Project: Mini Poster - Classifying Reaction Types

FOR THE TEACHER

Summary
In this activity, students display their knowledge of the five main types of chemical reactions on a miniature sized poster.

Grade Level
High school

Objectives
By the end of this activity, students should be able to
- Describe each of the main types of chemical reaction.
- Differentiate between the main types of chemical reactions.
- Understand how these reactions correlate to real-life.
- Give examples of when each type of reaction takes place.

Chemistry Topics
This lesson supports students’ understanding of:
- Classifying Reactions

Time:
Teacher Preparation: 20 minutes
Lesson: Two 50 minute classes

Materials
- Computers or iPads (for research)
- Manila folders
- Colored pencils
- Colored paper
- Glue
- Scissors
- Additional craft supplies (as needed)

Safety
- No specific safety precautions need to be observed for this activity.

Teacher Notes
- After teaching the five main types of chemical reactions (synthesis, decomposition, single replacement, double replacement and combustion), have the students show their understanding of these types of reactions through the creation of a mini poster. I have each student complete the project individually so that students are solely responsible for their own work.
- I have the students make a miniature tri-fold poster project by taping two manila folders together, overlapping the connecting page, to provide three surfaces to display their information.
- Students can make a bi-fold instead if supplies are limited.
A suggestion for adding a uniqueness factor in the real world examples. Possibly offer extra points in the rubric if they are able to come up with an example that nobody else does.

Grading the project: I assign 8 points to each reactions type, divided into 2 points for each of the bullets:
- Name of reaction type
- Generic equation
- Real Life example of reaction
- Definition of reaction type
This totals 40 points.
I also assign 2 points for consideration of the remaining bullets:
- Title of Poster
- Color
- Pictures
- Readability
- Sizing & Usage of space
- Creativity
- Originality
Using this grading format the project will be worth a total of 54 points.

There are many variations of this activity that your students can follow during other units in the curriculum. An example of this would be having the students create a mini poster project for ionic, molecular, and organic bonds.

Cross-Disciplinary Extensions

Connect to Math:
The students are to balance the reactions that they use on the board. This includes mathematically proving the law of conservation of mass.

Connect to Reading
The students must research real-life reactions and read about how they take place.

Connect to Writing
The students are writing the presentation of the different types of reactions on the poster board. An additional research paper could be included with this presentation.

Connect to Social Studies
The students are including examples of each reaction which could easily include how that reaction has been used in the past and how it has been changed to meet current daily needs.

FOR THE STUDENT

Lesson

Mini Poster Project- Classifying Reaction Types

Background
There are many different types of chemical reactions in the world. We have studied five types of them during this unit. You are now going to create a mini poster describing each chemical reaction and differentiating between the types of chemical reactions.
This will be an independent project. During your allotted time you will further research each of the types of reactions as well as find real-world examples and pictures of each reaction type for visual aide on your poster.

**Objective**
In this project you will create a mini poster that provides information about the five types of chemical reactions (*synthesis, decomposition, single replacement, double replacement and combustion*). This posted should be created on a manila folder as a bi-fold or as a tri-fold.

**Materials**
You will be provided with colored pencils, markers, paper, and folders. If there is anything additional that you would like to use on your poster you must supply it.

**Procedure**
The following information should be included for each reaction type:
- Name of reaction type
- Generic equation
- Real Life example of reaction
- Definition of reaction type

Each bullet point below should also be considered:
- Title of Poster
- Color
- Pictures
- Readability
- Sizing & Usage of space
- Creativity
- Originality