

# Second Grade / Winter Walk / At A Glance

Using Thermometers to Explore Changing States ⌚ 30 minutes

## Goals

- Measure the temperature of air, water, ice and snow in different locations
- Relate temperature to changing states of water: solid or liquid
- Recognize the effect of temperature on the winter behavior and survival of animals

### How to use a Thermometer (if not already covered in the classroom)

⌚ 3 minutes

- Hold thermometer by sides so glass is not warmed or broken.
- Each line represents 2 degrees; freezing point of water is 32 °F
- Wait several minutes per location before taking reading
- Dry thermometer bulb before taking reading or air

### Predicting and Measuring Temperatures

⌚ 5 minutes

Measure indoor air and water temperature before going outside and record on student sheet

- *Will the temperature of the air outside be lower or higher than inside?*
- *What temperature do you think it might be? How might the two temperatures compare?*
- *Will we find water outside in more than one state? (solid, liquid)*
- *Where might we find different temperatures? (lowest, highest)*

Measure temperature of the air just outside the building

⌚ 5 minutes

- *Where do you think the temperature is highest/lowest?*
- *Why would some places be warmer than others?*
- *Where might we find water? Why?*

Brainstorm with students where they should take temperature readings

⌚ 15 minutes

Pick 3-4 of the following locations to leave thermometers

- Under leaves or logs
- Black top (bare or with snow, ice, puddles?)
- Sunny spot vs. shade (shield from direct sun)
- Under or on the playground equipment – note color of surface
- Field vs. woods
- Near a dark colored tree surrounded by snow
- Snowbank - inside vs. surface (use trowel to dig hole to try different depths)

### Animals in Winter

⌚ throughout walk

Observe signs of winter and compare to fall observations made by students

- *How has the schoolyard changed since fall?*
- *How do you stay warm when it is cold outside? How do other animals stay warm in the winter? (migrate, grow thicker fur, sleep, find warmth)*
- *If you were an animal where would you go in the schoolyard to stay warm today?*
- *Where would animals find needed water to drink?*

### States of Matter

⌚ 15 minutes

- Play the Molecule Game
- Snow on black paper - examine snow or ice crystals with hand lenses. *What do you notice?*
- Snow in hands - *How can you change snow or ice? Why does it turn to liquid?*
- Snow collection - collect snow in a cup and fill to a measured line. *What will happen back in the classroom? Will the water level be higher or lower than the ice line? Or the same?*

### Wrap Up

⌚ 5 minutes

- *Where was the highest temperature outside? Lowest? What do you think made the difference?*

This summary does not replace the Walk Guide. Activities, their order and duration will vary depending on group dynamics and weather.