

Career Spotlight

Chemist

Chemists study the composition of matter and its properties such as density, acidity, size and shape. They carefully describe the properties in terms of details on the molecular level. Chemists use this knowledge to learn the composition and properties of unfamiliar substances, as well as to reproduce and synthesize large quantities of useful naturally occurring substances and create new artificial substances.



EDUCATION

Chemists must have a bachelor's degree in chemistry or a related subject such as mathematics. Materials scientists need a college degree in materials science, chemistry, physics, or electrical engineering. However, chemists and materials scientists usually need a Ph.D. for research jobs.

WHEN MATH IS USED

Chemists use math for a variety of tasks. They balance the equations of chemical reactions, use mathematical calculations that are absolutely necessary to explore important concepts in chemistry, and utilize dimensional analyses to find a range of information from finding the mass of chemicals reacted to the concentration of a chemical in a solution. Math is also used to calculate energy in reactions, compression of gases, grams needed to add to a solution to reach desired concentration, and quantities of reactants needed to reach a desired product.

MATH REQUIRED

- College Algebra
- Geometry
- Trigonometry
- Calculus I and II
- Statistics

Low-end Salary: \$41,110/yr
Median Salary: \$71,260/yr
High-end Salary: \$125,450/yr

POTENTIAL EMPLOYERS

About four out of ten chemist jobs are in manufacturing firms. A lot of the firms are in the chemical manufacturing industry, which produces plastics and synthetic materials, drugs, soaps and cleaners, paints, industrial organic chemicals, and other chemical products. Others work for scientific research and development firms. In addition, thousands of chemists teach in high schools and colleges and universities.

FACTS

Chemists are “paid to be creative, careful, and productive. It’s a career for people who think about the future.”

CITATIONS

<http://en.wikipedia.org/wiki/Chemist>

<http://www.princetonreview.com/Careers.aspx?cid=34>

<http://www.chem.byu.edu/>

<http://answers.yahoo.com/question/index?qid=20081108091621AASNIHe>

http://wiki.answers.com/Q/How_does_a_chemist_use_math

<http://www.bls.gov/oes/current/oes192031.htm>