



Minnesota Landscape
ARBORETUM

LEARN!

For Schools & Teachers
2010-2011

FIELDTRIP GUIDE

UNIVERSITY OF MINNESOTA



NEW!
COMING OCT. 1ST
**INCREDIBLE
EDIBLE
FESTIVAL**
DETAILS PAGE 7

FALL WINTER MAPLE SPRING PLANTMOBILE



PAGE 6



PAGE 8



PAGE 9



PAGE 10



PAGE 12

www.arboretum.umn.edu/learn.aspx

The "Please Touch" Greenhouse

"My students learned so much from the greenhouse. They've been talking about it non-stop since our fieldtrip."
Teacher, Winter 2010

CONTACT: www.arboretum.umn.edu • (952) 443-1422

The Marion Andrus Learning Center - featuring the Sally Pegues Oswald A Growing Place for Kids - is a bustling hub for year-round family programs and adult classes, as well as children's garden and summer camp programs. More than 50,000 children each year participate in the Arboretum's nationally recognized hands-on, science-based learning programs.

EDUCATION MISSION

To create active ways for people to explore the vital links between themselves, plants and the earth



This publication is available in alternative formats; disability accommodations will be provided upon request. Please call 952-443-1422.

The University of Minnesota is an equal opportunity educator and employer.

Major Support for the Arboretum's Youth Education Programs generously provided by:

James and Susan Cargill, the Chorzempa Family Foundation, the General Mills Foundation, the Lebovitz Fund, the Phyllis S. Poehler & Walter E. Stremel Charitable Trust, Wawa June Thorson, the Donald R. Wahlund Foundation, the Donald Weesner Foundation and the Saul Winton Fund.

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Welcome to School Year 2010-11 at the Arboretum



Another school year is here! The Arboretum wishes to be a valuable partner in your academic program this year by presenting programming that connects to and extends the learning in your classroom.

Choose from a full menu of standards based, hands-on plants experiences to meet your needs.

How to use this guide:

- Start your search for the perfect program for your class with the Calendar at a Glance (Page 5).
- Search for the program that meets your need by season, grade level and by fieldtrip (come to the Arboretum) or Plantmobile (the Arboretum comes to your classroom).
- Turn to the page number indicated to find out program details including a description of the program, schedule, and standards addressed.
- Call 952-443-1422 for information or to register.

Use a free pass:

The Free Pass below is provided so that you may preview the Arboretum for your class visit, or simply for you to enjoy some time at the Plant Place.

FREE PASS ADMITS ONE TEACHER AND A GUEST

Teacher's Name _____
 Address _____
 City _____
 State _____ ZIP _____

Guest's Name _____
 Address _____
 City _____
 State _____ ZIP _____

This form must be completed fully and presented at the gatehouse entrance for discount.*

*Expiration date: August 15, 2011

\$18 VALUE

CONSIDER BECOMING AN ARBORETUM MEMBER! CALL 952-443-1440 TO LEARN MORE ABOUT SPECIAL PRICING FOR TEACHERS.

The Arboretum is located 9 miles west of I-494 on State Highway 5, near Chanhassen. (952) 443-1400 • www.arboretum.umn.edu



Minnesota Landscape ARBORETUM

Plan For a Great Trip

RESERVATIONS OPEN AUGUST 18 • CALL 952-443-1422

CHECKLIST FOR GREAT LEARNING

- ✓ 1. CHOOSE A PROGRAM TO FIT YOUR NEEDS.
 - Need to meet a standard?
 - Want to extend your trip with lunch?
 - Prefer we come to your school?
 - Call 952-443-1422 to discuss program options.
- ✓ 2. MAKE A RESERVATION AT 952-443-1422.
 - Reserve any program starting August 18.
- ✓ 3. RECEIVE YOUR CONFIRMATION PACKET.
 - Check date, time, # students.
 - Make copies of Chaperone Guide.
 - Give Arboretum map to your bus driver.
- ✓ 4. GET READY FOR YOUR TRIP.
 - Please wear **nametags**.
 - **Dress for outdoors, rain or shine.** Winter programs are indoors. If weather makes travel unsafe, we will reschedule your visit.
 - **Chaperones** are free up to 1 adult:5 students; our minimum requirement is 1 adult:10. Adults beyond 1:5 pay \$9 admission.
 - **Lunch:** outdoor picnic areas are open May – October; first-come, first-serve. Reserve an indoor lunch space November – April; fee \$10/class.
- ✓ 5. PLANS CHANGE?
 - Call us ASAP 952-443-1422.
 - No refunds if you cancel less than 30 days in advance.

