

Welcome to Mrs. Farmer's Chemistry Class!

www.mychemistryclass.net

I am very excited to start this school year and get to know all of you! The first week can be very hectic - programs don't always work, schedules change every day, tons of handouts from teachers, lockers to find, books to check out, etc. Hopefully this paper will help you keep track of all the "start of the year" type assignments for your Chemistry class. **I will post due dates and daily homework on Schoology so make sure to check there every day!**

The first table is a list of some "start of the year" assignments.

These should be done by the Monday of the second week of school.

The back of this page will tell you how we will set up our spiral bound interactive notebooks. I will give you all needed school supplies but please try to get a non-graphing scientific calculator as soon as you can! If you are having any difficulties obtaining a calculator quickly please let me know so we can figure something out. You can find copies of worksheets and handouts on my class website: www.mychemistryclass.net! hope your first week of school goes well, and let me know if you have any questions!

Start of the Year Assignments

IMPORTANT For all Google Forms – You must be signed into your School Email Account to access them.







<p>Syllabus and Safety Contract Google Form Read the syllabus and safety contract that are linked in the Google Form. You should do this with your parent/guardian. Fill out the Google Form to acknowledge agreement for both documents.</p> <p>https://tinyurl.com/3ut25c5x</p> 	<p>Lab Safety Video and Q's Google Form Watch a Lab Safety Video and answer the questions regarding what was covered in the video. You cannot perform any labs until you have earned 80% or higher on this assignment.</p> <p>https://tinyurl.com/2xwf6nx5</p> 	<p>Get to Know You Google Form Please help me get to know you a little bit! I will ask you questions about the classes you have already taken, the classes you are in now, hobbies, clubs, etc. Thank you for helping me get to know you!</p> <p>https://tinyurl.com/rhh4582r</p> 	<p>About Your Chem Class Video and Q's Google Form In order to maximize our in class time, please watch this video about how we do things in my class, how the class website is set up etc. Watch the video, take good notes, answer the Q's.</p> <p>https://tinyurl.com/x829pbu6</p> 
<p>Sign up for Remind Messaging I don't use this often, but it is good to have the option. You can use it through your cell phone number or email, it is a program that lets me message you without seeing your phone number or email, and without you seeing mine.</p> <p>Send a text to 81010</p> <p>Text this message @chemfarm</p>	<p>Websites to Bookmark on your Computer and/or Phone We will use these websites all the time – bookmarking helps!</p> <p>Mrs. Farmer's Class Website www.mychemistryclass.net</p> <p>Mrs. Farmer's YouTube https://tinyurl.com/5fa5bkh5</p>  		
<p>Some Nice Apps to Get You do not need to get these apps for your cell phone, but they are nice to have! You can find lots of free versions of these for most models of smart phones!</p>	<p>A QR Code Reader App The one built into the iPhone camera doesn't always seem to work, an actual app seems to be better</p> <p>A Periodic Table App We won't use our phones in class, but sometimes it is nice to have an app on your phone in case you are working somewhere and forgot your periodic table.</p>	<p>The Remind Messaging App This is a lot easier to use than trying to use the browser on your phone.</p> <p>A Scanner App turns photos into PDFs Very easy to use! Lets you take a photo and turns it into a PDF so the document will be more readable.</p>	
Things You Can Find on the Class Website			Where?
Welcome letter from teacher, commonly used links			Home Page
Overview of what we did, or are going to do each day in class			Calendar Tab
Links for lab report guidelines, absent lab form, resources for doing labs etc			Lab Tab
Extra worksheets, videos, practice tests, helpful websites, etc. Great if you need extra practice, or a different way of explaining a concept.			Resources Tab
Syllabus, class rules, information about what the class will be like.			About Your Class Tab
Handouts and PowerPoints for your class. You will usually be given handouts in class, but if you need to print a copy, or if you lose a copy and need a new one, you can find them here.			Regular Chem Notebook Tab
A little bit about Mrs. Farmer!			About Mrs. Farmer Tab

Table of Contents for the Beginning of Your Interactive Notebook

***IMPORTANT!** *These papers are all stapled together in this packet to make it easier/faster to pass them out. Any page number below that say "GLUE IN" need to be glued in your notebook tonight as homework. You won't always have to glue a bunch of pages in for homework – normally we just do one or two pages a day in class. Since this is to set our notebook up for the whole year it is a bit more than normal. Please make sure to **READ** the things you are gluing in! The assignments themselves do not actually need to be done tonight! Please check the Homework Boards in class and Schoology for assignment due dates.*

