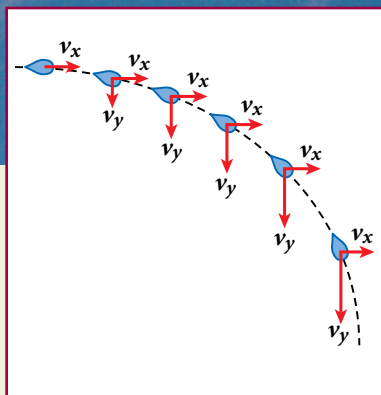# *Two-Dimensional Motion and Vectors*

Without air resistance, any object that is thrown or launched into the air and that is subject to gravitational force will follow a parabolic path. The water droplets in this fountain are one example. The velocity of any object in two-dimensional motion—such as one of these water droplets—can be separated into horizontal and vertical components, as shown in the diagram.

WHAT TO EXPECT

In this chapter, you will use vectors to analyze two-dimensional motion and to solve problems in which objects are projected into the air.

Why It Matters

After you know how to analyze two-dimensional motion, you can predict where a falling object will land based on its initial velocity and position.

CHAPTER PREVIEW