



The
FACING
HISTORY
School

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Chemistry Semester – Syllabus 2017-2018

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Course Description:

Chemistry is everywhere! In fact, it would be a challenge to think of something in our universe that does not involve chemistry. Even our thoughts and emotions can be explained via chemistry. Chemistry is central to all branches of science including biology, medicine, environmental sciences, physics, astronomy, botany, biochemistry and geology. A university degree in chemistry can be a stepping stone to becoming anything from a medical doctor to a teacher.

As the course title suggests, we will be investigating chemical concepts and principles from an inquiry-based perspective. This means that students will investigate natural and chemical phenomena by asking questions and employing critical thinking. Please keep one thing in mind throughout this course – *answers themselves are not as important as the thought process you use to get there.*

Course Objectives:

One of the central objectives of this class is to provide students with a way of investigating the natural world. You will be learning traditional chemical concepts and principles in this class through a non-traditional method. In this course, students will be expected to work as scientists do in professional and university settings. This means that you will observe phenomena, ask questions, form hypotheses, formulate ways of testing those hypotheses, construct new knowledge, discuss and reflect on those discoveries and apply those findings to your lives.

Major Assessments:

Over the course of the semester, students will be completing three units in which the students will broaden their knowledge of the principles of chemistry. Each unit progresses from basic C layer knowledge to applications in the B layer and finally developing and justifying opinions in the A layer. This is a portfolio class, which means students will present their learning journey through portfolio presentations in June. Students will also be required to verbally answer content questions related to the chemistry material and skills that they have learned.

Course of Study:

- Year-long essential question – Is it possible to prove something?

Term 1: How do you “prove” something is true?

Unit of Study	Essential Question	Unit Objectives	CCLS	Resources	Major Assessments
Unit 1 Observations and Inferences	Why is it important to question scientific claims?	<p>1.1- I can use my 5 senses to make detailed observations.</p> <p>1.2 - I can tell the difference between an observation and an inference</p> <p>1.3-I can tell the difference between qualitative and quantitative observations</p> <p>1.4- I can identify when to use line graphs and when to use bar graphs.</p> <p>1.5- I can create line and bar graphs on the computer.</p> <p>1.6-I can draw</p>	<p>CCSS.EL A-LITERACY.RST.9-10.3</p> <p>CCSS.EL A-LITERACY.RST.9-10.6</p> <p>CCSS.EL A-LITERACY.RST.9-10.7</p> <p>CCSS.EL A-LITERACY.RST.9-10.8</p>	Articles, videos, worksheets , online activities, group work, etc.	<p>LAYER C (Formative Assessment) 2 Quizzes</p> <p>LAYER B (Summative Assessment) Observation project https://docs.google.com/a/facinghistoryschool.org/document/d/1LwPg2wvinmPEB4jFMBp7XLA9QJEG7jKMnaO8nR1rFFQ/edit?usp=sharing</p> <p>LAYER A (Summative Assessment)</p> <p>https://docs.google.com/a/facinghistoryschool.org/document/d/1C7SkIRUmvaucp1zNnaESD0bYynoGgMc2zJRmeD2-4G4/edit?usp=sharing</p>

		<p><i>inferences from a graph</i></p> <p><i>1.7- I can analyze an experiment to identify errors in the design</i></p> <p><i>1.8-I can define and use the vocabulary for this unit.</i></p>			
Unit 2 Forensics	How can I make a logical conclusion through deductive reasoning?	<p><i>2.1 I can examine how observations and inferences apply outside of the classroom.</i></p> <p><i>2.2 I can make a crime report by gathering information from my observation</i></p>	<p><u>CCSS.ELA-LITERACY.RST.9-10.1</u></p> <p><u>CCSS.ELA-LITERACY.RST.9-10.2</u></p> <p><u>CCSS.ELA-LITERACY.RST.9-10.3</u></p>	Articles, videos, worksheets, online activities, group work, etc.	<p><u>LAYER C</u> (Formative Assessment) https://www.forensiccolleges.com/blog/hfb/how-to-become-csi http://iphonefaketext.com/</p> <p><u>LAYER B</u> (Summative Assessment)</p> <p>Blood Splatter Project</p> <p>Blood Detector Experiment</p> <p><u>LAYER A</u> (Summative Assessment)</p>

