

Objective

By the end of this lesson, you will be able to understand how the sun shows direction through shadow play and how shadows change direction in the morning, noon, and evening to teach about cardinal directions.

Materials and Prep

Materials needed: Sunny day, outdoor space with clear view of the sun, various objects to cast shadows (e.g., toys, sticks), paper, crayons.

Prep: Choose a sunny day for the lesson and gather the materials in advance.

Activities

- **Shadow Tracing:** Place an object on a piece of paper under the sun. Trace the outline of the object and observe how the shadow changes direction as the sun moves across the sky.
- **Shadow Tag:** Have fun chasing each other's shadows and notice how they move based on the position of the sun.
- **Cardinal Directions Hunt:** Use the shadows to determine which direction is north, south, east, and west. Walk around and see how shadows change direction based on the time of day.

Talking Points

- "When the sun is high in the sky, our shadows look short. Can you see how short your shadow is at noon?"
- "In the morning, our shadows point towards the west because the sun rises in the east. Let's see which way our shadows point now!"
- "As the sun sets in the evening, our shadows stretch out towards the east. Look at how long your shadow is getting!"
- "By using the shadows, we can tell which way is north, south, east, and west. Let's go on a shadow hunt to find these directions!"