



Elementary GLOBE

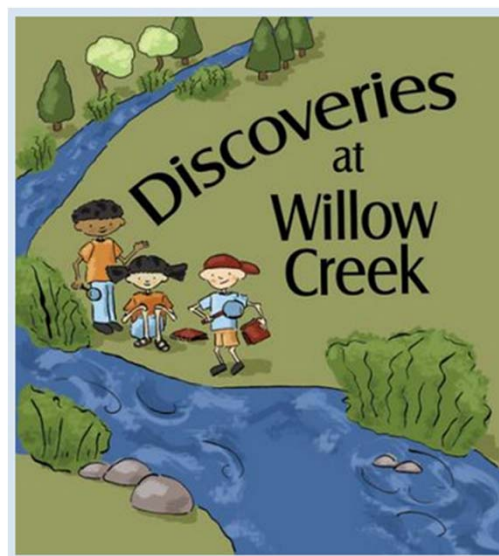
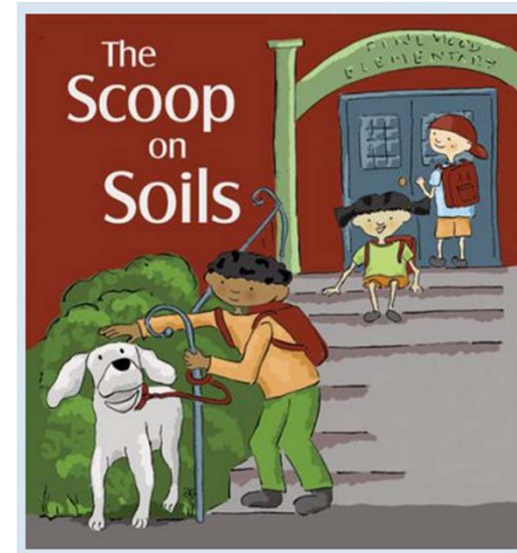
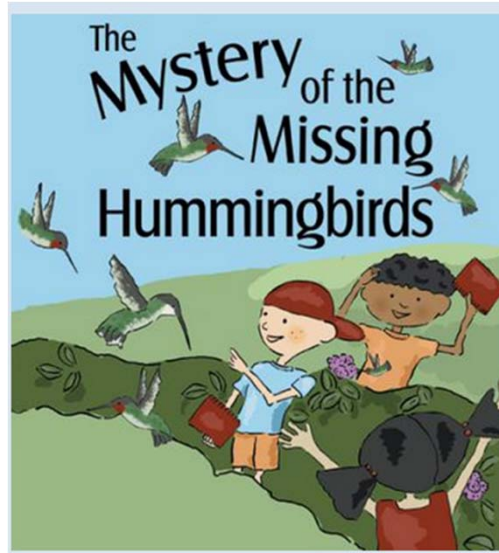
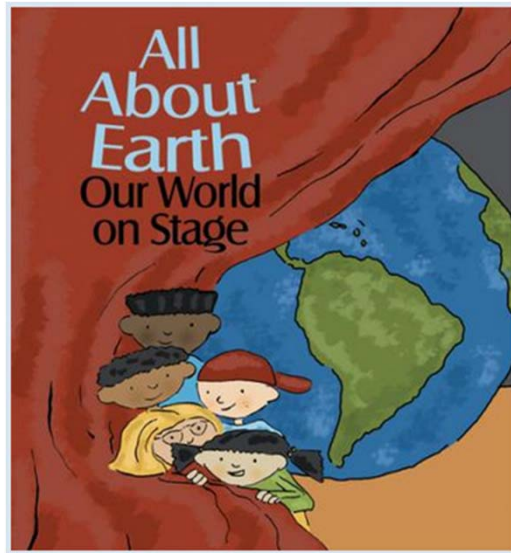
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GLOBE offers five K-4 books in the Elementary GLOBE suite



Storybooks include both images and text suitable for early readers

	Forest	Meadow	Garden
Color	[Color swatches]	[Color swatches]	[Color swatches]
Texture	Sandy (Scratchy)	Silty (Smooth)	Clayey (Sticky)
Structure	Single-grained	Granular	Blocky
Treasures	pine needles, spider, rocks	roots, insects, rocks	insects, worm, clay for molding shapes

“Now that we have data from the three holes, let’s compare our notes,” Dennis suggested.

“I will make a chart in my journal to record what we saw,” said Simon.

Together, they filled in the chart with the information they had collected from the three holes. They wrote about the soil’s **color**, **texture**, and **structure**. They called the different critters and plants they found “treasures.”