		<p><i>s and inferences.</i></p> <p>2.3- I can use deductive reasoning to determine a logical conclusion.</p> <p>2.4- <i>I can use data to support my conclusion</i></p> <p>2.5 I can use deductive reasoning to determine who the blood (artificial) belongs to and where the blood splatter came from.</p> <p>2.6 I can discuss the evidence that was gathered from the experiments</p>			Crime Scene Report
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		<p>with my group members so that we can choose a lead suspect.</p> <p>2.7- I can present my findings to the class or in my journal report, and explain how all the evidence points to a prime suspect.</p> <p>2.8- <i>I can define and use the vocabulary for this unit.</i></p>			
<p>Unit 3</p> <p>The Nature of Matter</p>	<p>Why does matter matter?</p>	<p>3.1- <i>I can describe and identify matter.</i></p> <p>3.2 <i>I can identify and describe states of matter.</i></p> <p>3.3 <i>I can describe</i></p>	<p>RST.9-10.7</p> <p>WHST.9-12.2</p> <p>WHST.9-12.7:</p> <p>WHST.9-12.9</p>	<p>Articles, videos, worksheets , online activities, group work, etc.</p>	<p><u>LAYER C</u> (Formative Assessment) Quizzes</p> <p><u>LAYER B</u> (Summative Assessment) Salt matter projet https://docs.google.com/a/facinghistoryschool.org/document/d/1_oIErh9iKoDE6XYuPkXgVr6ZksifJOM0_b4C177jsNQ/edit?usp=sharing</p>

		<p><i>phase changes</i></p> <p><i>3.4 I can explain why the temperature remains constant during a phase change</i></p> <p><i>3.5- I can distinguish between chemical and physical properties</i></p> <p><i>3.6 - I can distinguish between chemical and physical changes.</i></p> <p><i>3.7- I can classify matter as elements, mixtures, and compounds.</i></p> <p><i>3.8- I can tell the difference between heterogeneous and</i></p>			<p><u>LAYER A</u> (Summative Assessment) https://docs.google.com/a/facinghistoryschool.org/document/d/1PDmXALe47ZSerEnDxX8I16vPSLdcx3W1YrFVpiynj-U/edit?usp=sharing</p>
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		<p><i>homogenous mixtures.</i></p> <p><i>3.9 I can separate the components of a mixture</i></p> <p><i>3.10- I can define and use the vocabulary for this unit.</i></p>			
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Term 2

Unit of Study	Essential Question	Unit Objectives	CCLS	Resources	Major Assessments
Unit 1- Atomic Concepts Periodic Trends	How can we best measure what we cannot directly see?	<p><i>Objective 9.1 – I can describe models of the atom and identify the scientists who developed them</i></p> <p><i>Objective 9.2 I can identify 3 subatomic particles,</i></p>	<p>RST.9-10.7 WHST.9-1 2.2: WHST.9-1 2.5 WHST.9-1 2.7 WHST.11-1 2.8 WHST.9-1 2.9</p>	-Articles, videos, worksheets, online activities, group work, etc.	<p>B Layer Assignments Choose ONE of the following projects.</p> <p>1. Research an element of your choice and create a detailed profile.</p> <p>https://docs.google.com/a/fac</p>

