

Winter Kids

ELEMENTARY  
*Edition*

# Learn OUTSIDE Guide



LEARN! EXPLORE!  
MOVE!



# Table of Contents

## **6 Letter from the Executive Director**

## **7 Going Beyond This Book**

## **8 WinterKids Smarts**

**9** Clothing & Nutrition Basics

**10** Clothing & Nutrition In-Depth

**14** How to Stretch

## **17 Quick Tips & Tricks**

**18** Refocus

**19** Transition Times

**20** Ice Breakers and Pairing Up Students

**21** Handshake Alternatives

## **22 Get Started! Lessons**

**23** Introduction

**24** What Can We See Outdoors?, Language Arts K-2

**25** What Can We Do Outdoors?, Language Arts K-2

**26** Discovering Descriptive Details, Language Arts 3-5

**27** Word Circle, Language Arts 3-5

**28** Circle of Words, Language Arts 6-8

**29** Animal Vegetable or Mineral, Language Arts 6-8

**30** Students Count!, Math K-2

**31** Shaping Students, Math K-2

**32** Divide and Conquer Division!, Math 3-5

**33** Shaping Students, Math 3-5

**34** Ratios Rule!, Math 6-7

**35** Exercising with Exponents, Math Grade 8

**36** Shape Up, Math 6-8

## **38 Health**

**39** Outdoor Food Plates, K-2

**42** My Plate Graphic

**43** Healthy Foods, Healthy Bodies, K-2

**46** Healthy Foods, Healthy Bodies, 3-5

**49** 5-2-1-0 Relay Race, 3-5

**51** 5-2-1-0 Pictures/Messages

**53** Creating a Better Plate, 3-5

**56** Choose My Plate Worksheet

**57** Cardiovascular Health, 6-8

**60** Healthy Heart Worksheet

**61** Breakfast Counts! 6-8

**64** Physical Activity Log for Families



## **65 Physical Education**

**66** Introduction

**66** Suggestions and Guidelines for Implementation

### **67 Quick Tips & Tricks**

**67** Refocus

**67** Transition Times

**68** Ice Breakers and Pairing Up Students

**68** Handshake Alternatives

**69** Help Frustrated Kids

**69** Including Special Needs Students

### **71 Aerobic Conditioning**

**71** Snow (or No Snow) Games

**74** Figure 8 Fitness

**75** Fun Run

**76** Four Corners

**77** Fun Partner Relays

**78** Snowflake Fitness

**79** Do you Want to Build a Snowman?

**80** Snow TABATA

**81** Dynamic Warm Up for Winter Fitness

**84** Evaluation Tools

**85** Student Fitness Questionnaire

**86** Fitness Unit Evaluation

### **87 Cross Country Ski Unit**

**89** Lessons 1-4

**97** Cross Country Skiing Vocabulary

**98** Cross Country Skills Assessment

**99** Cross Country Skills Assessment Checklist

### **100 Ski & Snowboard Unit**

**102** Lessons 1-6

**114** Alpine Skier & Snowboarder Vocabulary

**115** Your Responsibility Code

### **116 Ice Skating Unit**

**119** Lessons 1-4

**126** Ice Skating Skills Assessment Checklist

### **127 Snowshoe Unit**

**129** Lessons 1-5

**139** Snowshoe Olympics

**141** Snowshoeing Vocabulary

### **143 Assessments**

**144** Flexibility Assessment

**145** Stretch Your Thinking!

**146** Create Valuable Ending Discussions With Essential Questions

**147** Sample Rubric for PE Lesson

**148** Sample Generic Rubric

**149** Unit Evaluation

**150** Purchasing Equipment for Your Program



### **151 Art**

- 152** Funflakes, K-2
- 154** Experiencing the Outdoors Through Art, K-2
- 156** Four Seasons, 3-5
- 158** Still Life Snow People, 3-5
- 160** Bird's Eye View, 6-8
- 162** Experiencing the Outdoors Through Art, 6-8

### **164 Language Arts**

- 165** Details Matter, K-2
- 167** Jump Up, Scrunch Down, K-2
- 169** I Think, 3-5
- 171** Let's Discuss It, 3-5
- 173** Descriptive Writing, 6-8
- 175** Express Yourself, 6-8

