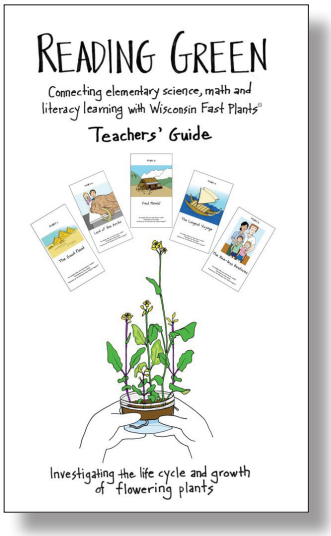
WISCONSIN FASTPLANTS



Reading Green:

WISCONSIN FAST PLANTS™ CONNECTING SCIENCE AND LITERACY LEARNING

Visit www.readinggreen.org for more information.

Reading Green is a 2-week elementary level activity to teach what plants need to grow. Grade 4-5 students grow Wisconsin Fast Plants™ from seed to flower, while reading interesting short stories that were written specially for both science and literacy learning. Reading Green stories integrate elements that are relevant to young readers' lives with scientific and historical information in a format designed to teach fluency and comprehension skills.

Reading Green Teacher's guide, student books, seeds and planting materials are available from Carolina Biological Supply Company: www.carolina.com 1-800-334-5551

Introduction

Across the country, elementary teachers are looking for ways to strengthen students' literacy skills and still have time for learning about the natural world through science. *Reading Green* is a research-based learning activity that integrates learning in *both* science and literacy. In addition, Reading Green includes integrated mathematics and multicultural elements throughout the lessons. Students plant Wisconsin Fast Plant™ seeds and observe them growing and flowering in just 14 days. While their plants grow, students read short stories that were written to capture young readers' imaginations as middle-school-age twins travel around the world with their scientist parents, learning about what plants need to grow.

Wisconsin Fast Plants™

Students take ownership in growing Wisconsin Fast Plants™ as they learn through direct experiences with and observations

about the life cycle of a flowering plant. Wisconsin Fast Plants germinate in 2-3 days and quickly grow to flowering in two weeks.

Fast Plants™ (scientific name: *Brassica rapa*) are members of the crucifer family of plants, closely related to cabbage, turnips, broccoli and other cruciferous vegetables. Bred for over 30 years at the University of Wisconsin, Madison by Professor Paul H. Williams, Fast Plants™ today require little more attention than continuous fluorescent light, water, and fertilizer.

Fast Plants™ grow easily in the growing system provided, which allow four students to each identify "their" plant in a shared "quad." Eight quads fit comfortably on a shoe-box size water reservoir, which works with the quad wicking system to automate watering. Under 24-hour fluorescent light, Fast Plants grow well and are easy to manage in this growing system.

Reading Green Stories

Each *Reading Green* story offers insights into what plants need to grow, examples of how scientists learn about nature, the historical perspective of human dependence on plants, and the global importance of plants. The fictional *Reading Green* family is at the heart of each story, traveling to:

- *Egypt*, where the children learn how the annually flooding Nile brings nutrient rich soil and water that plants need to grow
- *Siberia*, where it is evident that plants need light and temperatures above freezing
- *Nepal*, where Fast Plants' ancient ancestors were first selected by humans to learn about the function of flowers
- *Hawai*, where they learn how seeds are involved in plant reproduction
- *Southern Texas*, to unravel the cause of their grandparents' crop failure.

The *Reading Green* stories were written to genuinely engage elementary students, and field test results show the stories are compelling for young readers. In addition, the stories were intentionally developed following M. A. K. Halliday's model for authentic and meaningful language learning (1982).

The *Read-Write-Think* project at *www.readwritethink.org* provides educators with access to high quality practices and resources in reading and language arts instruction that can be used to make the most of literacy instruction with *Reading Green* activities.

READING GREEN: Wisconsin Fast Plants™ connecting science and literacy learning

Reading Green is in final field-test stage; visit www.readinggreen.org for more information and updates about the publication release date.

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Appendix 1: *Reading Green*™ Connections Matrix for ELA, Math, and Cross-curricula

Reading Green™ Connections Matrix for ELA, Math, and Cross-curricula				
science activity	language arts strategy	mathematics strategy	multimodal strategy	social studies strategy
Making and recording careful observations as plants grow	• Compare predictions with actual observations, and make thinking visible by writing in science journals. • Write descriptions along with labeled drawings. • Develop definitions for roots, shoots, and leaves. • Explain observations orally to peers.	• Write "How To Grow Fast Plants" and "All About Fast Plants" books. • Calculate plants' ages, and the time of observation, to their first leaves/flowers in days, hours, and seconds. • Measure plant height and convert to different units. • Calculate for the class mean, median, mode, and range of plant height • Use height, # of leaves, # of days, and other data to create graphs.	• Use a Question-Answer Relationship chart and/or think-aloud to understand how drawing observations communicates scientific information. • "Be a seed" and perform the sequence of changes you observed during germination. • Press or make rubbings of *Fast Plants* leaves. • Build plant models.	• Discuss similarities and differences between *Fast Plants* and other plants that students observe in their surroundings; relate differences to the plants' environments and roles (e.g., food crops, lawn, or landscaping).
Gathering evidence from the *Reading Green* stories about how plants grow and reproduce and what they need	• Use interactive reading strategies, such as read-aloud, shared, or paired reading to model and improve comprehension. • Create and use graphic organizers such as storyboards, chain of events, and KWL charts. • Use column notes or double-entry journal writing to distinguish connections of text to text, text to self, and text to questions about evidence. • Generate, through discussion and consensus-building, several categories for sorting information gathered from stories.	• Solve story problems with multiple solutions, using examples taken from the stories (see Mathematics Connections Student Guide pages for examples). • Have students write mathematical problems to solve with their peers, using information from the stories. • Approximate the distances traveled by David and Allie in each story.	• Create a timeline showing the sequence of events in the story and their relationship in time to the historical flashbacks. • Perform the children's experiences in each story. • Choose key "turning points" in the stories when Allie or David realized something important, and write or tell a short narrative from their perspective.	• Locate on a map where each story takes place. • Explore cultures as students read stories that take place in Egypt, Siberia, Polynesia, Nepal, and near Mexico. • Discuss how humans depend on plants. • Learn global and cultural similarities and differences in agricultural practices.

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