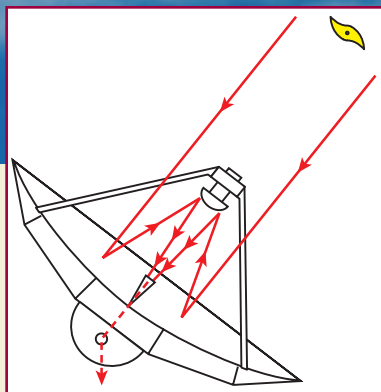


# Light and Reflection



The Very Large Array, located near Socorro, New Mexico, consists of 27 radio antennas, each 25 meters in diameter. These antennas detect *electromagnetic radiation* in the radio and microwave regions of the spectrum. The dish of a radio telescope reflects the radio waves and focuses the rays at the receiver poised above the dish.

## WHAT TO EXPECT

In this chapter, you will learn about the characteristics of light and other forms of electromagnetic radiation. You will learn how flat and curved mirrors can be used to reflect light and create real and virtual images of objects.

## Why it Matters

Mirrors have many applications both for scientists and in everyday life. For example, a reflector telescope uses two mirrors to gather, focus, and reflect light onto the eyepiece. The reflector telescope remains one of the most popular designs used by amateur astronomers, even though it was invented over 300 years ago.

## CHAPTER PREVIEW

- 1 Characteristics of Light**  
Electromagnetic Waves
- 2 Flat Mirrors**  
Reflection of Light  
Flat Mirrors
- 3 Curved Mirrors**  
Concave Spherical Mirrors  
Convex Spherical Mirrors  
Parabolic Mirrors
- 4 Color and Polarization**  
Color  
Polarization of Light Waves