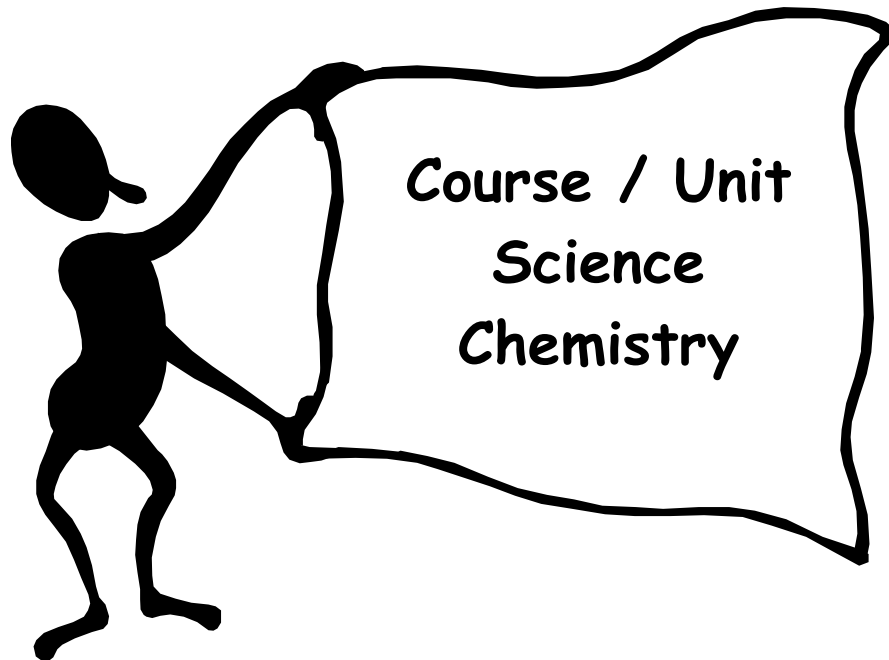


Backwards Design Unit Planning

Teacher/School:

**New York City Department of Education
Magnet Program District 25 & 28**

MS 217 ROBERT A. VAN WYCK MIDDLE SCHOOL



Essential Question: What role do chemicals play in the present condition of our environment?

