Unit #1

Chemistry Basics   
and Atomic Structure

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| N1  Chemistry  Math Review  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\pmn2ypx2-400.png  tinyurl.com/pmn2ypx2 | N2 Dimensional  Analysis  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\mexvafza-400.png  tinyurl.com/mexvafza | N3  Significant  Figures  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\693czxv3-400.png  tinyurl.com/693czxv3 |
| N4  Properties, ∆’s, Types of Matter  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\3b34224m-400.png  tinyurl.com/3b34224m | N5  Atomic Numbers and Isotopes  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\est8nnna-400.png  tinyurl.com/est8nnna | N6 Average Mass Calculations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\3db8fx29-400.png  tinyurl.com/3db8fx29 |

**Targets:**

N1 – I can perform metric conversions and use scientific notation.

N2 – I can use Dimensional Analysis to show unit conversions.

N3 – I can use Significant Figures to ensure reliability in measurements.

N4 – I can describe types of matter and changes that matter goes through.

N5 – I can determine how many sub atomic particles different atoms have.

N6 – I can calculate the average mass of an element, accounting for all   
 the different isotopes that exist.

Unit #2

Nuclear Chemistry

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| N7  Writing Nuclear Equations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\crjkpyby-400.png  tinyurl.com/crjkpyby | N8 Nuclear  Decay Series  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\cfvpv3v-400.png  tinyurl.com/cfvpv3v | N9  Half Life Calculations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\3u4mvba2-400.png  tinyurl.com/3u4mvba2 |

**Targets:**

N7 – I can balance nuclear equations to ensure the Laws of Conservation   
 of Matter, Charge, and Energy are being followed.

N8 – I can track the series of steps that radioactive substances sometimes   
 have to go through in order to reach stability

N9 – I can use half-life calculations to find values related to how fast a   
 radioactive substance decays.

Unit #3

Electrons

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| --- | --- | --- |
| N10  Introduction  to Electrons  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\2sd65mb4-400 (1).png  tinyurl.com/2sd65mb4 | N11 Orbital  Diagrams  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\kmvr8b2h-400.png  tinyurl.com/kmvr8b2h | N12  Writing Electron Configurations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\68kejbt-400.png  tinyurl.com/68kejbt |
| N13  Configs of Ions & Noble Gas Config  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\jvyknedk-400.png  tinyurl.com/jvyknedk | N14  Absorption and Emission  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\5hxbtw8y-400.png  tinyurl.com/5hxbtw8y |  |

**Targets:**

N10 – I can describe in detail the location of electrons in an atom.

N11 – I can use Orbital Diagrams to show the energy levels and orbitals   
 that electrons occupy inside different atoms.

N12 – I can use the Periodic Table to write electron configurations.

N13 – I can write electron configurations for ions and can use Noble Gas   
 Configurations as a short hand way of writing configurations.

N14 – I can describe how electrons behave when at atom absorbs and   
 emits energy.

Unit #4

The Periodic Table

|  |  |  |
| --- | --- | --- |
| N15  Periodic  Trends  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\49842uaf-400.png  tinyurl.com/49842uaf | *\*This is one pretty big PowerPoint that we usually do over a few days. It is all one topic so I don’t like to break it into separate files. So technically there is only one set of notes for this chapter.* |  |

**Targets:**

N15 – I can use the Periodic Table’s structure to see a variety of physical   
 and chemical properties of the elements. I can utilize the patterns   
 seen on the Periodic Table to compare/rank/explain properties of   
 different elements.

Unit #5

Bonding and Structure

|  |  |  |
| --- | --- | --- |
| N16  Bonding and Naming  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\37rv82cr-400.png  tinyurl.com/37rv82cr | N17 Writing Neutral Compounds  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\4fb9apks-400.png  tinyurl.com/4fb9apks | N18  Lewis  Structures  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\spw4tnfb-400.png  tinyurl.com/spw4tnfb |
| N19  VSEPR Theory  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\z79sd647-400.png  tinyurl.com/z79sd647 | N20  Molecular Polarity  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\rwp3ynmf-400.png  tinyurl.com/rwp3ynmf | N21 Intermolecular Forces  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\u4z98ktb-400.png  tinyurl.com/u4z98ktb |

**Targets:**

N16 – I can name ionic and covalent compounds and molecules.

