**Passing The Heat Along**

**Objectives**:

1) To show fifth graders how heat passes through conductors.

2) To show fifth graders how different materials contain heat.

**Materials Needed**:

coffee cup, spoon, hot water, metal pan, wood block, hot water bottle, piece of

cardboard, cotton material, glass jars, aluminum foil, newspaper, and a cotton

cloth

**Strategy**:

 The teacher will compare the term conductor and the duties of a train

conductor; so that the students will have a better understanding of the word

conductor. The teacher will also use the train to demonstrate how heat travels

through different materials.

**Experiment**:

1) Pour hot water into a coffee mug.

2) Place a metal spoon in the hot water.

3) Place a plastic spoon in the hot water.

4) Use a watch to record the time that it takes each spoon to heat up.

5) Students will be able to determine which materials attract heat the fastest.

**Experiment**:

1) Fill the hot water bottle with hot, not boiling, water.

2) Place a piece of wood on the bottle and leave it their for 5 minutes.

3) Place your hand on top of the wood. Record whether it feels "very warm",

 warm, or cool.

4) Repeat the same steps using materials such as, plastic, paper, cardboard, and

 cotton.

**Experiment**:

1) Get two glass jars with metal lids. Put a hole in the center of each lid.

2) Put hot water in each jar.

3) Push the thermometers through each hole in the jar lids.

4) Wrap jar "A" in aluminum foil and wait for 10 minutes.

5) Wrap jar "B" in in newspaper and wait for 10 minutes.

6) Record the temperatures of each jar and determine which materials help

 contain heat.

7) Repeat the experiment using different materials.

**Performance Assessment**:

1) Teacher observation.

2) Students will demonstrate their ability to explain the experiment process and

 follow the directions.