PROGRAM FEES

FIELDTRIPS

\$5.00 per student

PLANTMOBILE PROGRAMS

\$4.75 per student + \$50 transportation fee to school

SCHOLARSHIP FUNDS AVAILABLE See page 15 for details





Calendar at-a-Glance

For Every Grade and Season

ON-SITE FIELDTRIPS

PLANTMOBILE

GRADE LEVEL

K **1** **2** **3** **4** **5** **6**

NEW! INCREDIBLE EDIBLE FESTIVAL OCT. 1

PG. 7

FALL

FALL IN THE FOREST

IT'S A PUMPKIN'S LIFE

APPLE HARVEST 

INTERDEPENDENCE

TREES FOR MINNESOTA

Minnesota HARVEST

PG. 6-7

BULBS AND BLOSSOMS

PG. 12

FALL'S ABLAZE

PG. 12


SPROUT

PLANT TAKE-A-PART 

GREEN GROCERY 

DAYS OF THE DINOSAURS

PEOPLE & THE RAINFOREST

PLANTS & THEIR HABITATS 

ZOOM IN ON PLANTS

PLANTS OF THE TROPICAL RAINFOREST

PG. 8-9

PG. 12-13

EXPLORING THE DESERT

MINNESOTA TOUGH

PG. 12-13

MAPLE

MAPLE SYRUP TIME 

PG. 9

READY, SET, GROW

SPRING TO LIFE

JAPANESE GARDEN 

DISCOVER SPRING PEEPER MEADOW

WOODS IN BLOOM

SUNFLOWER SUPREME

WANTED: WETLANDS

PG. 110-11

PG. 13

SUMMER

GUIDED GROUP ADVENTURES: CALL 952-443-1422



REFLECT AND WRITE ACTIVITY AVAILABLE

Fall Fieldtrips



RESERVATIONS OPEN AUGUST 18 • CALL 952-443-1422 • \$5.00 PER STUDENT

FEATURED FIELDTRIP

FALL IN THE FOREST

GRADES K–1 (Limit 3 classes per time slot)

Meet the talking tree and learn who lives in each forest layer. See how sowbugs and mushrooms turn leaves and dead trees into soil. Search for signs of forest plants and animals on a forest hike.

SCIENCE STANDARDS

0.2.1.1.1 Physical Properties
0.4.2.1.1 Natural Systems

DATES

Sept. 22 – Oct. 22
9:30 – 10:45
11:15 – 12:30
1:15 – 2:30

TREES FOR MINNESOTA

GRADES 3–6 (Limit 3 classes per time slot)

Get to know Minnesota Trees, how they grow, and their importance to people and wildlife. Discover trees of all shapes and sizes aglow with fall colors.

SCIENCE STANDARDS

(3,5).4.1.1.1 Diversity
(3,5).1.3.4.1 Scientific Tools

DATES

Sept. 15 – Oct. 8
9:30 – 11:30
12:15 – 2:15

APPLE HARVEST

GRADES 1–6 (Limit 3 classes per time slot)

Tour the orchard to see apple trees loaded with ripening fruit. Help make apple cider in an old-time cider press. Try an apple taste test, learn about apple blossom pollination, and taste fresh cider. TAKE HOME APPLES!



Use the *Reflect & Write* options, aligned with Minnesota Language Arts standards in writing to review and recall the learning from your trip.

Grade 1: We Went to the Orchard

Grade 3: Orchard Help Wanted: Hire Me!

SCIENCE STANDARDS

(1,3).1.3.2.1 Engineering
Design
2.2.1.1.1 Physical Properties
(1,2,3).4.1.1.1 Diversity

DATES

Sept. 13 – Oct. 13
9:30 – 10:45
11:15 – 12:30
1:15 – 2:30

IT'S A PUMPKIN'S LIFE

GRADES 1–2 (Limit 3 classes per time slot)

Hey, isn't that a life cycle ripening in the garden? Play Life Cycle Bingo and search for plants in all stages of their lives. Start a pumpkin seed investigation. Compare the "insides" of pumpkins and their relatives. Estimate a giant pumpkin's weight. TAKE HOME INVESTIGATIONS!