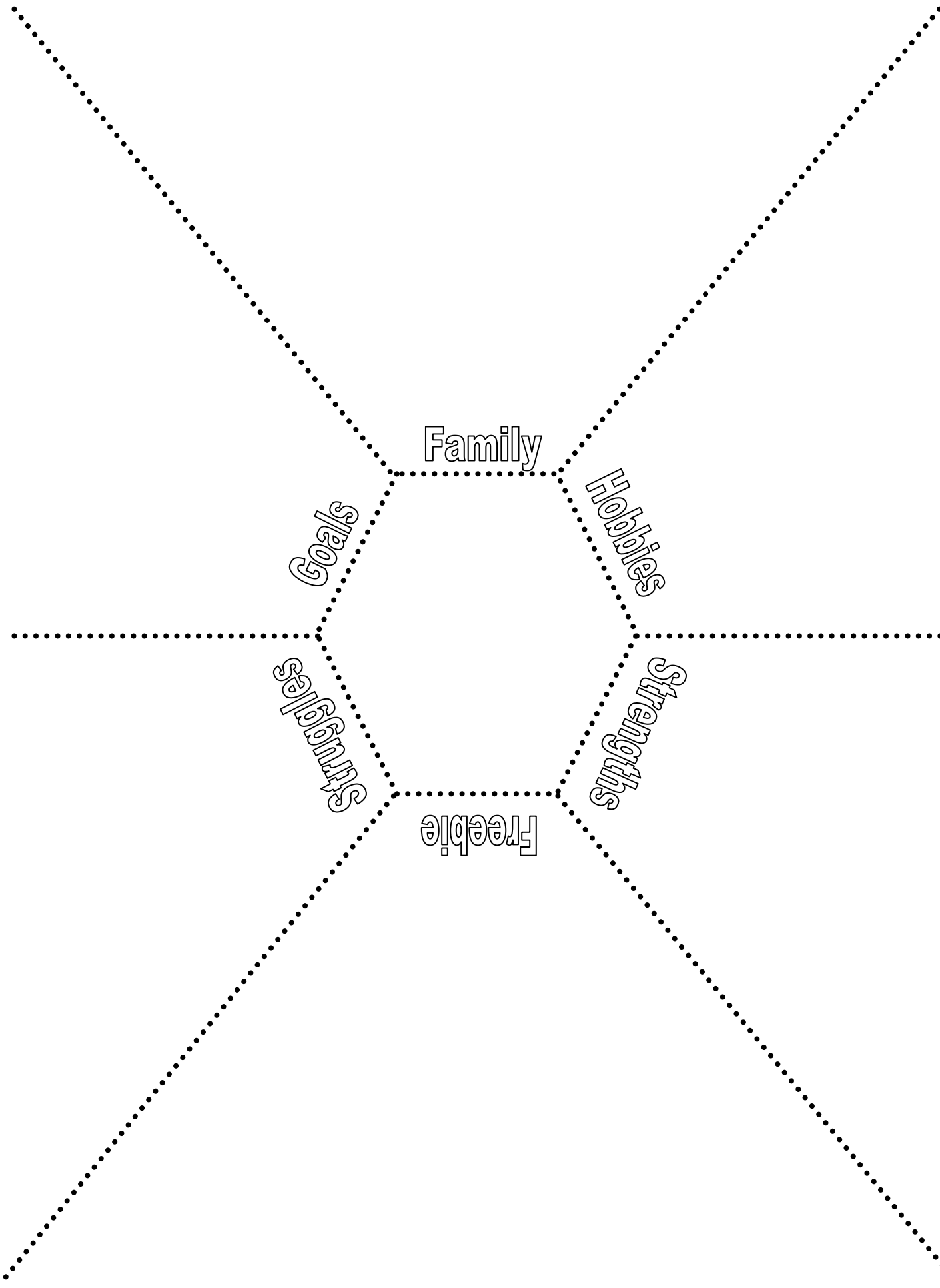
Pg.	Left Pages	Pg.	Right Pages
x	<i>Inside plastic cover of your notebook with Syllabus Sticker on it.</i>	1 GLUE IN	All about me Tell me about yourself! Half the boxes must be filled out with drawings (use at least four colors!) and half with complete sentences. You may choose which boxes get drawings and which get words. FILL THE BOXES! No tiny drawings. Minimize the amount of white space.
2	Safety Contract Notes and Safety Video Notes Read the safety contract and take notes on anything unique to a chemistry class, things that aren't total common sense, etc. Do the Online Lab Safety assignment and take notes on the video potion.	3 GLUE IN	Safety Contract This is a general Safety Contract made by a Chemical Supply company intended for use in a high school level science class. You do not get second chances when it comes to lab safety!
4 GLUE IN	Common Lab Equipment Familiarize yourself with some commonly used lab equipment so that you are more efficient during a lab experiment.	5 GLUE IN	DVHS CP Chemistry Course Outline This is an overview of the essential content and skills you will be assessed on during the course of the year.
6 GLUE IN	The Left Side The type of assignments placed on the left side of the notebook.	7 GLUE IN	The Right Side The type of assignments placed on the right side of the notebook.
8	Left vs Right Processing Activity Draw a picture that shows the difference between what goes on the left hand pages and what goes on the right hand pages. You may use words, but only if they are part of your picture or a label. You may not just write sentences! This is a <u>drawing</u> activity. You must use at least 4 colors! FILL THE PAGE! No tiny drawings. Minimize the amount of white space.	9 GLUE IN	Extra Processing Techniques These pages are "flippies." They need to be glued so that you can "flip" them over to see the backside of the page. Just like turning the pages of a book. Put glue on the margin of the papers and glue them down. The page labeled 9A gets glued down first. Then page 9B gets glued on top of 9A. If you do this correctly you should be able to see four sides of paper when you are done.
10 GLUE IN	Overview of Interactive Notebook Requirements This gives you an idea of what is expected out of your notebook. Please read this carefully!	11 GLUE IN	Example Grading Rubric Most assignments are graded using the 0-3 point rubric. Your score is then multiplied by some factor to calculate the points that go in the grade book. For example: you get a 3 on a notebook page. Your score is multiplied by 4 and you receive 12/12 in your grade book. If you scored a 3 you would get 9/12 in the grade book. Simple completion does not earn full points!
12 GLUE IN	Costa's House This should give you some hints on how to write high level questions in your KCQ Notes. At the bottom of your notes you will write two questions. One can be a "Lower Level" question Level 1, and one needs to be a "Higher Level" question Level 2 or 3. You do not need to answer the questions you write, the benefit comes from brainstorming and writing the questions.	13 GLUE IN	Common Types of Notes This explains my expectations for note taking in your Chemistry class. PLEASE read through this as they are slightly different than what you may have been taught in other classes. Structured note taking has been proven to increase retention and understanding of material. It is not optional in this class. You may take notes in the note section however you like! You could do bullet points, draw pictures, make a classic outline, whatever works for you. However, once you are done you will add in the required elements.
14 GLUE IN	Unit Intro Page Unit #0 – Foundations in Chemistry This is the start of a new chapter. You will fill this page out as we go through the chapter. The night before we start a new chapter you will glue intro pages into your notebook. This page is considered a project and requires a decent amount of time, effort, detail reflected in the work.	15 GLUE IN	Cross Cutting Concepts Pocket You glue the paper in as a pocket. As the chapter goes on you will add details, facts, concepts, etc to the columns. The idea is to see that all of science has some general concepts that "cut through" all areas of science – that is why we call them "cross cutting concepts." Finding the connections and patterns within these general concepts will help you when the science material begins to become more cumulative and connected together. You will use the pocket to hold quizzes and extra practice during the chapter.

Supplies

Spiral Bound Interactive Notebook <i>(supplied to you)</i>	We will use this notebook for the ENTIRE school year! You need to treat it nicely and not lose it! In 12 years I have only had one notebook truly lost. You need to treat this as if it were your textbook or your art portfolio – we are essentially making a years' worth project. You don't want to lose to destroy your entire years' worth of work!
Non-graphing calculator	My favorite non-graphing calculator is a TI-30x IIs made by Texas Instruments. It works in a very logical way, is usually inexpensive, and can be found at stores like Office Depot, Staples, Target, Walmart, sometimes even drug stores or grocery stores. I will be using this kind in class and know how to help you with it. You can use another non-graphing calculator but I may not know how to help you with it. Graphing calculators will not be allowed. Please let me know if you cannot obtain a calculator for any reason and we will figure something out!
Sack of school supplies <i>(supplied to you)</i>	These are the items I expect you to have with you in class every single day. If you would rather use your own set of colored pencils, or post-it notes, etc. please return the ones I gave you. <ul style="list-style-type: none"> • Glue, Red pen, Green pen, Pen/pencils, Highlighter, Post-it Notes, Colored pencils or Markers, scissors.

All About Me Page

- This is actually the back! After reading these instructions you will put glue all over these words and glue this down into your notebook on the very first page.
- Put your first AND last name in the center hexagon.
- Three of the boxes need to be filled up with drawings
 - Hand drawn – stick figures and tracing is ok!
 - Use color!
 - Big, bold drawings! Fill the box!
 - You can label drawings if you want.
- Three of the boxes need to be filled up with sentences.
 - Complete sentences! Not bullet points
 - Fill the box! It should be a little miniature paragraph
 - Use highlighters, color pencils, or markers to highlight or underline or emphasize key words inside your paragraphs
- I don't care which three boxes are drawings and which three are paragraphs
- This is your first graded assignment. It is your first chance to show me what kind of effort, thought, and detail you put into your work. It is also your first chance to let me know what kind of person you are!
- I will show you my All About Me page later in the week!
- This is due on the first Friday of the school year. Glue it in your notebook, I will check it while walking around during the Friday activity.



