

**Project FOCUS  
Best Lessons  
THIRD GRADE**

**Title of Lesson:** Heat Transfer and molecules of matter

**Theme:** Physical Science

**Unit Number:**           **Unit Title:** Heat Energy

**Performance Standard(s) Covered (enter codes):**

S3P1. Students will investigate how heat is produced and the effects of heating and cooling and will understand a change in temperature indicates a change in heat.

d. Use thermometers to measure a changes in temperatures of water samples over (hot, warm, cold) time.

**Enduring Standards (objectives of activity):**

**Habits of Mind**

- X Asks questions
- X Uses numbers to quantify
- X Works in a group
- X Uses tools to measure and view
- Looks at how parts of things are needed
- X Describes and compares using physical attributes
- X Observes using senses
- X Draws and describes observations

**Content (key terms and topics covered):**

Heat  
Heat Transfer  
Molecules  
Gas  
Liquid  
Solid  
Energy  
Temperature  
States of Matter

**Learning Activity (Description in Steps)**

**Abstract (limit 100 characters):**

**Details:**

Students observe an experiment of heat transfer by placing ice into luke warm water. Students split up into groups, and then take the temp of the water and the assumed temperature of the ice is freezing. Next, they add ice to the water and record the temperature as it changes. After explaining and identifying what heat transfer means ask them to identify where it took place. Next discuss what molecules look like as they change states of matter. Have the students stand up and represent with their bodies the different states of matter, solid-still, liquid- moving loosely, and gas-moving quickly. Discuss how this relates to the ice they just watched melt.

**Materials Needed (Type and Quantity):**

**Cups**

**Ice**

**Water**

**Thermometers**

**Notes and Tips (suggested changes, alternative methods, cautions):**

**Be sure to clearly define the terms above and relate them specifically to the experiment.**

**Ask students many questions and have them make guesses about the terms before you define them for them.**

**Make sure the students are split into groups.**

**Assign the children different tasks within the experiment.**

**Be sure the children document the information and data as they observe.**

**If I could do it again I would also have the children see liquid water change to gas.**

**Sources/References:**

**1)**

**2)**

**3)**