SCIENCE STANDARDS

(1,2).4.3.1.1 Life Cycles
2.2.1.1.1 Physical Properties

DATES

Sept. 28 – Oct. 29
9:30 – 11:30
12:15 – 2:15

INTERDEPENDENCE: PLANTS & ANIMAL INTERACTIONS

GRADES 2–4 (Limit 2 classes per time slot)

Explore relationships between plants and animals in a forest community including food and shelter, pollination, and seed dispersal.

SCIENCE STANDARDS	DATES
(2,3).1.1.2.1 Scientific Inquiry	Sept. 16– Oct. 8 9:45 – 11:15
2.4.2.1.1 Interdependence	12:30 – 2:00

MINNESOTA HARVEST: HEALTHY EATING FROM AND FOR THE EARTH

GRADES 3–6 (Limit 3 classes per time slot)

What does it matter where our food comes from? Students will explore how eating locally grown whole foods can save on gas. Use maps to calculate the trek foods take from field to table. Join us as we explore the foods grown in Minnesota, and examine the stories of how they got here. Students will harvest sweet potatoes from the Children's Garden, mash apples into sauce, and husk popcorn from the cob as they learn about the origins of these plants and how they made their way into our Minnesota Thanksgiving celebration.

SCIENCE STANDARDS	DATES
5.1.3.4.2 Maps and Mathematics Help Scientists	November 4 – 22 9:30 – 11:30
(4,5).3.4.1.3 Humans Interact with Earth Systems	12:30 – 2:30

MAKE A DAY OF IT

Add outdoor lunch and a self-guided tour to your fieldtrip for no additional cost. Self-guided tour materials are available to help you and your students experience the Arboretum on your own. Call to get a sample tour sheet sent to you. Outdoor picnic shelters and grassy areas are available for eating lunch on a first-come first-served basis April through October. Use the Teacher pass (page 3) to come preview the grounds and prepare for your self-guided tour. Check out self-guided tour options on page 14.

FRIDAY, OCTOBER 1ST

INCREDIBLE EDIBLE FESTIVAL

SPONSORED BY

C.H. ROBINSON



C.H. ROBINSON
WORLDWIDE, INC.

DEAR 3-6TH GRADE TEACHERS,

We want to invite you and your class to an exciting learning opportunity at the Minnesota Landscape Arboretum this Fall. The first ever Incredible Edible Festival, will be held Friday, October 1st. Created to celebrate the Power of Plants, this festival will feature a bountiful harvest of engaging activities and intriguing booths that utilize the elements of the Powerhouse Plants Summer Exhibition. Your class will find out what scientists and chefs are doing to bring tastier and healthier plant foods to our table. Some of the activities you can expect at the Incredible Edible Festival include: A tasting tour of the world's healthiest plant foods, a visit to the chef's row and the veggies by the yard gardens, find out what the color of your food tells you about its nutrition and how certain plants can fight disease, take the apple taste test, concoct an anti-microbial salsa, and more... Call for the latest Incredible Edible Festival details.

CONCEPTS:

- Health and Nutrition
- Food
- Plants and Human Interaction

SCIENCE STANDARDS:

- 5.1.3.2.1 Engineering Design and Scientific Inquiry
- 5.3.4.1.1 Humans interact with Earth Systems in order to improve their existence.
- 3.4.3.2.1 Genetics-Variation in offspring.

FESTIVAL SCHEDULE:

(Call to reserve your spot in one of the sessions)

Morning session 9-11 am.

