




## Digging Deeper

### SOLAR ENERGY

#### Direct and Indirect Uses of Solar Energy

All matter radiates energy from its surface. This energy is in the form of electromagnetic waves. These waves travel at the speed of light. The hot surface of the Sun radiates energy mostly in the form of visible light. You can detect the energy of sunlight when it shines on you and is changed into heat energy. Only a very small part of the Sun's energy reaches the Earth. That is because the Earth is small and very far away from the Sun. The energy received from the Sun is far more than enough, however, to provide all of your energy needs. The problem is to harness it in a practical way. Solar energy is spread out over such a very large area. Therefore, in any small area it is not very intense. As a result, capturing the Sun's energy must be planned. To obtain large amounts of solar energy, large areas of the Earth's surface have to be covered by collectors.



As you read in **Investigation 2**, sunlight can be used as an energy source both directly and indirectly. The most direct way is to use sunlight for heating of buildings or 

#### As You Read...

##### Think about:

1. Explain the two kinds of solar-heating systems.
2. What are some ways that sunlight can be used as an energy source?
3. What is the most common way to use solar energy to generate electricity?