Family

Hobbies

Strengths

Freebie

Struggles

Goals

Safety Work

- 1.** Make sure you have your Interactive Notebook
 - You will be taking notes on page 2 of your Interactive Notebook
- 2.** Read the Safety Contract if you haven't already!
 - a.** Make sure to take enough notes about the safety contract so you can use this page to study from!
 - b.** A lot of this is common sense (don't eat the chemicals!) but some of it may be new to you because it is specific for high school level science classes. Don't worry too much about the common sense ones, focus on taking notes on the parts that are new to you!
- 3.** Complete the Online Safety Assignment.
 - a.** Link on your Welcome to Chemistry First Day Handout, or on the Labs Tab of the class website www.mychemistryclass.net
 - b.** You will watch a video and answer questions embedded into the online assignment.
 - c.** Make sure to take enough notes on page you're your Notebook about the video and google form questions so you can use this page to study from!
- 4.** You do not need to put this paper in your Notebook, it is just instructions.



DVHS LABORATORY SAFETY CONTRACT

Read and take notes on p. 2 of your notebook. Due Monday of the second week of school. Save some space on p. 2 for video notes you will take for a lab safety assignment. Link for video portion on Welcome Handout and on Labs Tab of class website www.mychemistryclass.net



PURPOSE

Science is a hands-on laboratory class. You will be doing many laboratory activities which require the use of hazardous chemicals. Safety in the science classroom is the #1 priority for students, teachers, and parents. To ensure a safe science classroom, a list of rules has been developed and provided to you in this student safety contract. These rules must be followed at all times. Two copies of the contract are provided. One copy must be signed by both you and a parent or guardian before you can participate in the laboratory. The second copy is to be kept in your science notebook as a constant reminder of the safety rules.

GENERAL RULES

- 1) Conduct yourself in a responsible manner at all times in the laboratory.
- 2) Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, ask the instructor before proceeding.
- 3) Never work alone. No student may work in the laboratory without an instructor present.
- 4) When first entering a science room, do not touch any equipment, chemicals, or other materials in the laboratory area until you are instructed to do so.
- 5) Do not eat food, drink beverages, or chew gum in the laboratory. Do not use laboratory glassware as containers for food or beverages.
- 6) Perform only those experiments authorized by the instructor. Never do anything in the laboratory that is not called for in the laboratory procedures or by your instructor. Carefully follow all instructions, both written and oral. Unauthorized experiments are prohibited.
- 7) Be prepared for your work in the laboratory. Read all procedures thoroughly before entering the laboratory.
- 8) Never fool around in the laboratory. Horseplay, practical jokes, and pranks are dangerous and prohibited.
- 9) Observe good housekeeping practices. Work areas should be kept clean and tidy at all times. Bring only your laboratory instructions, worksheets, and/or reports to the work area. Other materials (books, purses, backpacks, etc.) should be stored in the classroom area.
- 10) Keep aisles clear. Push your chair under the desk when not in use.
- 11) Know the locations and operating procedures of all safety equipment including the first aid kit, eyewash station, safety shower, fire extinguisher, and fire blanket. Know where the fire alarm and the exits are located.
- 12) Always work in a well-ventilated area. Use the fume hood when working with volatile substances or poisonous vapors. Never place your head into the fume hood.

- 13) Be alert and proceed with caution at all times in the laboratory. Notify the instructor immediately of any unsafe conditions you observe.
- 14) Dispose of all chemical waste properly. Never mix chemicals in sink drains. Sinks are to be used only for water and those solutions designated by the instructor. Solid chemicals, metals, matches, filter paper, and all other insoluble materials are to be disposed of in the proper waste containers, not in the sink. Check the label of all waste containers twice before adding your chemical waste to the container.
- 15) Labels and equipment instructions must be read carefully before use. Set up and use the prescribed apparatus as directed in the laboratory instructions or by your instructor.
- 16) Keep hands away from face, eyes, mouth and body while using chemicals or preserved specimens. Wash your hands with soap and water after performing all experiments. Clean all work surfaces and apparatus at the end of the experiment. Return all equipment clean and in working order to the proper storage area.
- 17) Experiments must be personally monitored at all times. You will be assigned a laboratory station at which to work. Do not wander around the room, distract other students, or interfere with the laboratory experiments of others.
- 18) Students are never permitted in the science storage rooms or preparation areas unless given specific permission by their instructor.
- 19) Know what to do if there is a fire drill during a laboratory period; containers must be closed, gas valves turned off, fume hoods turned off, and any electrical equipment turned off.
- 20) Handle all living organisms used in a laboratory activity in a humane manner. Preserved biological materials are to be treated with respect and disposed of properly.
- 21) When using knives and other sharp instruments, always carry with tips and points pointing down and away. Always cut away from your body. Never try to catch falling sharp instruments. Grasp sharp instruments only by the handles.
- 22) If you have a medical condition (e.g., allergies, pregnancy, etc.), check with your physician prior to working in lab.

CLOTHING

- 23) Any time chemicals, heat, or glassware are used, students will wear laboratory goggles. There will be no exceptions to this rule!
- 24) Contact lenses should not be worn in the laboratory unless you have permission from your instructor.

- 25) Dress properly during a laboratory activity. Long hair, dangling jewelry, and loose or baggy clothing are a hazard in the laboratory. Long hair must be tied back and dangling jewelry and loose or baggy clothing must be secured. Shoes must completely cover the tops of the feet. No sandals allowed. Pants/socks must cover all skin including the ankles. Shirts must cover abdomens.

ACCIDENTS AND INJURIES

- 26) Report any accident (spill, breakage, etc.) or injury (cut, burn, etc.) to the instructor immediately, no matter how trivial it may appear.
- 27) If you or your lab partner are hurt, immediately yell out "Code one, Code one" to get the instructor's attention.
- 28) If a chemical splashes in your eye(s) or on your skin, immediately flush with running water from the eyewash station or safety shower for at least 20 minutes. Notify the instructor immediately.
- 29) When mercury thermometers are broken, mercury must not be touched. Notify the instructor immediately.

HANDLING CHEMICALS

- 30) All chemicals in the laboratory are to be considered dangerous. Do not touch, taste, or smell any chemicals unless specifically instructed to do so. The proper technique for smelling chemical fumes will be demonstrated to you.
- 31) Check the label on chemical bottles twice before removing any of the contents. Take only as much chemical as you need.
- 32) Never return unused chemicals to their original containers.
- 33) Never use mouth suction to fill a pipet. Use a rubber bulb or pipet pump.
- 34) When transferring reagents from one container to another, hold the containers away from your body.
- 35) Acids must be handled with extreme care. You will be shown the proper method for diluting strong acids. Always add acid to water, swirl or stir the solution and be careful of the heat produced, particularly with sulfuric acid.
- 36) Handle flammable hazardous liquids over a pan to contain spills. Never dispense flammable liquids anywhere near an open flame or source of heat.
- 37) Never remove chemicals or other materials from the laboratory area.
- 38) Take great care when transporting acids and other chemicals from one part of the laboratory to another. Hold them securely and walk carefully.