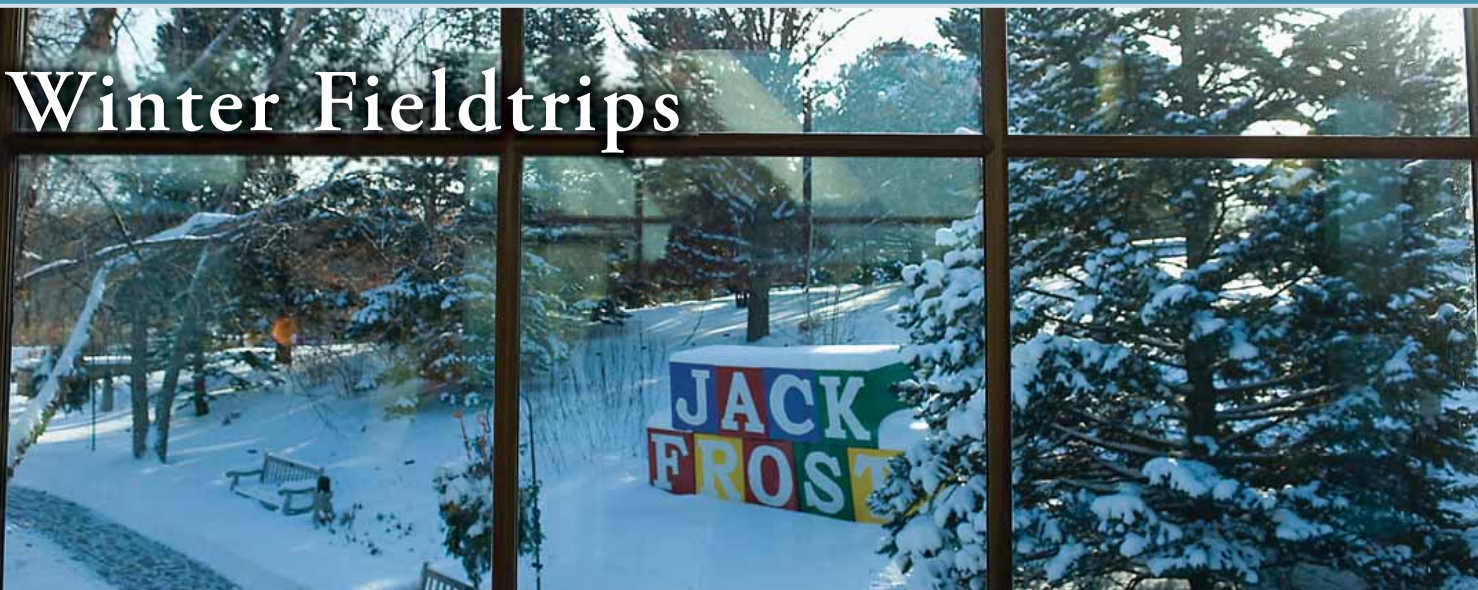
Afternoon session 12-2 pm.

FEE: \$5 per student

(ask about scholarship opportunities)



Winter Fieldtrips



RESERVATIONS OPEN AUGUST 18 • CALL 952-443-1422 • \$5.00 PER STUDENT

EXTENDED DAY OPTION

FOR GROUPS OF 3-5 CLASSES

Extended Day Fieldtrips will have a lunch period built into the regular fieldtrip schedule. A customized schedule will be created and emailed to the scheduling teacher. Cost is an additional \$10/per class. Extended day programs are 1/2 hour longer than regular programs.

WANT TO ADD LUNCH TO YOUR DAY?

Rent a lunchroom for your group to use before or after your winter fieldtrip. Ask about lunchroom availability at the time you reserve your winter fieldtrip. Groups renting lunchroom space must bring their own lunches and supervise all aspects of the lunch period including cleanup of the lunchroom.

Cost is an additional \$10/per class.

SPROUT!

GRADE K (Limit 3 classes per time slot)

Meet the talking tree in a puppet show about the parts of a plant and what plants need. Visit the Greenhouse for a “please touch” experience with plants. Use your senses to search for plants of all shapes, sizes and colors. Plant seeds for follow-up studies. TAKE HOME PLANTINGS!

SCIENCE STANDARDS

0.1.1.2.1 Scientific Inquiry
0.4.1.1.2 Diversity of Life

DATES

December 1 – April 15
9:45 – 11, 12:30 – 1:45
(flexible)

PLANT TAKE-A-PART

GRADES 1–2 (Limit 3 classes per time slot; Extended day available for 4)

Who depends on plants? That’s the Mystery in Room 103. Solve it with the help of the talking tree. Go on Plant Part Patrol in the Greenhouse to explore diversity in the plant world. Trace familiar foods from plant to package, then use different plant parts to create a tasty treat. Plant seeds to observe and measure as plants grow from top to bottom. TAKE HOME INVESTIGATIONS!

SCIENCE STANDARDS

(1,2).4.2.1.1 Interdependence
in Natural Systems
1.1.3.1.1 Natural Systems

DATES

December 8 – April 15
9:45 – 11:15
12:30 – 2:00

GREEN GROCERY

GRADES 1–2 (Limit 3 classes per time slot; Extended day available for 5)

Discover the plants that provide our groceries. Find the sources of Hershey bars, bananas, Wheaties and pizza in the Greenhouse. Trace the energy flow through a food chain from sun to child. Do plantings to measure, then eat. Includes activities in the “Sunshine for Dinner” exhibits. TAKE HOME EDIBLE PLANTS!



Reflect & Write options, aligned with Minnesota Language Arts standards.

