Department Science

Name of Course Physical Science

"Title" of Anchor Assignment Molecular Poster Project

Semester First semester

What are students asked to do/create/write/present to complete this assignment?

(Select and research an element as well as a compound that contains the element. Create a poster for the element and present the project to the class.)

Molecular Poster E - Portfolio Project

1. You must work alone since this is going into your portfolio.

2. Choose an element to investigate. Choose your element carefully since it must combine to form a useful compound. **You may want to choose a compound that you are interested in first** and then work on the element contained in that compound.

3. Research the element. For the element you research it must include some of the following items (the rubric will have everything more outlined for you):

    1. The history of the element
    2. The discovery of the element
    3. The element's oxidation number
    4. The dot diagram for the element

REMEMBER: Choose your element carefully since it must combine to form a useful compound. You may want to choose a compound that you are interested in first and then work on the elements contained in that compound.

4. Research the compound including but not limited to the following properties (the rubric will have everything more outlined for you):

    1. History 2. Uses 3. Hazards 4. Type of bonding 5. Structure

Please remember that books are valuable resources for information.

5. Make a Poster which must include **for your element (on the front or side one of the poster)**:
    1. name of your element and the atomic number of your element
    2. the group or family it is in on the periodic table and its oxidation number
    3. its electron dot diagram and its valence shells (rings)
    4. its discovery (who discovered, when did they discover it, and how did they discover it)
    5. its history (uses such as what benefits we get from the element and its hazards)
    6. pictures of the element (you will need to include visuals you feel are appropriate)

    Your Poster must also include some of the following items **for your compound (on the back or side two of your poster):**
    1. name
    2. chemical formula
    3. chemical structure visual (molecular structure) – this can be drawn or you can obtain a picture of it
    4. type of bonding between the elements that make up the compound (ionic or covalent)
    5. discovery (who discovered, when did they discover it, and how did they discover it)

6. properties (chemical and physical properties)
7. uses
8. hazards
9. pictures (you will need to include visuals you feel are appropriate)

At the bottom of your Poster, you must include the resources you used, (a complete works cited list). You may use at least two book sources. Remember a Poster should contain both visual materials and text.

6. All projects must be presented to the class. You will have a Poster to work with. Note cards are allowed. Reading information off the Poster is not allowed. Nothing is more boring than having someone reading to them during a presentation so make sure you know what you are talking about concerning your element, compound and the information you want to convey. (20 points)

Due Date: _____

Any projects, or portions of projects not handed in on the due date will have 10 points deducted per day late. **Absence is not a sufficient reason for not handing in a project on time.**

GSE(s) Covered by this Assignment:

PS – 1 1a students demonstrate an understanding of characteristic properties of matter by utilizing data (related to chemical and physical properties), to distinguish one substance from another or identify an unknown substance

PS – 1 4c students demonstrate an understanding of the structure of matter by explaining or modeling how the electron configuration of atoms governs how atoms interact with one another (e.g. covalent, hydrogen, and ionic bonding)

NKHS Expectation(s) for Student Learning Covered by this Assignment:

4 – Visual communication
3 – Oral communication

Depth of Knowledge (Check one)

_____**Level 1-** Recall of Information - requires the student to write or recite simple facts. Does not include complex synthesis or analysis, but basic ideas. Level 1 requires students to demonstrate a rote response, perform a well-known algorithm, follow a set procedure (like a recipe), or perform a clearly defined series of steps.

_____**Level 2-** Basic Reasoning- requires some mental processing, connecting ideas using a simple organizational structure. At this level, students are engaged in first draft writing for a limited number of purposes and audiences; Keywords that generally distinguish a Level 2 item include "classify," "organize," "estimate," "make observations," "collect and display data," and "compare data." These actions imply more than one step.

__X____**Level 3-** Complex Reasoning- requires some higher level mental processing. Students are developing multi-paragraph compositions that may include complex sentence structures or demonstrate some synthesis and analysis. The cognitive demands at Level 3 are complex and abstract. The complexity does not result from the fact that there are multiple answers, a possibility for both Levels 1 and 2, but because the task requires more demanding reasoning.

_____**Level 4-** Extended Reasoning- Higher-level thinking is central to this level. Multi-paragraph compositions demonstrate synthesis and analysis of complex idea or themes and evidence of a deep awareness of purpose and audience. Level 4 activities include designing and conducting experiments; making connections between a finding and related concepts and phenomena; combining and synthesizing ideas into new concepts; and critiquing experimental designs