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INTRODUCTION TO CHEMISTRY

Practice Problems

In your notebook, solve the following problems.

SECTION 1.1 CHEMISTRY

- Match the project to the appropriate field of chemistry (inorganic chemistry, organic chemistry, biochemistry, analytical chemistry, or physical chemistry).
 - Determine the composition of a moon rock sample. **A**
 - Do research on making a new medicine to treat high blood pressure. **B**
 - Investigate ways to regulate the rate of gasoline burning in an automobile engine. **P**
 - Develop a plastic that can be decomposed by bacteria. **O**
 - Improve the method for extracting iron from iron ore. **I**
- Classify the following examples as examples of pure chemistry or applied chemistry.
 - developing a shampoo to be used with dry or damaged hair **A**
 - determining the conditions required for materials to burn **P**
 - figuring out the general structure of materials such as cotton and silk **P**
 - designing a large-scale method for producing nylon **A**
 - explaining why water expands when it freezes **P**

SECTION 1.2 CHEMISTRY FAR AND WIDE

- Identify three areas of energy research that scientists are working on today. **New methods**
- The following statements are all concerned with the work chemists do. Write T for each *true* statement and F for each *false* statement.
 - Chemists design materials to meet specific needs. **T**
 - Oil from the soybean plant is used to make biodiesel. **T**
 - As the world's population increases, the amount of land available to grow food increases. **(F)**
 - Many drugs are effective because they interact in a specific way with chemicals in cells. **T**
 - The trend in crop protection is toward chemicals that are less specific. **(F)**
 - The use of lead paint in houses was banned in 1978. **T**
 - Chemists are doing research to improve batteries. **T**
 - To study the universe, chemists gather data from afar and analyze matter that is brought back to Earth. **T**
 - Chemists have developed a plastic "skin" that can heal itself when it cracks to help patients with burns. **T**