		<p><i>including their mass, charge, and location.</i></p> <p><i>Objective 9.3 – I can determine the number of each subatomic particle for an element using the periodic table.</i></p> <p><i>Objective 9.4 – I can identify isotopes.</i></p> <p><i>Objective 9.5 – I can draw a Bohr model of an atom using the periodic table.</i></p> <p><i>Objective 9.6 – I can describe the arrangement of the periodic table</i></p> <p><i>Objective 9.7 I can identify patterns in the periodic table</i></p>		<p>inghistoryschool.org/document/d/1BcGmMYP13I34okff_rK_yroNshV8cvhvc2DerH9tv8Y/edit?usp=sharing</p> <p>A Layer Assignments *Answer ONE of the following questions. Other questions must be approved.</p> <p>https://docs.google.com/a/fac.inghistoryschool.org/document/d/1Hclh5KJ2zpBQLBlvss0qu-gl2Cjmw6QUT2jGDXYkAqI/edit?usp=sharing</p>
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		<p><i>Objective 9.8 -I can identify special groups on the periodic table and predict properties of elements</i></p> <p><i>Objective 9.9 I can identify ions and describe how they are formed</i></p> <p><i>Objective 9.10 – I can define and use unit 2 vocabulary.</i></p>			
Unit 2 Bonding	How do bonds form?	<p><i>Objective 9.11 – I can describe why bonds form</i></p> <p><i>Objective 9.12 – I can explain why noble gases don't bond</i></p>	WHST.9–12.2: WHST.9–12.5:	-Articles, videos, worksheets, online activities, group work, etc.	B Layer https://docs.google.com/a/facinghistoryschool.org/document/d/1H20t5hgipfLUKai7h6UPY2izhOp765LBJ6EYM_xxo8/edit?usp=sharing

		<p><i>Objective 9.13 – I can draw lewis dot diagrams of elements</i></p> <p><i>Objective 9.14 – I can describe ionic bonds.</i></p> <p><i>.Objective 9.15 – I can name and write formulas for ionic compounds.</i></p> <p><i>Objective 9.16-I can identify covalent bonds.</i></p> <p><i>Objective 9.17 -I can identify types of covalent bonds</i></p> <p><i>Objective 9.18-I can name and write formulas for covalent compounds</i></p>			<p>A Layer</p> <p>https://docs.google.com/a/facingshistoryschool.org/document/d/1fzBjWorf eeDi8UuWDLv x_a4kxpJJecD wbh5na5-z-ms /edit?usp=sharing</p>
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		<p><i>Objective 9.19- I can compare and contrast covalent and ionic bonds</i></p> <p><i>Objective 9.20 – I can define and use unit 3 vocabulary.</i></p>			
<p>Unit 3 Acids and Bases https://docs.google.com/a/facingschool.org/document/d/1GPYRM8fPb-8UOCkXRZEYjIThWkP5SxvPbRqQeG9d0Bs/edit?usp=sharing</p>	<p>What are the applications of acid base reactions and their impact on our lives and environment?</p>	<p><i>Objective 9.21 - I can describe properties of acids and bases</i></p> <p><i>Objective 9.22 - I can distinguish between acids and bases</i></p> <p><i>Objective 9.23 - I can describe the relationship between $[H^+]$, $[OH^-]$ and pH</i></p>	<p>RST.9-10.7 WHST.9-12.2 WHST.9-12.7: WHST.9-12.9</p>	<p>-Articles, videos, worksheets, online activities, group work, labs, etc.</p>	<p>B Layer 1. Which brand of antacid is most effective in neutralizing stomach acid?</p> <p>https://docs.google.com/a/facingschool.org/document/d/1G-kKqLGlbaF5TVv3ia8bsaRNPhOLCF8zvoWVjRD16E/edit?usp=sharing</p> <p>https://docs.google.com/a/facingschool.org/document/d/1xRU0Qn0RHZltRDVV9GiyAB5fQstrq5</p>