### **178 Mathematics**

- 179** Cool Patterns, K-2
- 181** Measure Me!, K-2
- 184** Equipment Measure Up, 3-5
- 187** Bases and Baskets, 3-5
- 191** Moving Mathematics, 6-8
- 194** Plotting New Heights, 6-8

### **197 Science**

- 198** Life is Wild, K-2
- 201** Move It!, K-2
- 204** "Al" the Snowman, 3-5
- 206** Making a Weather Report, 3-5
- 209** Stick to North, 3-5
- 211** Winter Ecology-Animal Adaptations, 3-5
- 216** The "Great" Heat Escape, 6-8
- 218** The Science of Sledding Lesson 1, 6-8
- 220** The Science of Sledding Lesson 2, 6-8

### **222 Social Studies**

- 223** Exploring Geography, K-2
- 225** Natural Resources, K-2
- 227** Places and Regions, 3-5
- 229** Technology and Skiing, 3-5
- 233** History of Skiing Essay
- 236** Historic Forts, 6-8
- 239** Revolution Relay, 6-8

### **241 Imagine: A True Story**





# The “Great” Heat Escape

Grades 6–8

## Lesson Summary

In a fun outdoor activity, students will model the greenhouse effect and explore the impact that a thickening layer of greenhouse gases has on the amount of heat trapped within the Earth’s atmosphere. This activity can be done on a sports field or open green space, with or without snow.

## Objectives

*Students will:*

- \* Recreate and model the greenhouse effect.
- \* Describe how greenhouse gases behave.
- \* Hypothesize what can be done to lessen the amount of greenhouse gases we emit.

## Materials

- \* Playing field or open space outside

## Background

Carbon dioxide (CO<sub>2</sub>), methane, and water vapor are greenhouse gases. These gases act as insulation for the planet. The sun heats up the Earth as each hemisphere faces it during that part of the Earth’s day. As each hemisphere rotates out of the sunlight and into its night, the heat of the day is released out into space. We need greenhouse gases working as a blanket to trap some of that heat, otherwise it would all escape every night and temperatures would drop too low for life to survive.

When we burn fossil fuels like oil, coal, and natural gas, we are releasing the carbon trapped within them and adding carbon dioxide to our atmosphere. The more CO<sub>2</sub> we add to the atmosphere, the more it insulates the planet and holds in the escaping heat (like how the thicker your blanket, the more of your body heat it traps and the warmer you get).

We do need the greenhouse effect, but as more CO<sub>2</sub> is released into the atmosphere, the Earth’s average temperature is rising, and we’re seeing it happen now. As the Earth’s temperature rises, the climate changes. This impacts precipitation amounts, ice coverage, ocean currents, and many of Earth’s other systems that affect the resources needed to sustain the planet’s populations of plants and animals (including humans).

## Procedures

### *Inside:*

1. Discuss the greenhouse effect, its causes, and its consequences.

### *Outside:*

1. Designate an outdoor area as the "atmosphere" play area. One side will represent the surface of the Earth and the opposite side will represent outer space.
2. A third of the students will be "Carbon Dioxide (CO<sub>2</sub>) Molecules". The remaining students will be "Heat."
3. The "CO<sub>2</sub> Molecules" will stand approximately halfway between the surface of the Earth and outer space. They should choose their location wisely because once they have a spot, they must stay put.
4. The "Heat" will line up on the "Earth's Surface" end of the area.
5. The "Heat" students will try to walk, jog, or run (depending on the teacher's preference) to outer space to escape the Earth's atmosphere. If the "Heat" are tagged by the stationary "CO<sub>2</sub> Molecules," they are trapped in the Earth's atmosphere and will join the "CO<sub>2</sub> Molecules" in the next round.
6. The "Heat" students who made it to outer space will return to the surface of the Earth for the next round while the "Heat" students who were tagged are now playing as "CO<sub>2</sub> Molecules."
7. Repeat the activity again with the remaining "Heat" students. Each round should get more difficult for the "Heat" to escape the atmosphere, just as more CO<sub>2</sub> in the atmosphere insulates the Earth and traps more of the escaping heat.
8. Continue playing as many rounds as necessary to get one student – or zero students – left as "Heat" trying to escape.

## Going Further

1. Students can research what they can do to help cut back on the emission of greenhouse gases.
2. Students can calculate their own greenhouse gas emissions.

## Special Needs Students

Some students may need the help of a teacher assistant or peer helper.