Grade 1: From Sun to Tummy Food Chain Stories
Grade 2: Plants in the Lunch Room?!

SCIENCE STANDARDS

(1,2).4.2.1.1 Interdependence
in Natural Systems
1.1.3.1.1 Natural Systems

DATES

December 1 – April 15
9:30 – 11:30
12:15 – 2:15

FEATURED FIELDTRIP

PLANTS & THEIR HABITATS

GRADES 3–6 (Limit 3 classes per time slot, 5 classes for extended day)

Imagine stepping into the shoes of scientists to inventory plants of earth's rainforests, deserts and wetlands. Compare these environments and the adaptations that allow plants to survive under extreme conditions. Use microscopes in the lab and hands-on observations in the Greenhouse. Unique adaptations of insectivorous plants included. TAKE HOME TERRARIUMS!



Reflect & Write options, aligned with Minnesota Language Arts standards.

Grade 3: Plant Habitat Riddles

Grade 4: Explorer's Report

SCIENCE STANDARDS

(3,5).4.1.1.1 Diversity of Life

3.4.3.2.1 Evolution in Living Systems

DATES

December 8 – April 15

9:30 – 11:30

12:15 – 2:15

DAYS OF THE DINOSAURS

GRADES 2–4 (Limit 3 classes per time slot, 4 classes for extended day)

See tree ferns, cycads and horsetails, living relics of the plants that fed the dinosaurs eons ago. Discover different ways plants reproduce, and how plants have changed over millions of years. Students make terrariums with primitive plants. TAKE HOME TERRARIUMS!

SCIENCE STANDARDS

3.4.1.1.1 Diversity of Life

3.4.3.2.1 Evolution in Living Systems

DATES

December 15 – April 15

9:45 – 11:15

12:30 – 2

PEOPLE & THE RAINFOREST

GRADES 3–6 (Limit 3 classes per time slot, 5 classes for extended day)

Explore adaptations of rainforest trees and the plants living in their branches and beneath them. Find ways people everywhere depend on rainforests. See how vanilla vines grow and taste a real vanilla treat in the Harvest Kitchen. Search the Greenhouse for tropical plants we use. Includes activities in the "Sunshine for Dinner" exhibits. Students start cuttings from a rainforest plant. TAKE HOME TROPICAL PLANTS!

SCIENCE STANDARDS

5.3.4.1.3 Humans interact with Earth Systems

3.4.1.1.1 Diversity of Life

DATES

December 15 – April 15

9:30 – 11:30

12:15 – 2:15

Maple Fieldtrips



RESERVATIONS OPEN AUGUST 18
CALL 952-443-1422 • \$5.00 PER STUDENT

MAPLE SYRUP TIME

GRADES 1–6 (Limit 3 classes per time slot)

Hike into the woods to tap a maple tree and taste its sap. Visit the sugarhouse where sap is cooked to syrup.

Learn about maple sugaring traditions of native people. Greet spring and sample the sweet flavor of photosynthesis!



Reflect & Write options, aligned with Minnesota Language Arts standards.

Grade 2: Get Ready for Maple Syrup Time

Grade 4: A Sweet Good-bye to Winter

SCIENCE STANDARDS

2.1.2.2.2 Engineering Design Process

4.2.1.1.1 Measurable Properties (also Minnesota History, Cultural Studies)

DATES

March 15 – April 1

9:30 – 10:45

11:15 – 12:30

1:15 – 2:30

"As one student quoted: "This is the best fieldtrip ever. We get food, exercise, and outdoors!"

— Teacher comment about the
Maple Syrup Time Fieldtrip, 2010

Spring Fieldtrips

RESERVATIONS OPEN AUGUST 18 • CALL 952-443-1422 • \$5.00 PER STUDENT

READY, SET, GROW!

GRADE K–1 (Limit 3 classes per time slot)

People, plants, animals—everything alive has a habitat. With the help of the talking tree, discover how we can plant habitats for birds, butterflies and other wildlife around our homes and schools. Search outdoors for signs of plants used by wildlife, start plants to feed caterpillars and provide nectar-filled flowers for butterflies. TAKE HOME PLANTS!

SCIENCE STANDARDS

0.4.2.1.1 Natural System

Interactions

0.4.1.1.2 Diversity of Life

1.4.3.1.1 Life Cycles

DATES

April 25 – May 27

9:30–10:45, 11:15–12:30

1:15–2:30

SPRING TO LIFE!

