

Kindergarten - Lesson K1.5

Keeping Warm in the Cold

NGSS Alignment

Performance Expectations

K-ESS2-1: Use and share observations of local weather conditions to describe patterns over time.

Note: The activities in this lesson focus on what materials are useful to help us stay warm in cold weather.

Disciplinary Core Ideas

K-ESS2.D: Weather and Climate

- Weather is the combination of sunlight, wind, snow or rain, and temperature in a particular region at a particular time. (K-ESS2-1)

Students see a demonstration and animation that show that in cold weather, heat is transferred from their body, where it's warm, to the outside air, where it's cold. Students also do an activity to model the way a coat helps reduce the transfer of heat.

Science and Engineering Practices

Analyzing and Interpreting Data

- Use observations (firsthand or from media) to describe patterns in the natural world in order to answer scientific questions. (K-ESS2-1)

Students do an activity to prevent heat transfer by designing a "coat" for a cup of warm water. Along with the activity, students view an animation to help answer the question: How does a coat keep us warm in cold weather? Students begin to understand that the coat itself is not warm but helps prevent the body's warmth from moving to the colder air.

Crosscutting Concepts

Patterns

- Patterns in the natural world can be observed, used to describe phenomena, and used as evidence. (K-ESS2-1)

Cause and Effect

- Events have causes that generate observable patterns.

Students investigate how heat is transferred from an area of higher temperature to an area of lower temperature. Students use this pattern or cause-and-effect relationship to investigate how heat transfer can be reduced so that a warm area can stay warm longer. Students relate this phenomena to how a coat helps keep them warm in cold weather.