DVHS LABORATORY SAFETY CONTRACT



HANDLING GLASSWARE & EQUIP.

- 39) Carry glass tubing, especially long pieces, in a vertical position to minimize the likelihood of breakage and injury.
- 40) Never handle broken glass with your bare hands. Use a brush and dustpan to clean up broken glass. Place broken or waste glassware in the designated glass disposal container.
- 41) Inserting and removing glass tubing from rubber stoppers can be dangerous. Always lubricate glassware (tubing, thistle tubes, thermometers, etc.) before attempting to insert it in a stopper. Always protect your hands with towels or cotton gloves when inserting glass tubing into, or removing it from, a rubber stopper. If a piece of glassware becomes "frozen" in a stopper, take it to your instructor for removal.
- 42) Fill wash bottles only with distilled water and use only as intended, e.g., rinsing glassware and equipment, or adding water to a container.
- 43) When removing an electrical plug from its socket, grasp the plug, not the electrical cord. Hands must be completely dry before touching an electrical switch, plug, or outlet.
- 44) Examine glassware before each use. Never use chipped or cracked glassware. Never use dirty glassware.
- 45) Report damaged electrical equipment immediately. Look for things such as frayed cords, exposed wires, and loose connections. Do not use damaged electrical equipment.
- 46) If you do not understand how to use a piece of equipment, ask the instructor for help.
- 47) Do not immerse hot glassware in cold water; it may shatter.

HEATING SUBSTANCES

- 48) Exercise extreme caution when using a gas burner. Take care that hair, clothing and hands are a safe distance from the flame at all times. Do not put any substance into the flame unless specifically instructed to do so. Never reach over an exposed flame. Light gas (or alcohol) burners only as instructed by the teacher.
- 49) Never leave a lit burner unattended. Never leave anything that is being heated or is visibly reacting unattended. Always turn the burner or hot plate off when not in use.
- 50) You will be instructed in the proper method of heating and boiling liquids in test tubes. Do not point the open end of a test tube being heated at yourself or anyone else.

- 51) Heated metals and glass remain very hot for a long time. They should be set aside to cool and picked up with caution. Use tongs or heat-protective gloves if necessary.
- 52) Never look into a container that is being heated.
- 53) Do not place hot apparatus directly on the laboratory desk. Always use an insulating pad. Allow plenty of time for hot apparatus to cool before touching it.
- 54) When bending glass, allow time for the glass to cool before further handling. Hot and cold glass have the same visual appearance. Determine if an object is hot by bringing the back of your hand close to it prior to grasping it.

QUESTIONS

- 1) Do you wear contact lenses?
 YES NO
 - 2) Are you color blind?
 YES NO
 - 3) Do you have allergies?
 YES NO
- If yes, list specific allergies:
- _____
- _____
- _____

AGREEMENT

I, _____

(student's name printed)

have read and agree to follow all of the safety rules set forth in this contract. I realize that I must obey these rules to ensure my own safety, and that of my fellow students and instructors. I will cooperate to the fullest extent with my instructor and fellow students to maintain a safe lab environment. I will also closely follow the oral and written instructions provided by the instructor. I am aware that any violation of this safety contract that results in unsafe conduct in the laboratory or misbehavior on my part, may result in being removed from the laboratory, detention, receiving a failing grade, and/or dismissal from the course.

Student Signature

Dear Parent/Guardian,

We feel that you should be informed regarding the school's effort to create and maintain a safe science classroom/laboratory environment.

With the cooperation of the instructors, parents, and students, a safety instruction program can eliminate, prevent, and correct possible hazards.

You should be aware of the safety instructions your student will receive before engaging in any laboratory work. Please read the list of safety rules above. No student will be permitted to perform laboratory activities unless this contract is signed by both the student and parent/guardian and is on file with the teacher.

Your digital signature on the syllabus and safety contract acknowledgment Google Form indicates that you have read this Student Safety Contract, are aware of the measures taken to ensure the safety of your son/daughter in the science laboratory, and will instruct your son/ daughter to uphold his/her agreement to follow these rules and procedures in the laboratory.

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Dougherty Valley High School College Preparatory Chemistry

This is an outline of the essential skills and content that you will need to demonstrate mastery of in order to be successful in your C.P. Chemistry class. During the year you will be periodically evaluated on the following material in several different ways. This list was composed using the Next Generation Science Standards, Common Core Standards, as well as skills we believe are essential in preparing you for science classes you may take in the future. Please note – this course plan is subject to change at the teacher’s discretion.

Core Ideas			Cross Cutting Concepts	
Matter and its interactions	Forces and Interactions	Energy	Patterns Cause and effect Scale, proportions & quantity Systems and models	Energy and matter Structure and function Stability and change

Essential Content Standards

C-1	The Atom	1	Proton, neutron, electron properties and locations	C-6	Reactions	1	Balancing reactions
		2	Electron configuration			2	Identification of common reaction types
		3	Changes to electrons			3	Writing reactions
C-2	Nuclear Chemistry	1	Types of decay	C-7	Stoichiometry	1	Mole conversions
		2	Balancing nuclear equations			2	Mole ratio stoichiometry
		3	Half life calculations			3	Multistep stoichiometry
C-3	Periodic Table	1	Structure and organization	C-8	Thermo-chemistry	1	Conceptualize energy changes in a reaction
		2	Periodic trends			2	Connection to making and breaking of bonds
		3	Explaining trends based on atomic structure			3	Calculations involving energy change
C-4	Molecules & Compounds	1	Define main types of bonds	C-9	Kinetics	1	Rate/collision theory
		2	Identify types of bonds			2	Rate affecting factors
		3	Molecular structure			3	Kinetic calculations
C-5	Inter-molecular Forces	1	Types of intermolecular forces	C-10	Equilibrium	1	Define and explain equilibrium
		2	Strength of intermolecular forces			2	Describe ways to shift equilibrium
		3	Effect on bulk properties			3	Equilibrium calculations

Essential Science Practices

Essential Lab Skills

P-1	Asking questions	P-5	Using mathematics and computational thinking	L-1	Follow laboratory safety rules	L-5	Perform named lab techniques properly
P-2	Developing and using models	P-6	Constructing explanations	L-2	Maintain accurate, detailed, organized lab notes or book	L-6	Correctly present laboratory data
P-3	Planning and carrying out investigations	P-7	Engaging in argument from evidence	L-3	Measure quantities of chemicals correctly	L-7	Analyze laboratory data/observations
P-4	Analyzing and interpreting data	P-8	Obtaining, evaluating & communicating info	L-4	Use laboratory equipment correctly	L-8	Clearly communicate laboratory findings