GRADES 1–2 (Limit 3 classes per time slot)

Spring plant life cycles 'come to life' as buds leaf out, seeds sprout and flowers open! Annual plants live a fast life, from seed to seed in a summer; ten years may pass before a tree's first flower. Search for these 'one-summer' and 'many-summer' plants in different stages of their lives. Plant examples to take home. TAKE HOME PLANTS!

SCIENCE STANDARDS

(1,2).4.3.1.1 Life Cycles

2.4.2.1.1 Natural System

Interactions

DATES

April 26 – May 27

9:30–10:45, 11:15–12:30

1:15–2:30

JAPANESE GARDEN

GRADES 1–6 (Limit 2 classes per time slot)

A Japanese garden reflects Japanese culture and values. Discover the traditions and visit Seisui-Tei, the Garden of Pure Water. Rocks are the backbone of the garden, forming the waterfall, the symbolic carp and tortoise. Create individual take-home gardens. TAKE HOME JAPANESE GARDENS!



New *Reflect & Write* options, aligned with Minnesota Language Arts standards in writing.

Grade 1: In a Japanese Garden

Grade 4: Haiku

CONCEPTS

- Cultural Studies
- Geography of Japan
- Seasonal Change

DATES

April 26 – May 27

9:30–10:45, 11:15–12:30

1:15–2:30

“All three of the class sessions were outstanding learning. The lesson with aphids and lady bugs in the greenhouse was great, hands-on learning!”

— Kindergarten teacher, Spring 2010

FEATURED FIELDTRIP

DISCOVER SPRING PEEPER MEADOW

GRADES 2–6 (Limit 3 classes per time slot)

Follow the boardwalk from dry to squishy to underwater habitats in this restored sedge meadow wetland. Use dipnets and binoculars to see what plants and animals live here now. Help monitor Arboretum scientists' work to bring nature back in a former cornfield.

SCIENCE STANDARDS

(3,5).4.1.1.1 Diversity of Life

4.3.2.3.1 Water Cycle

DATES

May 11 – May 26

9:30 – 11:30, 12:30 – 2:30

WOODS IN BLOOM

GRADES 3–6 (Limit 2 classes per time slot)

Dissect fresh flowers to learn their parts. Discover how pollinators are enticed to visit, thus helping seeds ripen. Enjoy drifts of wildflowers in bloom in the Dayton Wildflower Garden. Search for pollinators in action. Help gather data for a long-range study to monitor wildflower bloom-time, related to climate change.

SCIENCE STANDARDS

5.4.1.1.1 Diversity of Life

5.1.1.1.1 Scientific Evidence

DATES

April 25 – May 27

9:30 – 10:45, 11:15 – 12:30

1:15 – 2:30

EXTEND YOUR TRIP

Add outdoor lunch and a self-guided tour to your fieldtrip for no additional cost. Self-Guided tour materials are available to help you and your students experience the Arboretum on your own. Call to get a sample tour sheet sent to you. Outdoor picnic shelters and grassy areas are available for eating lunch on a first-come first-served basis April through October. Use the Teacher pass (page 3) to come preview the grounds and prepare for your self-guided tour.

“What a great day. My kids were interested, my parents were impressed and we all learned so much. Thanks for the experience.”

— Teacher, Spring 2010

“This is one of the best field trips out there! It fits so well with Minnesota Science standards for 3rd grade.”

— 3rd grade teacher, 2010





Plantmobile

CALL 952-443-1422 TO BOOK THE PLANTMOBILE TODAY • \$4.75 PER STUDENT + \$50 TRANSPORTATION FEE



Fall

OCTOBER 26 – DECEMBER 6

BULBS & BLOSSOMS

GRADES K-2

Bright tulips and golden daffodils are favorite spring flowers, and fall is the season to plant them. Dissect a bulb and learn why some plants form bulbs. Discover how a bulb grows through the year. **BULB PLANTINGS! Includes a follow-up student journal and teacher info packet.**

SCIENCE STANDARDS

0.4.2.1.1 Natural Systems
1.4.3.1.1 Life Cycles



Early Winter

DECEMBER 8 – FEBRUARY 14

ZOOM IN ON PLANTS

GRADES 1-2

What makes a plant a plant? What plant part is like a sponge? What's the hairiest plant part? Microscopes ignite students' curiosity as they look up-close and hands-on at plant parts and functions. **PLANT TROPISM EXPERIMENTS!**

