

HONORS CHEMISTRY PROJECT: CHEMICAL REACTIONS RESEARCH

Points: 100 (counts as a test grade)

Due Date: Tuesday April 21st

(Ten points off for each day late!)

Background information

As we study chemical reactions, is it important to recognize that chemical reactions are occurring all around us and inside us every day. Chemistry is the foundation of other sciences such as biology, physics, and earth science. To study chemical reactions is to study the world in detail. Learning about chemical reactions will improve students' understanding of all aspects of life around them.

Research

Students will research five chemical reactions or chemical discoveries. These reactions and discoveries may be from any field of science: pharmacy, medicine, environmental science, geology, astronomy, biology, botany, physics, etc.

All topics must be approved by the teacher in order to do the report and presentation. This prevents too many students from researching the same topic. Once a student commits to a topic, he or she cannot change it. Unapproved topics will not be scored.

You must turn in a list with your name and chosen topics by Wednesday March 25th

Report and Presentation

A one-page summary of each reaction or discovery must be submitted, along with the scoring rubric on the next page. The summaries must be typed, double spaced, using font 12 Times New Roman. All relevant chemical reactions must be included. See the scoring rubric for details. Papers must be typed or they will not be accepted.

As always, you must submit original work – no copying text or plagiarizing. Sources must be cited. Wikipedia cannot be used as a source.

Each student will deliver a short (~3 minute) presentation accompanied by a visual. The visual might be a poster, short powerpoint, or model. Be creative on your visuals! Your presentation should explain to us the chemical reaction occurring, where this reaction occurs or why it is interesting to you, and the complete chemical reaction.

Ideas and Suggestions

- 1) What is acid rain? How does it form, and what impact does it have on the environment?
- 2) Why did the Hindenburg explode?
- 3) How does the burning of fossil fuels contribute to the greenhouse effect? Or How do CFCs contribute to the hole in the ozone layer?
- 4) Chemistry of products you use (ex. Lithium batteries, Freon, plastics, gas)
- 5) How does your blood carry oxygen? Or How does your blood clot?
- 6) Explain how chemical reactions are used in forensic science(Fuming,luminol, etc)
- 7) What causes sink holes? Why are they a problem in certain places?
- 8) What compounds are in fertilizer and how do they affect the environment?
- 9) How does radiation treatment work on cancer cells?
- 10) How does a smoke alarm work?
- 11.) How does a nuclear power plant make energy?

SCORING RUBRIC: CHEMISTRY REACTIONS PROJECT

NAME _____

PERIOD # _____

POINTS EARNED

RUBRIC SUBMITTED (4 pts. total)

0 4

QUALITY OF PAPER, FIVE SUMMARIES (20 pts. total)

- Double spaced 0 4
 - Font size = 12 0 4
 - Font style = Times New Roman 0 4
 - Neat layout 0 4
 - Proper length (1 page per summary; no long heading) 0 4
-

ACCURACY AND COMPLETENESS (60 pts. total)

0 = entry not included

1 = basic or somewhat inaccurate information, no reaction included, brief

3 = accurate reaction but incomplete information

5 = accurate reaction and complete information

- Chemical Reaction or Discovery #1 0 2 6 10
 - Chemical Reaction or Discovery #2 0 2 6 10
 - Chemical Reaction or Discovery #3 0 2 6 10
 - Chemical Reaction or Discovery #4 0 2 6 10
 - Chemical Reaction or Discovery #5 0 2 6 10
 - Sources cited on last page in MLA format 0 10
-

QUALITY OF PRESENTATION (16 pts. total)

- Color and creativity of visual 0 2 4 8
 - Ease of understanding of presentation 0 2 4 8
-

TOTAL: _____ / 100