Common Laboratory Equipment & Techniques

Safety Splash Goggles 	Beaker 	Erlenmeyer Flask 	Graduated Cylinder 	Distilled Water Wash Bottle 
Test Tubes 	Volumetric Flask 	Spatulas and Scoopulas 	Disposable Pipette 	Rubber Policeman 
Beaker Tongs 	Crucible Tongs 	Test Tube Tongs 	Hot Plate 	Bunsen Burner 
Flint Striker 	Ring Stand 	Iron Support Ring 	Wire Gauze with Clay Center 	Crucible with Lid 
Test Tube Rack 	Test Tube Brush 	Rubber Stoppers 	Glass Watch Glass 	Mortar and Pestle 
Filter Flask 	Buchner Funnel 	Aspirator for Sink 	Glass Funnel 	Evaporating Dish 
Volumetric Pipette 	Rubber Pipette Bulb 	Forceps 	Burette Clamp 	Burette 



SCAN ME

Common Lab Techniques:
<https://tinyurl.com/3eyn4faa>

You will sometimes be asked to look at certain sections of this Common Lab Techniques PowerPoint as part of your "Pre-Lab" assignments. This will maximize our in class lab time and help ensure that you are safe in the lab.

Keeping Interactive Notebooks in Science

The Left Side

The left spiral page demonstrates your understanding of the information from the right side page. You work with the input, and INTERACT with the information in creative, unique and individual ways. The left side incorporates and reflects how you learn science as well as what you learn in science.

What goes on the Left Side? Output goes on the left side! Left side items include:

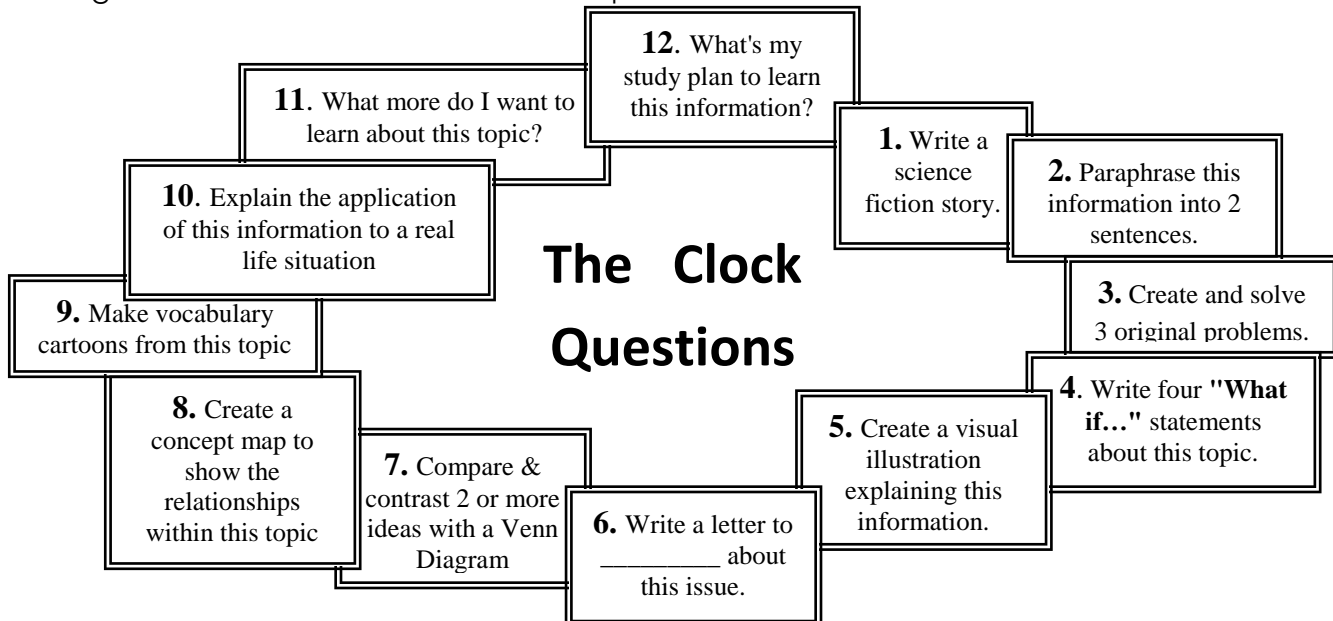
- * Brainstorming
- * Discovery headlines
- * Biography posters
- * Concepts maps
- * Riddles
- * Your questions
- * Pictographs
- * Cartoons
- * Foursquare analogies
- * Metaphors and analogies
- * Venn diagrams
- * Data and graphs you generate
- * Analysis writing
- * Reflection writing
- * Quickwrite
- * Mnemonics
- * Significant statements
- * Flowcharts
- * Graphic organizers
- * Drawings
- * Writing prompts
- * Other creative avenues for processing information
- * Poetry and songs

Things to know about left sides

- Every Left side page gets used.
- Always use color... It helps the brain learn and organize information.
- Labs, free choice assignments, drawings, etc are left side pages.
- Homework problems are left sides (but they don't take the place of processing your notes on the right side pages with color annotations and KCQ boxes!)

The Clock Questions

The 12 clock questions are just a few ideas to help focus your attention and guide your learning of the science content and concepts.



Keeping Interactive Notebooks in Science

The Right Side

Interactive notebooks will be used in this class daily to help you learn and remember important scientific concepts. Why do they work? This notebook style uses both the right and left brain hemispheres to help you sort, categorize and remember and creatively interact with the new knowledge you're gaining. The more you process information the more you begin to understand it. This leads to longer retention.

What goes on the Right Side? Input goes on the right side!

Input is all the information that you are supposed to learn. Some examples of input are: thrilling notes, lectures, guest speakers, text or other sources; vocabulary words; video and film notes; teacher questions; readings, questions and answers and sample problems.

- Always start the page with the Target at the top LEFT of the page in RED pen. Targets are given in class, or can be found on the Notebook tab of the class website.
- Give your notes a title on the top line. Suggested title will be given during class.
- Right sides have odd numbered pages.
- The right page is for writing down information you are given in class.
- You will usually use KCQ style notes for lecture, discussion, text, etc. Do your KCQ's the SAME DAY you took the notes! If you will be doing a different type of notes for a day you will be told in class and shown how to set up your notes KCQ is the "default" type of notes.
- For the Q section of your notes it can be a question you are thinking about during lecture, a question you think others might have, or if you should brainstorm a potential test of quiz question. You will be using "Costa's Levels of Questioning" to develop useful and complex questions. You must have two questions per Q box.
- Write legibly. Use at least three colors to make important information stand out. Your pencil or black/blue pen does not count as a color! These "color annotations" are required! Make sure you are using the color in a meaningful way. Studies have shown that our brain responds to the color even if we don't prefer the way our notes look with it. Use the color annotations to draw attention to key items/facts/info.

