

MODERN CHEMISTRY CHAPTER 8

SECTION 2 ANSWERS

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Which element is more active F₂ or I₂? F₂ is a better oxidizing agent than I₂ because its standard reduction potential is more positive. The standard reduction potential of $\text{F}_2(\text{g}) + 2\text{e}^- \rightarrow 2\text{F}^-(\text{aq})$ is +2.87, and the standard reduction potential of $\text{I}_2(\text{s}) + 2\text{e}^- \rightarrow 2\text{I}^-(\text{aq})$ is +0.54.

How many moles of CO₂ are formed when 1 mol of C₂H₂ is burned?
Demystifying Stoichiometry For example, in the balanced equation of acetylene combustion, the coefficients indicate that 1 mole of acetylene reacts with 2.5 moles of oxygen to produce 2 moles of carbon dioxide and 1 mole of water.

What chemical principle is the basis for the activity series of metals? Answer and Explanation: The activity series is based on the electropositive nature of metals. Metals have a capability to donate the electrons present in their valence shell, to some electronegative element. When the metal can easily donate these electrons, it is said to be more electropositive or more reactive.

What is an example of chemistry? Examples include extracting metals from ores, making pottery and glazes, fermenting beer and wine, extracting chemicals from plants for medicine and perfume, rendering fat into soap, making glass, and making alloys like bronze.

Is I₂ stronger than F₂? Specifically, I₂ has stronger London dispersion forces because of its larger number of electrons and larger molar mass, causing a higher boiling point. On the contrary, F₂ has fewer electrons and a smaller molar mass which result in weak London dispersion forces causing a lower boiling point.

Why is F₂ more reactive than I₂? Due to small size, high electronic density, greater inter electronic repulsion (lower F-F bond energy) F₂ is highly reactive among halogens. Hence the order, F₂ > Cl₂ > Br₂ > I₂.

How many moles of CO₂ are produced when 0.300 mol of C₆H₁₂O₆ reacts in this fashion? 0.600 moles of carbon dioxide can be produced from 0.300 moles glucose.

How many moles of O₂ are needed to react with C₂H₂? This means that five moles of O₂ are needed to completely react with two moles of C₂H₂. When we write the amount in moles of two substances in a balanced equation as a ratio, it is called the molar ratio.

How much is one mole of C₂H₂?

Which of these metals will replace zinc in a replacement reaction? In a displacement reaction, the high reactive metal displaces the less reactive metal from its salt. Tin and lead are less reactive than zinc. Magnesium and aluminium being more reactive than zinc will displace it from its salt.

How to tell if a reaction will occur with activity series? If the element in its elemental form is higher up on the list than the element in a compound, the elemental metal will replace it, and a reaction will occur.

How do you know which elements are more reactive? The number of electrons in the outermost shell of an atom determines its reactivity.

What on Earth is not chemistry? Light, heat, and sound are not chemicals—nor are thoughts, dreams, gravity, or magnetism.

What is chemistry in one words? Chemistry is the study of matter—what it consists of, what its properties are, and how it changes.

What are the 4 types of chemistry? In a more formal sense, chemistry is traditionally divided into five major subdisciplines: organic chemistry, biochemistry, inorganic chemistry, analytical chemistry, and physical chemistry.

Is fluorine or iodine more active? Fluorine is the most electronegative halogen, so it is the most reactive halogen. Iodine is the least electronegative (except astatine), so it is the least reactive.

Which is most likely solid F₂ or I₂? Iodine is a solid while fluorine is a gas although both are halogens because the metal (reducer) character of elements increases when you go down the groups of the Periodic table. Iodine has even brilliance, similarly as metal.

Is F₂ or I₂ a stronger oxidizing agent? Assertion: Fluorine is a stronger oxidising agent than iodine. Reason: Fluorine has greater electronegativity than iodine.

Is Cl₂ or F₂ more chemically active? 2) The electronegativity of fluorine is more than that of chlorine. F₂ is highly reactive than Cl₂. Order of reactivity towards halogenation is F₂>Cl₂>Br₂>I₂.

The Great American Songbook: A Compendium of Timeless Music

The Great American Songbook refers to a collection of over 100 standard songs dating back to the Golden Age of American songwriting, spanning the 1920s to the 1950s. These enduring tunes have left an indelible mark on popular culture and continue to be cherished by generations of music lovers.

Q: Who were the composers behind this iconic music?

A: The Great American Songbook is a testament to the brilliance of legendary composers such as Irving Berlin, George Gershwin, Cole Porter, Richard Rodgers, and Jerome Kern. Their melodies and harmonies captivated audiences, creating a timeless legacy.

