

Honour Chemistry Unit 8 Outline: Acids and Bases

Chapters 20: Acids and Bases

Classes	Topics	Suggested Reading	Assignments	✓
1	Physical and Chemical Properties of Acids and Bases, Nomenclature of Acids and Bases, Hydroxide Ion (OH^-), Hydronium Ion (H_3O^+), Neutral Solution, Ion-Product Constant for Water ($K_w = [\text{H}_3\text{O}^+][\text{OH}^-]$), Acidic Solution, Basic Solution, Alkaline Solutions, pH and pOH Scales, $\text{pH} = -\log [\text{H}_3\text{O}^+]$, $\text{pOH} = -\log [\text{OH}^-]$, $\text{pH} + \text{pOH} = 14$, Measuring pH (Acid-Base Indicators, pH Meter)	20.1: Describing Acids and Bases (pg. 577 to 579) 20.2: Hydrogen Ions and Acidity (pg. 580 to 593)	pg. 579 #1 to 5; pg. 609 #34 pg. 582 #6 and 7; pg. 586 #8 to 9; pg. 587 #10 and 11; pg. 588 #12 and 13; pg. 589 #14 and 15; pg. 593 #16 to 18; pg. 609 #35 to 42	✓
2	Arrhenius Acids and Bases, Monoprotic Acids, Diprotic Acids, Triprotic Acids, Brønsted-Lowry Acids and Bases, Hydrogen-Ion (Proton) Donor, Hydrogen-Ion (Proton) Acceptor, Lewis Acids and Bases	20.3: Acid-Base Theories (pg. 594 to 599)	pg. 599 #19 to 25; pg. 609 #43 to 51	
3	Strong and Weak Acids, Acid Dissociation Constant (K_a), Strong and Weak Bases and their pH and pOH, Base Dissociation Constant (K_b), Calculating Dissociation Constants from $[\text{H}^+]$ or $[\text{OH}^-]$	20.4A: Strengths of Acids and Bases (pg. 600 to 605)	pg. 605 #26 to 33; pg. 609 #52 to 56	
4	Calculating pH of Weak Acids and Bases using Initial Concentrations, Percent Dissociation, $K_w = K_a \times K_b$	20.4B: Weak Acids and Bases Calculation (Notes)	Acids and Bases Worksheet	
5	Chapter 20 Quiz (April 29, Tuesday)		pg. 609–610 #57 to 65; pg. 611 #1 to 14	

Chapters 21: Neutralization

Classes	Topics	Suggested Reading	Assignments	✓
1	Neutralization Reactions, Acid and Base Titration, pH Curve (Titration Curve), Equivalence Point, End Point, Neutralization between Strong Acid and Strong Base, Stoichiometry of Strong Acid and Base, Standard Solution	21.1: Neutralization (pg. 613 to 624)	pg. 616 #1 and 2; pg. 618 #3 and 4; pg. 624 #17 to 19; pg. 640 #36 to 39; pg. 641 #62	✓
2	Titration Curves, Weak Acid and Strong Base, Strong Acid and Weak Base, Weak Acid and Weak Base, Polyprotic Acid/Base and Strong Base/Acid, Buffers, Buffer Capacity	21.2: Salts in Solution (pg. 626 to 630)	pg. 630 #23 and 24; pg. 640 #46 to 51; pg. 641 #59, 61, 65, 66 and 70	
3	Chemistry of Acid Rain, Effects of Acid Deposition and Acid Rain	21.3: Environmental Issues Involving Acids and Bases (Notes)	Unit 8 Practice Test pg. 642 #73, 75 and 77; pg. 643 #1 to 3, 5, 10 to 12	
4	Review all Concepts Learned in Unit 8	Unit 8 Review: Acids and Bases	Lab Report Due: May 16, Friday	
5	Unit 8 Test May 12, Monday			