KCQ Note Template

<p>TARGET: I can describe and rank the strengths of different intermolecular forces</p>		
<p><i>Strength of Intermolecular Forces</i></p> <hr style="border: 0.5px solid black;"/> <p style="text-align: center;"><i>This is where you would take your class notes for the day. Your style, but must have class requirements met</i></p>		
<p><u>K</u>ey vocabulary and/or equations</p>	<p><u>C</u>onnections to prior content</p>	<p><u>Q</u>uestions</p>

Left vs. Right Processing Activity

- This is a "Processing" activity.
- Draw a picture that shows the difference between what goes on the left hand pages and what goes on the right hand pages.
- You may use words, but only if they are part of your picture. You may not just write sentences! This is a drawing activity.
- You must use at least 4 colors!
- FILL THE PAGE! No tiny drawings 😊
- Minimize the amount of white space.
- You do not have to glue this page of instructions into your notebook - it is just so you know what to do!

EXTRA PROCESSING TECHNIQUES

Haiku Assignment

Haiku is a contemplative poetry that emphasizes nature, color, season, contrasts and surprises. Usually it has 3 lines and 17 syllables distributed in a 5, 7 and 5 syllable pattern. It should show a sensation, impression or drama of a specific fact or concept. It's almost like a photo of some specific moment. More than inspiration, it's need meditation, effort and perception to compose a real Haiku. Using a Haiku assignment in science requires student to concentrate on the major concepts and vocabulary of the assigned topic. Doing this creates links between the information and how the student's perceptions.

Student Instructions: *Haiku is a form of poetry from Japan. It is a minimalist form of poetry with the following form*

- 17 syllables
- 5 syllables in the first line
- 7 syllables in the second line
- 5 syllables in the third line.

**Slimy earthworm squirm
Deeper into the wet ground
To cultivate land**

In an **OUT (LEFT PAGE)** section, you must write a Haiku about the assigned topic. It must follow the pattern and deal with any aspect of topic covered in class. The section must have a border and artwork reflecting the topic - you pick the aspect you wish to emphasize in the haiku and artwork. There must be a short 3 to 5 sentence explanation telling how the Haiku shows an understanding of the assigned topic.

Cinquains

A cinquain is a five-line poem written about a single concept, object or idea. Cinquains were developed by an American poet, Adelaide Crapsy, after examining the Japanese haiku format. The format is a short, unrhymed poem of twenty-two syllables and five lines. The five lines contain 2, 4, 6, 8 then 2 syllables. Each line is supposed to deal with a specific aspect of the cinquain's topic.

Water Cinquain – An Example

- The first line consists of two syllables (the title).
- The second line consists of four syllables (describes the title).
- The third line consists of six syllables (states an action).
- The fourth line consists of eight syllables (expresses a feeling).
- The last line consists of two syllables (another word for the title).

**Raindrop
Moisture, Falling
Sustain, Nourish, Cleansing
Teardrop, Diamond, Dropping, Earthward
Dewdrop**

Limerick Assignment

A limerick has FIVE Lines. The last words of the first, second and fifth lines rhyme with each other. The last words of the third and fourth lines rhyme with each other. The first, second and fifth lines are longer than the third and fourth lines. The pattern of sounds follows the pattern: Da DUM da da DUM da da DUM

General Guidelines For The Limerick Assignment

1. The form or pattern of limerick writing must be followed.
2. The limerick must be original and not copied from somewhere
3. The limerick must be G or PG-13 rated. Anything else gets you into trouble.
4. The Science topic or concept assigned must be addressed in the limerick.

Physics Topic: Heat and Energy

The physics test was quite near-o,
And all thought everything was quite clear-o;
"Why study this junk
I'm sure I won't flunk."
But then he earned an Absolute Zero

Songs - BUT I CAN'T SING!

Songs must have lyrics (the words) written down but may be sung aloud. Do not write a song on a general topic (plants, chemical reactions, motion and so on). Wide-open topics will be overwhelming from the start. Select a specific topic. I as the teacher will specify a length, specific words, concepts and ideas to be used or addressed in the song. It is useful to select a popular tune then change the words. There will be a minimum length to the song. If you really enjoy writing or playing music, you may not stop writing just because a specific length is reached.

For the Love of Newton
Keep doin' what your doin'
Love of my life,
Cause the force of your love,
makes my heart uptight,
Cause Netwon's Laws, Baby,
Apply to love too

Riddle Cards

A possible format for placing riddles into interactive notebooks is similar to that used with vocabulary cards. The riddle is placed on the front of a card. The answer and explanation are placed on the back of the card. The card is then taped onto OUT section of the notebook.

- One side of the RIDDLE CARD has the riddle and artwork written on in.
- The riddle should contain one or more clues. The clues might or might not rhyme, but must refer to aspects of the answer.
- The riddle must have artwork on front of the card. The artwork should reflect the topic of the riddle with a clue that MIGHT help solve the riddle.
- The artwork must be in color. At least 4 different colors (besides than black or white must be used).
- The BACK of the card has the answer to the riddle. The answer must be clearly and cleanly written across the top of the card.

Below the answer an explanation of the clues and how they lead to the answer must be given. An explanation is usually 2 to 3 sentences in length.

Cartoon Project – Writing and Processing in Science

If the humor of a language is understood, then a person is mastering the language - How does the humor relate to science? - What does a person need to know or understand before humor makes sense? - What science concepts are needed for a student to understand the humor in a situation or problem?

Guidelines – The cartoon does NOT have to be funny

The Front

- Single Frame cartoon (like a Farside)
- 4 colors minimum (Black and White DO NOT COUNT)
- Maximum 2 lines for a caption (speaking bubbles are okay, but not encouraged)

The Back

- Name of the Student
- The science concept being shown is stated
- A paragraph explaining why or how the cartoon shows or addresses the concept stated is written

Copy Change

Complete the focusing frame for your object. Be sure to repeat the first line at the end to emphasize its importance. When you are done, share with a partner.

The important thing about _____
is _____.

It's true that _____
and that _____
and that _____

But the important thing about _____

Science Photo Project

Technology Tie In

Take a photo then explain what aspect of science is shown in a photo. The photo must be 8 x 10 inches. The photo may be in color or black and white. If the photo is taken with a digital camera, the electronic file must be included on a disk with the essay and photo. A 250 maximum word essay must be written to explain the science concept shown in the photo. The essay and photo must be given a title. The essay must identify the main science concept of the photo. The essay must explain how the photo shows the concept. An explanation as to why the photo is considered to be NATURAL or CONTRIVED must be part of the essay. The science in the photo must be explained in simple terms. The essay must address any special or unique steps needed to compose or take the photo.

Written on the back of the photo

- Student Name
- Natural or Contrived photo
- Main Science Concept shown in the photo

Essay Main Points

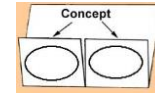
- 250 word maximum essay
- Must identify the main science concept in the photo
- Must identify if the photo is Natural or Contrived
- Must explain how the photo shows the main science concept
- Must explain any special or unique steps to take the photo

Fabulous Fold-Ups!