		<p>Objective 9.24 - <i>I can explain how dilution affects acids and bases</i></p> <p>Objective 9.25 - <i>I can describe reactions between acids and bases</i></p> <p>Objective 9.26 - <i>I can use a neutralization reaction to determine the concentration of an acid</i></p> <p>Objective 9.27 - <i>I can explain how acids, bases and pH are relevant to my life</i></p> <p>Objective 9.28 – <i>I can define and use unit 3 vocabulary.</i></p>			<p>8j2iYoSm2a-o/edit?usp=sharing</p> <p>A Layer</p> <p><i>Fishbowl discussion on acid rain</i></p> <p><i>Questions to answered during the discussion:</i></p> <p>https://docs.google.com/document/d/1tniLACtVR3xLXdztzF2WX5sifcG9oGqLB_g3ABoervMQ/edit?usp=sharing</p> <p><i>4 Articles to be read before fishbowl discussion can be found at the link below.</i></p> <p>https://drive.google.com/drive/folders/0B6-9GTOeLtKOeGdSLWgxeWp2TWc</p>
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Teacher gradebook will be updated each week on Tuesdays. We will probably do it more than that but, at minimum, the gradebook is updated once a week.

- **Learning Activities**

The gradebook is divided into three sections:

- *Learning Activities*

roughly 60 to 80 grades per semester

- *Formative Assessments*

at least 8-10 per semester

- *Summative Assessments*

at least 4-6 per semester

Required Class Materials. You are expected to purchase and bring these materials to class:

- One 3-hole binder and one 2-pocket folder
- Loose-leaf paper
- Black or blue pens (whatever you prefer) – no colored pens
- Pencils and pencil sharpener

Classroom Expectations

- 1.) Arrive early or on time.
- 2.) Listen when others are speaking
- 3.) Class time is for class activities only
- 4.) Come to class prepared with all required materials.
- 5.) Raise your hand to participate unless otherwise instructed.

Ladder of Consequences

1. *Verbal Warning (can happen publicly or one-on-one)*

What this sounds like: “John, when you call out, it disrupts other people from coming to their own answer or conclusions. This is your warning about calling out.”

2. *One-on-one conversation with teacher(s) (either quietly in the classroom or out in the hallway) What this this sounds like: “John, come talk with me in the hallway.”*

<Then we have a conversation about calling out in the hallway.>

3. *Call home and/or sent to Courtney or admin office.*

What this sounds like: “John, today is just not your day. I need you to take your stuff and this pass and head to the admin office. I’ll pop in after class to talk with you.”

A student is expected to:

- Come prepared to class, participate actively in their education and complete their work in a professional and timely manner
- Check their PupilPath account at least once a week in all classes
- Make up missed assignments and stay for tutoring if they are falling behind or unsure of some of the content

If students do all of the above, they will be on track for success. If you do not, they risk failing the class and repeating the grade.

Cell Phones

Schoolwide Policy: Cell phones are allowed in the school building but must be locked in your lockers.

*If you have your cell phone out during class, **it will be taken EVERY TIME. You will not get a warning. Keisha will ask for your cell phone and depending on how you respond and react depends on what will happen with your cell phone:***

I will either keep it until:

a.) The end of the class period then give it back to you before you leave

OR

b.) Admin or Courtney will be called to the room to take the phone/remove you from the room, and you will not receive it till the end of the day or your parents will have to come to school to pick it up.

Note: The school will not be responsible for any damaged, lost or stolen phones.

Uniform

Uniform (Hats, hoodies, and collared shirts, especially)

You are expected to follow the school uniform policy in this class.

*You must **remove hats** and **hoodies** before entering the classroom.*

If your shirt or pants are out of uniform, (for example, your shirt does not have a collar), you will be sent to the admin offices to receive an appropriate uniform then return to class in appropriate uniform.

Tutoring

✓ *Tuesdays and Fridays from 8.00 am-8.30am*

OR

✓ *Tuesdays and Thursdays from 3:00 p.m-4:00 p.m*

✓ *By appointment. By appointment means you come to us, we set up an agreed upon time to meet, and then you come in and we meet.*

Student Agreement and Parent/Guardian Agreement

I have read and understood the syllabus, and I agree to follow class rules to make this a productive and academically successful year in this class.

Student Signature: _____ Date:

I have read and understood the syllabus. I agree to cooperate with my child and the teacher in order to promote productive behaviors and academic success for my child in this class.

Parent/Guardian Signature: _____ Date:

Phone number _____ Email:
