**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 properties Write formulas and names for elements, cations and anions, oxoacids, and ionic and covalent compounds Describe 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 III  Wrong Answers: Only I Only II Only III I and II I 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 II  Wrong Answers: Only I Only III II and III I and II I 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:**  Density Melting point Hardness  **Wrong Answers:**  Toxicity Acidity Flammability |
| 3b | Which of the following are chemical properties? |
|  | **Correct answers:** Toxicity Acidity Flammability  **Wrong Answers** Density Melting point Hardness |
| 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 atom Mass Number: The number of protons and neutrons in an atom Atomic 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 Postulates  A 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 definitions  Law of Constant Proportions – The elements of a compound are present in fixed proportions  Law 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 ratio  Wrong Answers: Demonstrated the existence of the nucleus of the atom Determined 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 electron  Wrong Answers: Observed electrons and determined the charge to mass ratio Demonstrated 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 atom  Wrong Answers: Observed electrons and determined the charge to mass ratio Determined 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]  DropOne Correct Answer: protons  Wrong Answers: electrons, neutrons  DropTwo Correct Answer: neutrons Wrong 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: C2H6O  Wrong Answers:  C6H12O6 C6H14 N2O2 |
| 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 nonmetal Solids with high melting temperatures Conduct electricity when melted Formed by transferring electrons  Wrong 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] charged A cation has [dropthree] electrons to become [dropfour] charged  Drop One Correct Answer: gained Wrong Answer: lost  DropTwo Correct Answer: negatively Wrong Anwer: positively  DropThree Correct Answer: lost Wrong Answer: gained  DropFour Correct Answer: positively Wrong Answer: negatively |
| Read More | <https://openstax.org/books/chemistry-2e/pages/2-3-atomic-structure-and-symbolism> |
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