



Figure 4 By using scientific methods, you can solve many problems.

Scientific Methods

When scientists try to solve a mystery like what caused the tsunami in Japan in 1700, they perform problem-solving procedures called **scientific methods**. As shown in **Figure 4**, some of the scientific methods they use include identifying a problem, gathering information (researching), developing hypotheses, testing the hypotheses, analyzing the results, and drawing conclusions. When you use methods like these, you are solving problems in a scientific way.

Science

Science means “having knowledge.” **Science** is a process of observing, studying, and thinking about things in your world to gain knowledge. Many observations can’t be explained easily. When people can’t explain things, they ask questions. For example, you might observe that the sky appears to be blue during the day but often appears to be red at sunset and sunrise. You might ask yourself why this happens. You might visit or see a picture of Devils Postpile in California, shown in **Figure 5**, and notice that the dark rock is divided into long, thin, six-sided columns. Many fallen columns lie at the base of this mass of rock. You might wonder how and when this strange-looking rock formed. You also might wonder why rocks can be smooth or rough, shiny or dull, and can be so many different colors. Science involves trying to answer questions and solve problems to better understand the world. Every time you attempt to find out how and why things look and behave the way they do, you are performing science.

Reading Check What is science?

Figure 5 The columns in Devils Postpile rise between 12 m and 18 m from the valley floor. This unusual formation was created when hot lava cooled and cracked.

