

Playground Cooldown

Unit Overview



DRIVING QUESTIONS:

What do we notice about the weather on the playground? How can we keep cool on the playground?

ANCHORING PHENOMENON:

The school playground can get very hot.

- *Throughout the unit, students will investigate the problem to gather information about how to keep cool on the playground. They examine weather forecasts and types of weather patterns. They connect daily weather patterns with patterns throughout the year (i.e. seasons). They research how people respond to severe weather events, including preparing for weather and designing weather solutions. Students use thermometers to observe and record temperatures on the playground. They compare temperature differences in the sun and shade. They will use their learning to design a playground solution to keep cool.*

STORYLINE

Section 1: What do we notice about the weather on the playground?

Students investigate the weather outside. They make observations about the weather and collect data to analyze weather patterns. They graph their data to analyze patterns. They use weather observations and forecasting to connect daily patterns to weather patterns throughout the year. They are introduced to seasons and how the weather changes throughout the year. Students examine extreme weather events that can happen during the year, and explain how people can prepare for weather events.

- DCI: Conservation of Energy and Energy Transfer, Weather and Climate, Natural Hazards
- SEP: Asking Questions and Defining Problems, Planning and Carrying out Investigations, Analyzing and Interpreting Data, Obtaining, Evaluating, and Communicating Information
- CCC: Patterns, Cause and Effect

Section 2: How can we keep cool on the playground?

Students apply their learning of weather patterns and events to focus on solutions that help them keep cool on the playground. Students investigate temperatures on the playground. They investigate the difference in temperature between the sun and shade, and how to make shade. They apply their understanding of shade to design a solution to keep cool on the playground.

- DCI: Conservation of Energy and Energy Transfer
- SEP: Planning and Carrying out Investigations, Constructing Explanations and Designing Solutions
- CCC: Cause and Effect

OVERVIEW

Introducing the ANCHORING PROBLEM and DRIVING QUESTIONS

(1 day ≈ 30 instructional minutes)

ANCHORING PROBLEM

The school playground can get very hot.

(1 day)

Section 1

What do we notice about the weather on the playground?

Total Time: 13-16 days

LESSON 1

What patterns do we notice in the weather? (5-6 days)

LESSON 2

How do weather patterns change across the year? (5-6 days)

LESSON 3

How do people respond to severe weather? (3-4 days)

Section 2

How can we keep cool on the playground?

Total Time: 13-17 days

LESSON 4

How can we measure how warm or cold something is? (3-4 days)

LESSON 5

What are the hottest spots on the playground? (4-5 days)

LESSON 6

How can we make shade? (3-4 days)

LESSON 7

How can we design ways to keep cool and protected on the playground? (3-4 days)

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Washington University in St. Louis Institute for School Partnership