

INVESTIGATION 3

PURPOSE

To reflect upon Investigation 1 and to discover how a new shape may be given to the NiTi wire. In addition, as you carry out this experiment, be thinking about the results of Investigation 2 and how those results can explain the “new learning” the wire experienced in this investigation.

PROCEDURE

- a. Holding the wire at its ends (CAUTION, the ends may be sharp!), try bending it into a V-shape as you place the middle of the wire into the center of a candle flame.
- b. After cooling by blowing on the wire, Investigation 1 may be repeated with the deformed wire.
- c. Holding the wire at its ends (CAUTION, the ends may be sharp!), try straightening it back into its original, linear shape as you place the middle of the wire into the center of a candle flame.

FOLLOW-UP QUESTIONS

1. Why can't you use hot water to retrain the wire to “remember” a new shape?

2. Describe any similarities or differences in the wire from its original condition after heating it in the flame.