SCIENCE STANDARDS

1.4.1.1.1 Diversity of Life
2.2.2.1.2 Motion (Tropism)

FALL'S ABLAZE

GRADES 3-6

Brick red and sunlit gold, trees are glowing with a colorful salute to summer's end. Experiments and demonstrations explain how green chlorophyll is replaced by autumn's colors. Chromatography activity included. **TAKE HOME PIGMENT PROJECTS!**

SCIENCE STANDARDS

(3,5).1.1.2.1 Scientific Inquiry
3.4.1.1.2 Diversity of Life

PLANTS OF THE TROPICAL RAINFOREST

GRADES 3-6

Discover the amazing diversity of rainforest life. Use a mural and live plants to understand the forest layers. Explore adaptations and uses of rainforest plants, including taste-testing the story of chocolate. **PLANT TROPICAL SEEDS!**

SCIENCE STANDARDS

(3,5).4.1.1.1 Diversity of Life
5.4.4.1.1 Humans Change Environments

A PLANT PROGRAM IN YOUR CLASSROOM

RESERVATIONS OPEN AUGUST 18

We bring the hands-on science, real plants, microscopes, lively take-home investigations—it's a discovery-filled fieldtrip right in your classroom! All programs last one hour. Minimum is 12 students/session, 2 sessions/day. Maximum is 32 students/session, 4 sessions/day. Minimum time between sessions is 15 minutes. Maximum time between morning and afternoon sessions is 1½ hours.

CALL 952-443-1422 TO BOOK THE PLANTMOBILE TODAY • \$4.75 PER STUDENT + \$50 TRANSPORTATION FEE



Late Winter

FEBRUARY 16 – APRIL 4

EXPLORING THE DESERT

GRADES K–2

Meet Saguaro Sam, a talking cactus from the Sonoran desert in Arizona. Investigate the desert environment and discover the adaptations that allow desert plants to survive a dry place. **PLANT DESERT PLANTS!**

SCIENCE STANDARDS

1.4.2.1.1 Natural Systems Interactions
(0,2).4.1.1.1 Diversity of Life

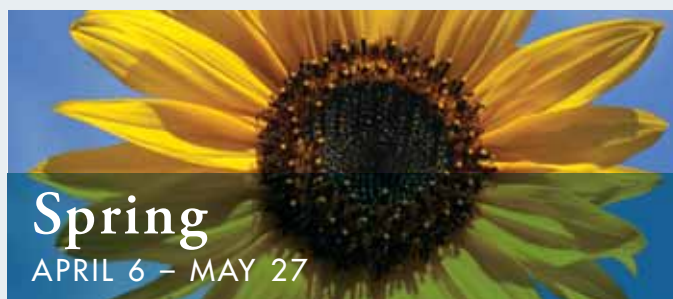
MINNESOTA TOUGH

GRADES 3–6

Imagine standing outside straight through our bone-chilling winters and sweltering summers. Icebox to sauna, our native trees and shrubs survive all of Minnesota's extremes. Explore the adaptations that make them "Minnesota Tough". Will dormant branches start spring growth early in your classroom? Watch and see. **TAKE HOME TREE SEEDS!**

SCIENCE STANDARDS

3.4.1.1.2 Diversity of Life
5.4.2.1.1 Natural Systems



Spring

APRIL 6 – MAY 27

SUNFLOWER SUPREME

GRADES K–2

Sunflowers! These mighty monarchs provide us with seedy snacks, oils and yellow dye. Explore sunflower diversity in seeds and plant forms. Discover how a sunflower is part of a garden ecosystem. Plant sunflowers to observe their growth in school and at home. **TAKE HOME SUNFLOWERS!**

Includes follow-up Math activities!

SCIENCE STANDARDS

(0,2).4.1.1.1 Diversity of Life
(1,2).4.3.1.1 Life Cycles

WANTED: WETLANDS

GRADES 3–6

Wanted: an environment that protects other areas from flooding, filters pollutants and provides rich habitat for wildlife. Explore different wetland communities. Discover plant adaptations for wet living. **PLANT WETLAND PLANTS!**

SCIENCE STANDARDS

3.4.1.1.1 Diversity of Life
5.4.2.1.1 Natural Systems

Self-guided Tours

CALL 952-443-1422 TO BOOK YOUR SELF-GUIDED TOUR TODAY

GREEN DISCOVERY BACKPACK

GRADES PRE K-2

Loaded with handlenses, stories, puppets and other teaching aids, the Green Discovery Backpack allows you and your class to explore the Arboretum at your own pace. When you reserve it, you receive a Teacher's Guide by mail to plan your visit. Then pick up the Backpack when you arrive. One Backpack serves 30 students.

