

**Project FOCUS
Best Lessons
SECOND GRADE**

Title of Lesson: Heat and Motion Engery

Theme: Physical Science

Unit Number: 2 Unit Title: energy/ Pushes and Pulls

Performance Standard(s) Covered (enter codes):

S2P2

Enduring Standards (objectives of activity):

Habits of Mind

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

Content (key terms and topics covered):

Heat energy, friction, movement of air particles, motion energy

Learning Activity (Description in Steps)

Abstract (limit 100 characters): Review the concepts of heat and motion energy then split into two groups and conduct two experiments

Details: At the beginning of class, review the concepts of heat and motion energy that they have learned about in the previous class period. Ask them what each is and call on different students to give you examples. Once you have reviewed the concept, split them into two separate groups, one group will go with you and the other group will go with the teacher. My experimental group will be to blow up a balloon by heating the bottom of a plastic bottle with a candle. Light the candle and hold it under the bottle and slowly the balloon will stick straight up. While this is happening, explain to them it is because the heat is giving the particles energy to move, once the air particles start moving the motion energy is taking place and the air particles go all the way into the balloon. The group with the teacher will observe friction and put ice in between their hands and see that it melts when they rub it together. This will show friction and heat energy. Have the groups switch so they can observe both experiments. At the end, have them write in their science journals in two different columns what they learned from each experiment.

Materials Needed (Type and Quantity):

Balloons, 3 coke/water bottles (big or small), candle, a lighter, ice (enough for each child to have two pieces). Before the lesson, make sure you test the experiment at home so that the lit candle really will blow up the balloon.

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

Safety: Do NOT at any time let the students touch the lighter or the lit candle. This experiment involves fire and one should make sure the students do not come into any contact with the fire.

Changes/Suggestions: Make sure to practice the experiment at home or before the actual lesson a few times to make sure the balloon is going to blow up. Adding your own worksheet with key words instead of them just writing in their journals could be more effective.

Sources/References:

- 1)
- 2)
- 3)