## 

## **A Scientific Model**

You've probably seen a diagram of the solar system many times in science classes. A diagram is one example of a scientific model, which is a representation of a complex object or process. A model can be very useful in providing information when people can't actually observe an object or process directly. Yet, often there is information missing from a model. The reason for missing information is that a model is often made for the purpose of representing some specific characteristic of an object or process. Therefore, other characteristics are not so important for the specific purpose of the model.

Consider Model A and Model B. Both are models of the solar system that show the sun and the nine planets that revolve around the sun. Despite these similarities, the two models are quite different. The reason that they are different is that they were made with different purposes in mind. The purpose of Model A is to show the relative sizes of the different planets. The purpose of Model B is to show the relative distances of the planets from the sun. Model A lacks the information of Model B, and Model B lacks the information of Model A. Both models, though, provide useful information about the solar system.

Answer the following questions on a separate sheet of paper.

- **1.** What is a scientific model?
- 2. Why is information often missing from a model?
- 3. What does Model A show about the solar system?
- 4. What information is missing from Model A?
- 5. What does Model B show about the solar system?
- 6. What information is missing from Model B?
- 7. Is either model better than the other? Explain your reasoning.



Model A

