the charge on the electron |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-2-evolution-of-atomic-theory>  |
| **Unit 2\_ Question 8** | **Canvas Question Type: Multiple Drop Downs** |
|  | Isotopes are atoms that contain the same number of [dropone] but different numbers of [droptwo]DropOneCorrect Answer: protonsWrong Answers: electrons, neutronsDropTwoCorrect Answer: neutronsWrong Answers: protons, electrons |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-3-atomic-structure-and-symbolism>  |
| **Unit 2\_ Question 9** | **Canvas Question Type: Multiple Choice** |
|  | For which of the following compounds is the empirical formula the same as the molecular formula? Correct Answer: C2H6OWrong Answers: C6H12O6C6H14N2O2 |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-4-chemical-formulas>  |
| **Unit 2\_ Question 10** | **Canvas Question Type: Multiple Answers** |
|  | **Which of the following are true for ionic compounds?**Correct Answers:Composed of a metal and a nonmetalSolids with high melting temperaturesConduct electricity when meltedFormed by transferring electronsWrong Answers:Formed by sharing electrons |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-6-ionic-and-molecular-compounds>  |
| **Unit 2\_ Question 11** | **Canvas Question Type: Multiple Drop Downs** |
|  | An anion has [dropone] electrons to become [droptwo] chargedA cation has [dropthree] electrons to become [dropfour] chargedDrop OneCorrect Answer: gainedWrong Answer: lostDropTwoCorrect Answer: negativelyWrong Anwer: positivelyDropThreeCorrect Answer: lostWrong Answer: gainedDropFourCorrect Answer: positivelyWrong Answer: negatively |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-3-atomic-structure-and-symbolism>  |
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