

“Careers in Chemistry” essay assignment

There are several *general branches of chemistry*, including:

- 1) **Analytical chemistry** -- deals with the separation, isolation, and characterization of chemical substances.
- 2) **Physical chemistry** -- concerns the physical characteristics of chemical systems and factors and mechanisms affecting energy changes, reaction rates, etc during chemical reactions.
- 3) **Inorganic chemistry** -- involves the structure, composition, and reactions of non-carbon based substances such as minerals.
- 4) **Organic chemistry** -- deals with the structure, composition, and reactions of organic compounds, both naturally-occurring and synthetic.
- 5) **Biochemistry** -- involves the structure, composition, and reactions of complex organic compounds found within living things.
- 6) **Nuclear chemistry** -- investigates the behavior and properties of subatomic particles and nuclear reactions/processes.
- 7) **Materials chemistry** -- investigates the structure and properties of substances that have a practical application (e.g., ceramics, metallic alloys, semi-conductors)
- 8) **Environmental chemistry** -- chemical analyses and reactions occurring in the soil, atmosphere, and natural aquatic systems, especially as they pertain to man-made pollution.
- 9) **Theoretical chemistry** -- uses mathematical models and computer simulations to understand the nature of chemical substances and to predict the properties of hypothetical substances.

There is a degree of *inherent overlap* among some of these main branches, and each of these can be separated farther into *sub-branches*. Be that as it may, your task is to:

Select one main branch and research *at least two specific professional occupations* for which this area of chemistry would be a focal point.

Describe the nature of the occupation, the type of organization (i.e., academic, governmental, private sector), the educational and degree requirements of the job, the specific tasks in which one would engage and how one’s educational training is relevant to those tasks, and any other aspect of the occupation that you find interesting to discuss.

Finally, indicate whether any of the occupations that you researched possibly would be of interest to you when you pursue a career, and *explain the rationale* for your decision.

The essay should be **approximately two typed pages** (no more than 1 inch margins), double-spaced, 12-pt font for body of essay. Cite your sources of information. This essay will be due in one week.