N17 – I can write neutral formulas for covalent molecules.

N18 – I can draw the structures of molecules.

N19 – I can determine the three dimensional shape of molecules.

N20 – I can describe how the molecular shape and electron distribution   
 around the molecule determines the polarity.

N21 – I can describe how the polarity of a molecule affects various

properties, and I can compare/rank/explain how different molecules

compare to each other.

Unit #6

Reactions

|  |  |  |
| --- | --- | --- |
| N22  Balancing Equations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\r6j6y32r-400.png  tinyurl.com/r6j6y32r | N23 Types  of Reactions  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\k63j2hwc-400.png  tinyurl.com/k63j2hwc | N24  Predicting  Products  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\3f4waez4-400.png  tinyurl.com/3f4waez4 |
| N25  Molar Mass and Conversions  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\4pc3k7ph-400 (1).png  tinyurl.com/4pc3k7ph |  |  |

**Targets:**

N22 – I can balance equations to make sure the Law of Conservation of   
 Matter is being followed.

N23 – I can see patterns in different reactions and use those patterns to   
 classify them into different category types.

N24 – I can use the patterns in reaction types to predict the products   
 made in chemical reactions.

N25 – I can perform molar conversions to determine masses and other   
 types of units for molecules in a reaction.

Unit #7

Stoichiometry

|  |  |  |
| --- | --- | --- |
| N26  Mole Ratio and Stoichiometry  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\tbasw6rv-400.png  tinyurl.com/tbasw6rv | N27 Real Life  Examples  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\xrpmwztn-400.png  tinyurl.com/xrpmwztn |  |

**Targets:**

N26 – I can perform stoichiometry calculations to determine the quantities   
 of chemicals involved during a reaction.

N27 – I can apply stoichiometry to problems that have real life context.

Unit #8

Advanced Chemical Ratios

|  |  |  |
| --- | --- | --- |
| N28  Limiting Reagent Stoichiometry  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\4r3y2fyf-400.png  tinyurl.com/4r3y2fyf | N29 % Composition, Empirical Formula  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\45uhxcz7-400.png  tinyurl.com/45uhxcz7 | N30  Combustion Analysis  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\hr4xh27e-400.png  tinyurl.com/hr4xh27e |

**Targets:**

N28 – I can perform Limiting Reagent Stoichiometry calculations to   
 determine which substance will run out first during a reaction.

N29 – I can determine the % composition of different elements in a   
 molecule and use that information to determine the empirical   
 formula.

N30 – I can determine the formula for an unknown compound by using   
 combustion analysis data.

Unit #9

Gas Laws

|  |  |  |
| --- | --- | --- |
| N31  Basic Gas Law Equations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\34vfje97-400.png  tinyurl.com/34vfje97 | N32 Ideal  Gas Law  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\2hkyeyfm-400.png  tinyurl.com/2hkyeyfm | N33  Dalton’s Law of Partial Pressure  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\rku7pzm6-400.png  tinyurl.com/rku7pzm6 |
| N34  Gas  Stoichiometry  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\e35bt698-400.png  tinyurl.com/e35bt698 |  |  |

**Targets:**

N31 – I can use various Gas Laws to determine variables related to what   
 conditions a gas is under.

N32 – I can use the Ideal Gas Law for problems involving large number of   
 variables related to gases.

N33 – I can do problems with multiple gases combined in the same   
 container.

N34 – I can do stoichiometry problems involving gases by utilizing gas   
 laws instead of only conversion factors.

Unit #10

Thermochemistry

|  |  |  |
| --- | --- | --- |
| N35  Specific  Heat  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\vt7rcfxa-400 (1).png  tinyurl.com/vt7rcfxa | N36 Calorimetry Calculations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\3emk9dmz-400.png  tinyurl.com/3emk9dmz | N37  Heating and Cooling Curves  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\kzt9a9ad-400.png  tinyurl.com/kzt9a9ad |
| N38  Odds and Ends  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\ysms3hx7-400.png  tinyurl.com/ysms3hx7 |  |  |

**Targets:**

N35 – I can perform specific heat calculations to determine things such as   
 how much energy a substance can absorb or release.

N36 – I can use the technique of Calorimetry and the Law of Conservation   
 of Energy to indirectly determine information about a substance that   
 is not easy to measure.

N37 – I can use Heating/Cooling curves to help perform calculations that   
 may involve phase changes in addition to simple heating or cooling.

N38 – I can extend my knowledge of Thermochemistry into smaller   
 subtopics that are closely related to the things I already learned.

Unit #11

Solutions

|  |  |  |
| --- | --- | --- |
| N39  Solutions  Concepts  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\3zh34h8k-400.png  tinyurl.com/3zh34h8k | N40 Solutions Calculations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\d8nuxemj-400.png  tinyurl.com/d8nuxemj |  |

**Targets:**

N39 – I can learn some characteristics and terms for aqueous solutions.

N40 – I can perform various calculations to represent the concentrations   
 of solutions in different ways.

Unit #12

Kinetics

|  |  |  |
| --- | --- | --- |
| N41  Rate Expressions Average Rates  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\jdtf8f7k-400.png  tinyurl.com/jdtf8f7k | N42 Instantaneous Rates, Rate Laws  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\u9xdymvb-400.png  tinyurl.com/u9xdymvb |  |

**Targets:**

N41 – I can see how various factors affect the rate of a reaction and can   
 express and calculate that average rate in different ways.

N42 – I can calculate the rate at a specific moment in time, and write a   
 Rate Law to express how the rate changes when changing the   
 concentration of reactants.

Unit #13

Equilibrium

|  |  |  |
| --- | --- | --- |
| N43  Le Chatelier’s Principle  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\4u5yd8we-400.png  tinyurl.com/4u5yd8we | N44 Equilib. Constant and Quotient  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\buyfwn9b-400.png  tinyurl.com/buyfwn9b | N45  ICE  Tables  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\j4trsh-400.png  tinyurl.com/j4trsh |

**Targets:**

N43 – I can predict how a reaction will respond when a “stress” is applied.

N44 – I can use calculations to predict if a reaction will be product favored   
 or reactant favored once it reaches equilibrium.

N45 – I can use ICE Tables to organize data related to what the   
 concentrations of chemicals are once a reaction is at equilibrium.

Unit #14

Acids and Bases

|  |  |  |
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| N46  Acids/Bases and pH Calculations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\4mxx6cxt-400.png  tinyurl.com/4mxx6cxt | N47 Nomenclature, Strong vs Weak  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\mapy9m9s-400.png  tinyurl.com/mapy9m9s | N48  Weak Acids  and Bases  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\u742njjj-400.png  tinyurl.com/u742njjj |
| N49  Salts and Hydrolysis  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\4cke5kzw-400.png  tinyurl.com/4cke5kzw | N50  Acid Base  Titrations  \\dvhs-fs\DH-Teacher\sfarmer\Downloads\nmu6ju5m-400.png  tinyurl.com/nmu6ju5m |  |

**Targets:**

N46 – I can describe and identify acids/bases, and find their pH and   
 related values.

N47 – I can name common acids/bases, and identify strong versus weak.

N48 – I can calculate the pH and related values for weak acids/bases by   
 using the techniques of ICE Tables.

N49 – I can identify if a salt is acid/basic/neutral when added to water and   
 can write the equation for the salt reacting with the water.

N50 – I can perform titration calculations as well as physically perform a   
 titration in the lab.