Project FOCUS
Best Lessons
THIRD GRADE

Title of Lesson: **The Ice Breaker Race**
Theme: **Physical Science**
Unit Number: **Unit Title:** **Heat Energy**
Performance Standard(s) Covered (enter codes):

SP31. 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.

a. Categorize ways to produce heat energy such as burning, rubbing (friction), and mixing one thing with another.

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):

Thermal Energy
Heat
Temperature
Friction

Learning Activity (Description in Steps)

Abstract (limit 100 characters):

Details: Begin the lesson by asking the class what they think heat is. Continue the disscsion by asking for examples of heat and how it can be produce. Proceed to introduce the defintions of thermal energy, molecules, friction. Explain its relevance to heat and connect the students example of heat to the defintions. Once the students undertand these concepts organize the students into groups. Give each group a syrofoam cup with one ice cube in it. Before the each group of students use the ice cube explain that the goal of this experiment is to see which group of student can melt the ice cube by using what was just learned about heat, thermal energy, anf friction. Make them undertand that it is not only about the group who csn melt the ice cube first but also about the different numbers of ways that each group comes up to melt the ice cube. The group who melts the ice cube first will receive a prize(sticker, candy,etc.).

Once all the groups have melted their ice cube go around to each group and have them explian the different ways they melted the ice. Make sure they use concepts for their answer and

understand how it relates to the ice cube melting. Expiain to the students that thermal energy is involved due to the heat created by friction which tranferred to the ice cube. This is what causes the ice cube to melt. Also explain that using heat from out bodies in terms on blowing hot air on the ice or just holding the ice cube involves thermal energy because movement of heat from our bodies tranfers onto the ice cube.

Materials Needed (Type and Quantity):

Ice Cubes

Styrofoam Cups(one for each group of students)

Paper Towels (for each student)

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

-Modification/Alternative methods: Give the students the ice cube after explaing the rules of the "race" to pervent the ice cube from already starting to melt in the cup.

-Cautions/Saftey Concerns: Give each student their own paper towel or napkin to pervent a mess. Also makes sure students do not put ice cube in their mouths due to germs that the ice cube may contain from the many hands that its been on.

Sources/References:

1)

2)

3)