Q: What distinguished the lyrics of the Great American Songbook?

A: The lyrics in these songs were equally masterful, penned by lyricists like Ira Gershwin, Lorenz Hart, Dorothy Fields, and Oscar Hammerstein II. Their wit, sophistication, and emotional depth brought the music to life, expressing universal themes of love, longing, and the human condition.

Q: How did these songs become so widely popular?

A: The Great American Songbook flourished in the era of Broadway musicals and Hollywood films. These platforms showcased the songs, which were often performed by renowned singers and actors, solidifying their status as cultural touchstones.

Q: What is the legacy of the Great American Songbook?

A: The Great American Songbook has had a profound impact on popular music. Its melodies and harmonies have influenced countless genres, from jazz to rock and pop. Many of these songs have been covered and reinterpreted by artists of all eras, ensuring their continued relevance.

Q: How can we appreciate the Great American Songbook today?

A: To immerse oneself in the Great American Songbook, one can explore recordings by classic artists, attend live performances, and study the original sheet music. The songs' enduring appeal and timeless quality continue to inspire and entertain audiences worldwide.

What Are Criticisms of Tina Bruce's Play Theory Assistant?

Tina Bruce's Play Theory Assistant (PTA) is a tool designed to help early childhood educators implement the principles of play theory in their classrooms. However, some critics argue that the PTA has several limitations.

1. Overemphasis on Structured Play:

Critics argue that the PTA places too much emphasis on structured play, where children are guided by predetermined activities and materials. They contend that this approach stifles children's natural creativity and undermines the spontaneous and exploratory nature of play.

2. Lack of Focus on Child-Led Play:

Critics also point out that the PTA does not adequately promote child-led play, where children are empowered to determine the direction and content of their???. They argue that this type of play is essential for children's development and fosters their independence and imagination.

3. Limited Scope of Play Theory:

Some critics believe that the PTA's narrow focus on play theory excludes other important aspects of early childhood education, such as social development and literacy. They argue that a comprehensive approach to early childhood education should incorporate a wider range of theories and perspectives.

4. Insufficient Support for Educators:

Critics also suggest that the PTA does not provide sufficient support for early childhood educators. They argue that the tool often requires a high level of expertise in play theory and may be difficult for educators with limited experience to implement effectively.

5. Practical Challenges:

Finally, critics highlight practical challenges associated with using the PTA. They argue that the tool can be time-consuming to use and may not be suitable for all classroom environments. They also express concerns about potential biases that may exist within the tool's assessment system.

Whiskey: A Taste of History, How It's Made, and the Art of Drinking It Like a Sir (Old Fashioned)

Whiskey, the amber-hued elixir, has a storied history spanning centuries. From humble beginnings to its reign as the backbone of countless classic cocktails, whiskey has captivated palates across the globe. Let's embark on a journey through its past, production, and the refined art of sipping it like a true gentleman.

Q: What's the etymology behind "whiskey"? A: Whiskey derives its name from the Gaelic word "uisce beatha," meaning "water of life."

Q: How is whiskey made? A: Whiskey's production involves fermenting grains like barley, rye, or corn with yeast. The resulting liquid is distilled, removing impurities and concentrating flavors. Oak barrels are then employed for aging, imparting maturity and complexity.

Q: What's the difference between whiskey, bourbon, and scotch? A: These spirits share a whiskey base but differ in their composition and aging methods. Bourbon, made primarily from corn, is aged in charred oak barrels for a minimum of two years. Scotch, distilled and aged in Scotland, uses malted barley and undergoes a more prolonged aging process.

Q: How to drink whiskey like a sir (Old Fashioned)? A: The Old Fashioned, a timeless cocktail, embodies the essence of whiskey appreciation. In a rocks glass, muddle two sugar cubes with three dashes of aromatic bitters. Add two ounces of whiskey and a splash of water. Stir gently, garnish with an orange peel, and enjoy the symphony of flavors.

Q: What's the etiquette for sipping whiskey? A: Sipping whiskey is an art of patience and reverence. Hold the glass by the stem or base, letting its aroma envelop your senses. Take small sips, savoring the flavors and textures. The Old Fashioned, with its balance of sweetness, bitterness, and oaky warmth, allows for a contemplative and refined experience that will leave you feeling like a true connoisseur.

[the great american songbook the composers music and lyrics for over 100 standards from the golden age of american song, what are criticisms of tina bruce play theory assistant, whiskey a taste of the history how its made and the art of drinking it like a sir old fashioned](#)

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