Concept maps demonstrate relationships between ideas. They help you understand concepts by clarifying ideas and terms, and by dividing complex concepts or processes into smaller parts. You can use concept maps to relate, define, brainstorm, and sequence.

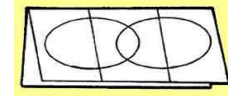
Instructions for a Concept Map Fold-Up:

1. Fold a sheet of paper along the long or short axis, leaving a two-inch tab uncovered.
2. Fold in half or in thirds. (Additional tabs can be created by folding into more parts.)
3. Unfold and cut along the inside fold lines to create tabs.
4. Have students identify the concept by writing key words or using pictures on the two-inch tab. Draw arrows from the central idea to the tabs, where students record data underneath each tab.



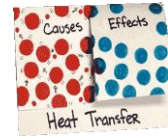
Instructions for a Venn Diagram Fold-Up:

1. Fold a sheet of paper in half like a hotdog.
2. With the paper horizontal, fold the right edge toward the center, trying to cover one half of the paper.
3. Fold the left side over the right and crease to form three tabs.
4. Draw two overlapping ovals on the front.
5. Cut up the two valleys on one side only



Instructions for a Focus Skills Fold-Up (Cause and Effect):

1. Fold a sheet of paper in half horizontally (hamburger) so that one side is one inch longer than the other side.
2. Cut the shorter side in half, up towards the fold (mountain top) to create two flaps.



Vocabulary Card Instructions

The purpose of a vocabulary card is to assist students in learning and understanding terms, phrases or concepts covered in class and necessary for understanding.

Vital Statistics: Word (spelled correctly), Pronunciation (optional), Definition – meaning of word using terms the student understands (1 of the 3 sentences), Link – a word useful in remembering it the meaning should be known; often related or rhyming with the vocabulary word.

Use 2 other sentences helping delineate the meaning of the vocabulary word. These should be student generated.

- The FRONT side of the card has a cartoon or diagram showing an example or application of the term. The diagram or cartoon must have at least 4 different colors (other than the white of the paper). There should be a minimum of writing and explanations on this side of the vocabulary card.
- The BACK of the vocabulary card has the word or term, a LINK and three different sentences using the term. The sentences may be a definition, an example or another use showing or interpreting the word or phrase.

Advertisement	Comic Strip	Graphs	Newspaper Article	Scrapbook
Advice Columns	Clustering	Greeting Card	Nursery Rhyme	Skit
Announcements	Collage	Grocery Lists	Obituary	Slogans
Awards	Compare/Contrast	Headlines	One Pager	Society Pages
Banner	Crossword Puzzle	Horoscopes	Persuasive Essay	Song/Rap
Beauty Tips	Dictionary	Illustration	Picture	Sports Stories
Bedtime Story	Editorial	Instructions	Poetry	Story Board
Billboard	Encyclopedia Entry	Interview	Political Cartoons	Story Map
Biography	Fables	Invitation	Postcards	Summaries
Board Game	Facial Expressions	Job Application	Problem Solution	Thank You Note
Brainstorming	Fashion Articles	Jokes	Questionnaire	Timeline
Brochure	Finish This	KWL	Questions	Travel Brochure
Bumper Sticker	Flow Chart	Letter	Ransom Note	TV Commercial
Campaign Speech	Fold-ups	Love Notes	Real Estate Notice	Venn Diagram
Cartoons	Fortunes	Magazine Clippings	CD/Book Cover	Video
Cause/Effect	Four Square	Maps	Remedies	Wanted Poster
Cereal Box Cover	Good News/Bad	Masks	Report Cards	World Map
Character	News	Matrix Menus	Resumes	Word Search
Chart	Gossip	Monologues	Riddles	???
Children's Book	Graffiti	Newscast	Sales Pitches	

Put glue here in this boxed area so your paper can flip along the dotted line so the paper can be double sided! We call this a "Flippy!"

OVERVIEW OF INTERACTIVE NOTEBOOK REQUIREMENTS

General

- Your name and class period is clearly visible on the front of your notebook
- Page numbers CLEARLY marked in bottom outside corners of all pages
- Your handwriting is legible enough that Mrs. Farmer can tell what you are writing!
- The pockets of your notebook are empty except for allowed materials
- Your bookmark is placed on the page Mrs. Farmer asks it to be on
- You have been nice to your notebook! It isn't beat up, torn, crumpled, etc
- Each page can/will be graded using the 0-3 or 0-5 grading rubric.
Don't forget –Above and beyond!

Right Side Pages

- Target is in red pen at the very top of every right side page
- Each set of notes has a descriptive title
- Notes are KCQ style when required
- KCQ style notes have excellent key terms, connections and higher level questioning
- Notes incorporate "color annotations" using a minimum of three additional colors in a meaningful way that adds to the learning
- Non KCQ style pages are complete and handouts are completed and glued in all the way
- Notes are not cramped – you use empty space to help add to the organization and learning
- Includes effective diagrams and pictures

Left Side Pages

- Demonstrates extensive left side processing of information – it looks like you actually are using your notebook to think and learn!
- Pages are complete and handouts are completed and glued in all the way
- Uses color in a meaningful way throughout processing activities
- Includes effective diagrams and pictures
- Uses a variety of processing techniques when allowed to demonstrate different learning styles

EXAMPLE SCORING RUBRICS

These rubrics will give you an idea about how small assignments will be graded (such as fold-ups, diagrams, notes, worksheets etc). Not all assignments will be 3 or 5 points, but the general categories will hold true for all assignments. In order to earn full points you must turn in a "WOW product." You will not earn an A by simply meeting the requirements, you must exceed the requirements.

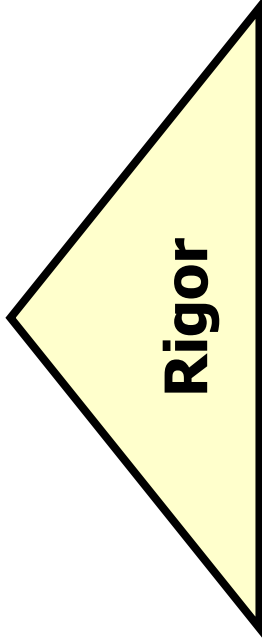
A is for "Above and beyond!"