Suggested Time Frame: 5-6 weeks

Theme: Green Environment

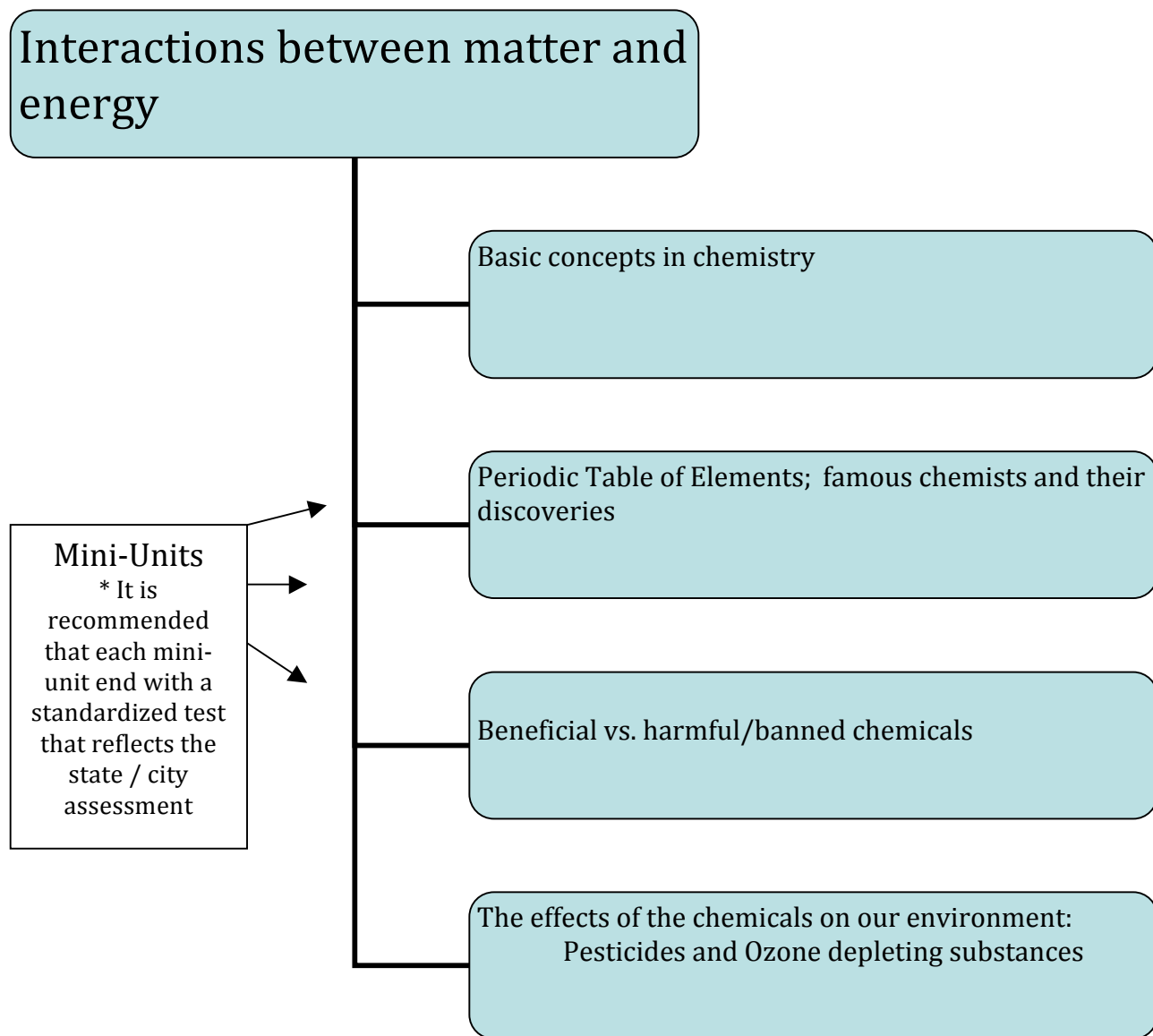
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Teacher/School:

Graphic Overview of Unit

Suggested Time Frame: 6 WEEKS

Essential Question: What role do chemicals play in the present condition of our environment?



Unit's Culminating Project: (briefly explain in 2-3 sentences: Students will produce a tri-fold pamphlet with information about the bad effects of a specific chemical on the environment. They will also give a presentation about the topic.

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Stage 1- Desired Results	
<p><u>Standards-Based Learning Goals:</u></p> <p>Standard 4. The Physical Setting. Students will understand and apply scientific concepts, principles and theories, pertaining to the physical setting and living environment and recognize the historical development of ideas in Science.</p> <p>Performance Indicator 3.3a. All matter is made up of atoms.</p> <p>Performance Indicator 3.3f. There are more than 100 elements. Elements combine in a multitude of ways to produce compounds that account for all living and nonliving substances.</p> <p>Performance Indicator 3.3g. The periodic table is one useful model for classifying elements. The periodic table can be used to predict properties of elements.</p>	
Concepts	
<p>Big Ideas for this Unit</p> <p>Exploration Conflict Survival Environment</p>	<p>Magnet School Theme: GREEN MAGNET FOR CAREER EXPLORATION</p> <p>Relevant/Connected Big Idea:</p>
<p>Enduring Understandings</p> <p>The chemicals that have been introduced into our environment have altered our lives.</p> <p>The discoveries brought about by chemistry research have changed our lives.</p> <p>For every gain, there is a corresponding effect on the environment</p>	<p>Overarching Essential Question(s):</p> <p>What role do chemicals play in the present condition of our environment?</p> <p>Is there such a thing as necessary evil?</p> <p>Do the ends justify the means?</p> <p>Why is chemistry important?</p> <p>Is abundance and affordability the determining factor in chemical usage?</p> <p>How did chemistry improve our standard of living?</p>

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	How did chemistry/discovery of chemicals affect our environment?
Content and Skills	
Content Students will know... Vocabulary Words: atoms elements compounds substances mixtures periodic table of elements acid bases metal non metal noble gases inert gases Classification of matter Periodic Table of elements Famous chemists and their works/inventions Types of chemicals in the environment: Harmful chemicals Beneficial chemicals Effects of the harmful chemicals on the environment	Skills Students will be able to... Define terminologies used in the study of chemistry. Explain the periodic table of elements Identify the uses of chemicals Compare banned chemicals and useful chemicals Conduct a research about the harmful effects of the banned chemicals in the environment Debate about the uses of chemicals in our environment

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Stage 2- Summative Assessment Evidence

If students understand, know and are able to do the items in Stage 1, they should be able to show their understanding by completing an authentic task found in the world beyond the classroom.

