Unit #1

Chemistry Basics
and Atomic Structure

|  |  |  |
| --- | --- | --- |
| N1Chemistry Math Review\\dvhs-fs\DH-Teacher\sfarmer\Downloads\pmn2ypx2-400.pngtinyurl.com/pmn2ypx2 | N2Dimensional Analysis\\dvhs-fs\DH-Teacher\sfarmer\Downloads\mexvafza-400.pngtinyurl.com/mexvafza | N3Significant Figures\\dvhs-fs\DH-Teacher\sfarmer\Downloads\693czxv3-400.pngtinyurl.com/693czxv3 |
| N4Properties, ∆’s, Types of Matter\\dvhs-fs\DH-Teacher\sfarmer\Downloads\3b34224m-400.pngtinyurl.com/3b34224m | N5Atomic Numbers and Isotopes\\dvhs-fs\DH-Teacher\sfarmer\Downloads\est8nnna-400.pngtinyurl.com/est8nnna | N6Average Mass Calculations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\3db8fx29-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N7Writing Nuclear Equations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\crjkpyby-400.pngtinyurl.com/crjkpyby | N8Nuclear Decay Series\\dvhs-fs\DH-Teacher\sfarmer\Downloads\cfvpv3v-400.pngtinyurl.com/cfvpv3v | N9Half Life Calculations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\3u4mvba2-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N10Introduction to Electrons \\dvhs-fs\DH-Teacher\sfarmer\Downloads\2sd65mb4-400 (1).pngtinyurl.com/2sd65mb4 | N11Orbital Diagrams\\dvhs-fs\DH-Teacher\sfarmer\Downloads\kmvr8b2h-400.pngtinyurl.com/kmvr8b2h | N12Writing Electron Configurations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\68kejbt-400.pngtinyurl.com/68kejbt |
| N13Configs of Ions & Noble Gas Config\\dvhs-fs\DH-Teacher\sfarmer\Downloads\jvyknedk-400.pngtinyurl.com/jvyknedk | N14Absorption and Emission\\dvhs-fs\DH-Teacher\sfarmer\Downloads\5hxbtw8y-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N15Periodic Trends\\dvhs-fs\DH-Teacher\sfarmer\Downloads\49842uaf-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N16Bonding and Naming \\dvhs-fs\DH-Teacher\sfarmer\Downloads\37rv82cr-400.pngtinyurl.com/37rv82cr | N17Writing Neutral Compounds\\dvhs-fs\DH-Teacher\sfarmer\Downloads\4fb9apks-400.pngtinyurl.com/4fb9apks | N18Lewis Structures\\dvhs-fs\DH-Teacher\sfarmer\Downloads\spw4tnfb-400.pngtinyurl.com/spw4tnfb |
| N19VSEPRTheory\\dvhs-fs\DH-Teacher\sfarmer\Downloads\z79sd647-400.pngtinyurl.com/z79sd647 | N20MolecularPolarity\\dvhs-fs\DH-Teacher\sfarmer\Downloads\rwp3ynmf-400.pngtinyurl.com/rwp3ynmf | N21IntermolecularForces\\dvhs-fs\DH-Teacher\sfarmer\Downloads\u4z98ktb-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N22Balancing Equations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\r6j6y32r-400.pngtinyurl.com/r6j6y32r | N23Types of Reactions \\dvhs-fs\DH-Teacher\sfarmer\Downloads\k63j2hwc-400.pngtinyurl.com/k63j2hwc | N24Predicting Products \\dvhs-fs\DH-Teacher\sfarmer\Downloads\3f4waez4-400.pngtinyurl.com/3f4waez4 |
| N25Molar Mass and Conversions\\dvhs-fs\DH-Teacher\sfarmer\Downloads\4pc3k7ph-400 (1).pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N26Mole Ratio and Stoichiometry\\dvhs-fs\DH-Teacher\sfarmer\Downloads\tbasw6rv-400.pngtinyurl.com/tbasw6rv | N27Real Life Examples\\dvhs-fs\DH-Teacher\sfarmer\Downloads\xrpmwztn-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N28Limiting Reagent Stoichiometry\\dvhs-fs\DH-Teacher\sfarmer\Downloads\4r3y2fyf-400.pngtinyurl.com/4r3y2fyf | N29% Composition, Empirical Formula\\dvhs-fs\DH-Teacher\sfarmer\Downloads\45uhxcz7-400.pngtinyurl.com/45uhxcz7 | N30Combustion Analysis\\dvhs-fs\DH-Teacher\sfarmer\Downloads\hr4xh27e-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N31Basic Gas Law Equations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\34vfje97-400.pngtinyurl.com/34vfje97 | N32Ideal Gas Law\\dvhs-fs\DH-Teacher\sfarmer\Downloads\2hkyeyfm-400.pngtinyurl.com/2hkyeyfm | N33Dalton’s Law of Partial Pressure\\dvhs-fs\DH-Teacher\sfarmer\Downloads\rku7pzm6-400.pngtinyurl.com/rku7pzm6 |
| N34Gas Stoichiometry\\dvhs-fs\DH-Teacher\sfarmer\Downloads\e35bt698-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N35Specific Heat\\dvhs-fs\DH-Teacher\sfarmer\Downloads\vt7rcfxa-400 (1).pngtinyurl.com/vt7rcfxa | N36Calorimetry Calculations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\3emk9dmz-400.pngtinyurl.com/3emk9dmz | N37Heating and Cooling Curves\\dvhs-fs\DH-Teacher\sfarmer\Downloads\kzt9a9ad-400.pngtinyurl.com/kzt9a9ad |
| N38Oddsand Ends\\dvhs-fs\DH-Teacher\sfarmer\Downloads\ysms3hx7-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N39Solutions Concepts\\dvhs-fs\DH-Teacher\sfarmer\Downloads\3zh34h8k-400.pngtinyurl.com/3zh34h8k | N40Solutions Calculations \\dvhs-fs\DH-Teacher\sfarmer\Downloads\d8nuxemj-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N41Rate Expressions Average Rates\\dvhs-fs\DH-Teacher\sfarmer\Downloads\jdtf8f7k-400.pngtinyurl.com/jdtf8f7k | N42Instantaneous Rates, Rate Laws\\dvhs-fs\DH-Teacher\sfarmer\Downloads\u9xdymvb-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N43Le Chatelier’s Principle\\dvhs-fs\DH-Teacher\sfarmer\Downloads\4u5yd8we-400.pngtinyurl.com/4u5yd8we | N44Equilib. Constant and Quotient\\dvhs-fs\DH-Teacher\sfarmer\Downloads\buyfwn9b-400.pngtinyurl.com/buyfwn9b | N45ICE Tables\\dvhs-fs\DH-Teacher\sfarmer\Downloads\j4trsh-400.pngtinyurl.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

|  |  |  |
| --- | --- | --- |
| N46Acids/Bases and pH Calculations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\4mxx6cxt-400.pngtinyurl.com/4mxx6cxt | N47Nomenclature, Strong vs Weak\\dvhs-fs\DH-Teacher\sfarmer\Downloads\mapy9m9s-400.pngtinyurl.com/mapy9m9s | N48Weak Acids and Bases\\dvhs-fs\DH-Teacher\sfarmer\Downloads\u742njjj-400.pngtinyurl.com/u742njjj |
| N49 Salts and Hydrolysis\\dvhs-fs\DH-Teacher\sfarmer\Downloads\4cke5kzw-400.pngtinyurl.com/4cke5kzw | N50Acid Base Titrations\\dvhs-fs\DH-Teacher\sfarmer\Downloads\nmu6ju5m-400.pngtinyurl.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.