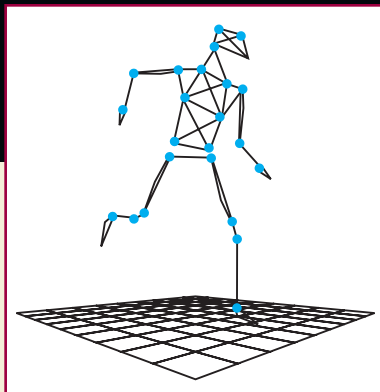


## CHAPTER 1

# *The Science of Physics*



The runner in this photograph is participating in sports science research at the National Institute of Sport and Physical Education in France. The athlete is being filmed by a video camera. The white reflective patches enable researchers to generate a computer model from the video, similar to the diagram. Researchers use the model to analyze his technique and to help him improve his performance.

### WHAT TO EXPECT

In this chapter, you will learn about the branches of physics, the scientific method, and the use of models in physics. You will also learn some useful tools for working with measurements and data.

### Why it Matters

Physics develops powerful models that can be used to describe many things in the physical world, including the movements of an athlete in training.

### CHAPTER PREVIEW

#### 1 What Is Physics?

The Topics of Physics  
The Scientific Method

#### 2 Measurements in Experiments

Numbers as Measurements  
Accuracy and Precision

#### 3 The Language of Physics

Mathematics and Physics  
Evaluating Physics Equations