STUDENT INVESTIGATION

Activity: Exploring Thermal and Electrical Conductivity of Elements

Purpose:

To decide whether there is a noticeable pattern between the thermal and electrical conductivity of metals compared to nonmetals.

Materials:

DTE CD-ROM, computer with
CD-ROM drive.

Procedure:

1. Select 3 metallic elements and 3 nonmetallic elements from the Periodic Table. Choose at least 1 nonmetal that is not a gas. Record the names and symbols of the elements you have chosen in the chart provided below.

2. Find the Thermal Conductivity of each element in its Advanced Info section in the Discover the Elements Program. Record this information in the table below.

3. Also find and record the Electrical Conductivity of each element in the Advanced Info section in the table below.

(note: Gaseous elements at room temperature are nonconductors of electricity; that is their electrical conductivity is zero.)

Data:

Element						
Thermal Conductivity						
Electrical Conductivity						
	Metals			Nonmetals		

Data Analysis and Conclusion:

1. State how the Thermal Conductivity and Electrical Conductivity of metallic elements compare to the Thermal Conductivity and Electrical Conductivity of nonmetallic elements.