THREE POINT SCORING RUBRIC	FIVE POINT SCORING RUBRIC
<p>3 Points - (a WOW product)</p> <ul style="list-style-type: none"> all of the requirements are evident and EXCEEDED the product is VERY neatly done and EXTREMELY well organized the product shows LOTS of creativity and is colorfully illustrated completed on time 	<p>5 Points - (a WOW product)</p> <ul style="list-style-type: none"> all of the requirements are evident and EXCEEDED the product is VERY neatly done and EXTREMELY well organized the product shows LOTS of creativity and is colorfully illustrated completed on time
<p>2 Points - (What is EXPECTED)</p> <ul style="list-style-type: none"> the requirements are evident the product is neatly done and organized the product shows some creativity and is illustrated completed on time 	<p>4 Points - (What is EXPECTED)</p> <ul style="list-style-type: none"> all of the requirements are evident the product is neatly done and well organized the product shows creativity and is colorfully illustrated completed on time
<p>1 Point – (One or More parts is missing)</p> <ul style="list-style-type: none"> few of the requirements are evident the product is fairly neatly done and partly organized the product shows little creativity and few illustrations completed on time 	<p>3 Points – (Almost What is EXPECTED)</p> <ul style="list-style-type: none"> the requirements are evident (maybe 1 or 2 are missing) the product is neatly done and organized the product shows some creativity and is illustrated completed on time
<p>0 Points - (Does not meet Standards)</p> <ul style="list-style-type: none"> Unscorable or no product 	<p>2 Points – (Sort of What is EXPECTED)</p> <ul style="list-style-type: none"> the requirements are evident (maybe 3 or 4 are missing) the product is done and sort of organized the product shows little creativity and is illustrated completed on time
	<p>1 Point – (Two or More parts is missing)</p> <ul style="list-style-type: none"> MANY of the requirements are NOT PRESENT the product is VERY POORLY done and POORLY organized the product shows little TO NO creativity and the illustrations IS POORLY DONE completed on time
	<p>0 Points - (Does not meet Standards)</p> <ul style="list-style-type: none"> Unscorable or no product

Costa's House

Costa's Levels of Questioning

Helping you to develop more complex questions



Third Floor - Creating

Evaluate - Generalize - Imagine - Judge
 Predict - If/Then - Speculate - Hypothesize
 Forecast - Idealize - Apply the principle

Second Floor - Processing

Compare - Contrast - Sort - Distinguish
 Explain why - Infer - Sequence
 Analyze - Synthesize - Make analogies

First Floor - Basic

Complete - Count - Match - Name - Define
 Observe - Describe - Identify - List - Select
 Recite - Scan

Examples of Different Level Questions

Level 1 - Basic	Level 2 - Processing	Level 3 - Creating
<ul style="list-style-type: none"> • What information is given? • What are you being asked to find? • What formula would you use in this problem? • What does _____ mean? • What is the formula for...? • List the... • Name the... • Where did...? • What is...? • When did...? • Describe in your own words what _____ means. • What science concepts does this problem connect to? • Draw a diagram of... • Illustrate how _____ works. 	<ul style="list-style-type: none"> • What additional information is needed to solve this problem? • Can you see other relationships that will help you find this information? • How can you put your data in graphic form? • How would you change your procedures to get better results? • What method would you use to...? • Compare and contrast _____ to _____. • Which errors most affected your results? • What were some sources of variability? • How do your conclusions support your hypothesis? • What prior research/formulas support your conclusions? • How else could you account for...? • Explain the concept of... • Give me an example of... • What occurs when...? • What was important about...? • Explain how you calculate... • Does it make sense to...? 	<ul style="list-style-type: none"> • Design a lab to show... • Predict what will happen to _____ as _____ is changed. • Using a science principle, how can we find...? • Describe the events that might occur if... • Design a scenario for... • What would the world be like if...? • What would happen to _____ if _____ (variable) were increased/decreased? • How would repeated trials affect your data? • What significance is this experiment to the subject you're learning? • What type of evidence is most compelling to you? • Do you feel _____ (experiment) is ethical? • Are your results biased? • Pretend you are...

Common Types of Notes

KCQ Notes	Summary Notes
<ul style="list-style-type: none"> • Three boxes drawn on bottom of paper <ul style="list-style-type: none"> ○ Key terms ○ Connections ○ Questions (two questions) • Note section is your choice of style • Notes must contain at least three colors in addition to pen/pencil 	<ul style="list-style-type: none"> • One long box drawn on bottom of paper <ul style="list-style-type: none"> ○ Five lines of binder paper ○ Full sentences ○ Summarize the CONTENT of notes ○ Third person • Note section is your choice of style • Notes must contain at least three colors in addition to pen/pencil
Add To It Notes	Research Notes
<ul style="list-style-type: none"> • You will go over a source of information on your own without the teacher <ul style="list-style-type: none"> ○ PowerPoint, video, book, etc ○ Take notes ONLY in blue/black pen or pencil ○ Leave space to add to your notes later in class • In class the teacher will go over a more detailed version of the information <ul style="list-style-type: none"> ○ You will take notes in GREEN PEN so the new information stands out • You will add one or two other colors to your notes to make the information pop 	<ul style="list-style-type: none"> • You will be given a set of topics, key terms, or guiding questions to be glued into your notebook • You will be given sources of information that will relate to the guiding topics given <ul style="list-style-type: none"> ○ Use the information sources and take notes on the material ○ The teacher will go over the important aspects of the information at the end
Visual Notes	???
<ul style="list-style-type: none"> • Notes taken by drawing pictures/diagrams <ul style="list-style-type: none"> ○ Labeling is ok ○ Must contain at least three colors in addition to pen/pencil 	<ul style="list-style-type: none"> • Occasionally notes will be done in a style not mentioned here because it best suits the information. <ul style="list-style-type: none"> ○ You will be given instructions on how to set up the page during class
Important Information	
<ul style="list-style-type: none"> • All right hand pages must have targets on them – at the top of the page in red pen • If you are absent for a day of notes you must make them up using the class website. You get one day for every day you were gone. • All notes must be legible or they cannot be scored • All notes are required – they are not optional! • Notes are typically scored on a 0-3 or 0-5 scale • Notes may be graded in class immediately following the note taking session, the next day, a few days later, or during a notebook check • Notes may be graded for a completion credit and then graded later for quality. Typically they are graded the next day in class for completion, and then are graded again for quality during a notebook check • If you do not finish your notes and therefore get a low score when they are graded, please go home and finish them! They may be graded again later down the road and you can earn full credit for that grade even if you earned a zero or low score for an earlier grade. 	

Unit #0 – Chemical Foundations

Visual Representation

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Key Items

Costa's Questions

Level 3

Level 2

Level 1



SCAN ME

How to complete this page:

<https://tinyurl.com/2t3485kr>

Cross Cutting Concepts – Unit #0 - Chemical Foundations

Scale, proportions and quantity	Stability and change	Patterns



How to complete this page:

<https://tinyurl.com/u4uej3nr>

SCAN ME

- Cut off the top portion of this page.
- Make it into a pocket on p. _____
 - Put glue on the left and right edge, and the bottom edge. No glue on the top edge or you will seal off the pocket!
- You will fill these columns with items/facts/ideas/concepts/examples etc from the chapter that fit into each of the “cross cutting concepts.”
- You will put quizzes and extra practice into the pocket during the chapter.
- Bullet points are fine, drawing pictures is fine, writing paragraphs is fine, it is up to you!



Put glue here!

Put glue here!

Put glue here!