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and beginning scientific vocabulary

Elementary



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Inquiry Process Skills

Observing

Sequencing

Patterning

Counting

Measuring

Questioning

Inferring

Comparing

Classifying

Defining

Reporting

Communicating

Hypothesizing

Predicting

Recording



Inquiry-based Science and Literacy Skill Comparison

- Note details
- Compare and contrast
- Predict
- Sequence events
- Link cause and effect
- Distinguish fact from opinions
- Link words with precise meanings
- Make inferences
- Draw conclusions



GLOBE Storybook Narrative Correlations to Essential Features of Inquiry

Essential Features of Classroom Inquiry (National Research Council's Inquiry and the National Science Education Standards)				
Questions	Evidence	Explanations	Connect	Communicate
Learner engages in scientifically oriented questions	Learner gives priority to evidence in responding to questions	Learner formulates explanations from evidence	Learner connects explanations to scientific knowledge	Learner communicates and justifies their explanations
The GLOBE Kids ask "Where did the hummingbirds go?" after observing the birds' disappearance in their garden.	Simon makes a chart to record their observations of the soil from the three different holes that Scoop had dug.	The GLOBE Kids look at the wall charts to observations and explain that the hummingbirds could stay there only when they had enough food and shelter.	Scientist Hannah helps the GLOBE Kids connect their observations to the snowmelt feeding the creek.	The GLOBE kids each justify why their part of the Earth system is most important, and then how each is connected in the Earth System, during the classroom play.



Classroom Implementation

- **Correlate to national standards: science, math, geography**
- **Integrate one or all storybooks**
- **Create journals to use throughout the year**
- **Build a comparison to earlier year' s (past years') work**
- **Read storybooks aloud or independent reading**
- **Encourage reading, writing & communication skills with meaningful content**
- **Model behavior by GLOBE kids for what students will do**



Classroom Implementation

- **Introduce or extend with learning activities**
- **Use learning activities as stand alone lessons**
- **Develop reading, listening, speaking and writing vocabulary**
- **Foster collaborative learning**
- **Give content and structure to science**
- **Enable research and observation skills**
- **Encourage text to self, text to text and text to world connections**
- **Provide inquiry-based opportunities**

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K-4 GLOBE Connections to 5-12 GLOBE

- pose questions
- make observations
- collect data
- come to conclusions
- read, write, and orally communicate
- explore the natural world



THE GLOBE PROGRAM



GLOBE provides students the opportunity to learn by:

- Taking scientifically valid measurements in atmosphere, hydrology, soils, and land cover/phenology
- Reporting data through the Internet and contributing data for scientists' research
- Publishing research projects based on GLOBE data and protocols
- Using a free access Web site
- Creating maps and graphs to analyze data sets
- Expanding the pipeline of potential future scientists and researchers for industry, academia, and government
- Collaborating with scientists and other GLOBE students around the world

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Elementary GLOBE A Learning Activity for
The Mystery of the Missing Hummingbirds

The Colors of the Seasons

Purpose

- To provide the opportunity for students to make observations in nature and compare their results.
- To help students understand seasonal changes as they relate to colors in their environment.
- To engage students in active observation and recording skills.

Overview

Using a color chart, students will make observations outside during each of the four seasons. During each session, they will try to find as many colors as possible and record what they see. As a class they will make charts describing the colors they find in each season. At the end of the school year, students will compare their results and generate conclusions about variations in colors in nature both within a season and between different seasons.

Student Outcomes

After completing this activity, students will understand how colors in nature relate to their local environment and to seasonal changes within that environment. Students will practice observation and recording skills, make comprehensive comparisons, and will form a hypothesis based on the information they have assembled throughout the school year.

Science Content Standard A: Science as Inquiry

- Abilities necessary to do scientific inquiry

Science Content Standard C: Life Science

- The characteristics of organisms
- Organisms and their environments

Mathematics Standard: Number and Operation

- Understand numbers, ways of representing numbers, relationships among numbers, and number systems

Geography Standard 7: Physical Systems

- The physical processes that shape the patterns of Earth's surface

Time

- Part 1: One 30 minute class period
- Part 2: One 60 minute class period during each month/season of the school year
- Part 3: One 30-45 minute class period at the end of the school year

Level

Primary (most appropriate for grades K-4)

The GLOBE Program The Colors of the Seasons - Page 1 Missing Hummingbirds
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Elementary GLOBE www.globe.gov/elementaryglobe

Teacher's Implementation Guide

Text by Becca Hatheway, Susan Gallagher and Sandra Henderson
Illustrations by Lisa Gardiner
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Each storybook set also includes learning activities and a Teacher's Implementation Guide

Students learn Earth system science through engagement with these storybooks.



Figure 1: Earth System.

Free to download at: www.globe.gov/web/elementary-globe
or purchase at: shop.globe.gov