- Design the Culminating/Summative Task:

G- (goal)

Your goal is to create tri-fold pamphlet containing information about harmful chemicals that affect our environment. These will be distributed when you give a presentation on the same subject.

R- (role)

As a student of JHS 217, which is a Green Magnet School, you are to help promote awareness about saving the environment. As part of your group's campaign against harmful chemicals, you will create tri-fold pamphlets to be given out to the public to help promote awareness. At the same time, you will be making a presentation on the topic.

A- (audience)

Your audience will be the whole school community – teachers, students and parents. (Alternate audience – a community group)

S- (situation)

To increase public awareness regarding the use of chemicals and its effect on the environment you will make pamphlets to be given out to the public. You will also make a presentation about this.

P- (purpose and product)

You need to prepare a tri-fold pamphlet. You should include information about a specific chemical found to have bad effects on

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the environment. Tell about the uses of this chemical and what will happen if this chemical is removed. Alternatives to this chemical should be given.

S- (standards for performance)

Your pamphlet should include information about the hazardous chemicals. Show facts about the bad effects of this chemical on the environment.

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Student Task

You will create a tri-fold pamphlet to be distributed throughout the school. This pamphlet is about the chemicals that we use everyday but it has bad or harmful effects on our environment and even on our body.

This tri-fold is not a homework assignment; rather we will be working on pieces of your pamphlet as we explore this unit.

For your tri-fold, here are the materials that you will be using:

1. 8"x11" size of copy paper. Fold it in 3 like how a tri board actually looks like.
2. Color markers, pen, crayons -
3. Pictures of chemicals and its uses and effects
4. Research materials that you have investigated on

(Alternative – Create the pamphlet using computer publishing software.)

Your tri-fold will tell:

1. the name of the chemical that you researched
2. the uses of that chemical
3. a brief history of the discovery and uses of this chemical
4. the good and bad effects of using the chemical
5. How people can help lessen the negative effects of the chemical

As we learn throughout the unit, I will guide you in writing each piece.

Make sure that your pamphlet is rich in information, well organized and engaging.

Do not just copy paste your research on to the pamphlet. Make sure you summarize what you have researched.

Once you are ready with your pamphlet, you will present it to the class. Make sure your presentation is clear and straightforward. It should show mastery of what you have learned.

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Rubric For Culminating Project

	60% Understanding	30% Product	10% Presentation
4	High level of understanding is demonstrated if the following are included: <ul style="list-style-type: none">• name of chemical you chose to research on• use of the chemical• brief history of the discovery of the chemical• good and bad effects on the environment• alternatives for this chemical	Final pamphlet should show complete information, well - organized, colorful, with pictures and with list of at least 5 references	Student was able to explain to a group of listener and convince them; student was able to answer questions of audience
3	Adequate level of understanding if 1 of the above is missing	Final pamphlet has complete information, but not well organized,	Student was able to explain, but cannot explain in own words; reads from the pamphlet
2	Incomplete level of understanding if 2 or 3 of the above is missing	Final pamphlet has no pictures and no list of references	Student read to the class what was in the pamphlet; was not able to answer questions
1	Little evidence of understanding if 4 of the above is missing	Final pamphlet has only 1 of the above criteria	

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Stage 2- Formative Assessment Evidence	
Throughout the unit how will you check to make sure students are mastering the knowledge, skills, and understandings they need to be successful at the summative/culminating task?	
Assessment Formats on the State Test Standardized Tests – Intermediate Level Science Examination Teacher-made quizzes On line quizzes Research Laboratory Questions	Weekly Formative Assessments For Content... Multiple choice quiz Comprehensive test <hr/> For Skills... 2- column charts: what I learned from what I read, what I learned from my classmate <hr/> For Understandings... Inner circle – Outer circle Exit Tickets Numbered Heads Jigsaw reading

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