

Chemistry Research Project: Chemical Compounds

Background: We have learned to write formulas for a variety of chemical compounds and we have also learned to evaluate compounds for their composition. The discovery and use of many different chemical compounds has made a large impact in our world from fighting battles, to fighting diseases. Their importance spans all aspects of our lives including what we eat, how we dress and care for ourselves, our transportation and even the way we communicate. There would be no cell phones without the understanding of chemistry!



Objective: to research a chemical that has made a meaningful impact in the world.

Requirements: Research a molecule that has a significant impact on our world. Prepare a brief power point slide show to “showcase” this molecule and its importance (a total of six slides-not including title or references). Items that need to be present are listed below:

Required Information: for your selected compound:

- Identify the chemical formula for the compound and a structural diagram of the molecule. List all the elements in this compound and calculate the percent by mass of each element.
- Identify how where this compound is found or how it is prepared.
- Provide a historical understanding of the molecule.
- Identify its unique physical and chemical properties.
- Identify useful applications of the molecule.
- Explain how this molecule has made an impact on our world.

Suggested Compounds (common name): *You are not restricted to pick a chemical from this list.*

Penicillin
Aspirin
Caffeine
Nicotine
DDT
Polyethylene
Capsaicin (hot pepper)
Morphine
TNT
Sucrose
Dopamine
Glycerin
Laughing gas
Zinc oxide
Potassium nitrate (salt peter)
Hydrogen peroxide
Benzene

Acetaminophen
Cholesterol
Chlorophyll
Saccharin
Serotonin
Sulfapyridine (sulfa drugs)
Benzoic Acid
Teflon
Monosodium glutamate (MSG)
Ascorbic Acid
Vanillin (vanilla)
Tocopherol
Kevlar
Sodium lauryl sulfate
Glycerin
Sodium hydroxide
Opium

Name: _____

Grading Rubric: Chemical Compounds

Chemical Formula: Impressive depth of coverage 10	Limited information provided 5	Information is not present 0
Discovery & preparation Impressive depth of coverage 5	Limited information provided 3	Information is not present 0
Historical Information: Impressive depth of coverage 5	Limited information provided 3	Information is not present 0
Physical & Chemical properties Impressive depth of coverage 5	Limited information provided 3	Information is not present 0
Applications Impressive depth of coverage 5	Limited information provided 3	Information is not present 0
Impact on World Impressive depth of coverage 5	Limited information provided 3	Information is not present 0
Appearance and Organization of Slides Neatly prepared, well organized and no spelling or grammar mistakes 5	Adequate preparation and organization with few grammar/spelling mistakes 3	Sloppy, many spelling and grammar mistakes 1
Citations 3 or more references 5	Only two references cited 3	Inadequate number of references (less than two) 0

Total: /45pt