CONCEPTS

- Parts of a Plant
- Using the Senses

DATES

May – October

FEE: \$25 PER BACKPACK RENTAL

Includes Teacher's Guide

THIS FALL ONLY

POWERHOUSE PLANTS EXHIBITION

GRADES PRE K-12

This intriguing exhibit showcases the power of plants. *Bioenergized!* explores efforts to develop new sources of energy from plants. *Incredible Edibles* inspires new ways to "eat yourself healthy." *Amazing Art* presents five juried art installations that feature the creative power of plants.



CONCEPTS

- Alternative Energy
- Natural Resources
- Food

DATES

Exhibition ends
October 10, 2010

FEE: FREE

HIKE FOR THE BIRDS

GRADES 2-6

FREE *Hike for the Birds* flyers are available for students or student teams at the Visitor Center. This one-mile hike takes up to one hour, and is mostly paved. (NOTE: There is a fairly steep grassy hill at the end). Students search for six birdhouses and six plants that attract birds as they hike, and use the information on the signs to match each bird on the flyer with the right plant or house. When you reserve this self-guided visit, ask to receive a sample *Hike for the Birds* flyer by mail to plan your visit.

CONCEPTS

- Bird ID
- Habitat Needs
- Interdependence of Plants & Animals

DATES

May – October

FEE: FREE

BUG O' ORIENTEERING COURSE

GRADES 5-8

Pick up FREE *Bug O' Maps* for student teams at the Visitor Center. Challenge your students to develop their map-reading, navigation and teamwork skills on our orienteering course. There are two levels, a short course (7 controls) and a long course (12 controls). Control checkpoints are marked by bronze cast insects. Approximate walking time varies from one to two hours. Teams observe and compare three native plant communities along the route. Call 952-443-1422 to receive a *Bug O' Teachers Guide* by mail so you can plan your visit.

CONCEPTS

- Map-reading, Navigation
- Native Plants

DATES

April – November

FEE: FREE



Scholarships

The Arboretum is committed to making its educational opportunities accessible for all school audiences. With the generous support of the foundations and donors listed on page 2, we are pleased to offer a menu of scholarship opportunities for schools.

RESERVATIONS OPEN AUGUST 18 • CALL 952-443-1422

FIELDTRIP SCHOLARSHIPS:

Student fees will be reduced by 50% for all school groups whose school free and reduced lunch eligibility is greater than 25%. Scholarships are awarded on a first-come first-served basis while funds last.

BUS SCHOLARSHIPS:

Student fees will be waived and fieldtrip bus costs will be reimbursed for school groups whose school free and reduced lunch eligibility is greater than 50%. Bus scholarships are awarded on a first-come first-served basis while funds last. Limit one Bus Scholarship per school, per year.

PLANTMOBILE SCHOLARSHIPS:

Student fees and transportation fee is waived for schools with 30% or greater free and reduced lunch eligibility. Plantmobile scholarships are awarded on a first-come first-served basis. Limit one day per school per year while funds last. Scholarships available for Fall and Winter programs only.



MINNESOTA HARVEST: HEALTHY EATING FROM AND FOR THE EARTH

Looking for a Thanksgiving celebration that is uniquely Minnesota? This fieldtrip program puts students in touch with local foods and the land that produced it. Through a generous gift from Herb and Judy Goldenburg we are able to offer 20 bus and program scholarships for qualifying Urban Schools. This fieldtrip puts students in touch with local food from seeds to harvest to homemade snacks. Call our reservations office for details and to register for this opportunity.

KEY CONCEPTS

- Nutrition
- Local Foods
- Minnesota Food Traditions

DATES

Nov. 4-19
9:30 – 11:30
12:30 – 2:30

PARTNERSHIP FOR GROWING SCIENCE TEACHING

The two year, grant funded Arboretum partnership offers an immersion of plant based learning for the entire school community—students, teachers, and families. Partner schools are chosen based on need, academic focus, and school community interest. Please call 952-443-1422 for further details on the Arboretum's Partnership for Growing Science Teaching and how schools can apply for the Partnership.

Year 1 - Fieldtrip Year: Each class gets 2 Arboretum fieldtrips and 1 Plantmobile visit.

Year 2 - Project Year: Plan and implement schoolyard garden project.



Minnesota Landscape
ARBORETUM

SCHOOL SERVICES
3675 Arboretum Drive
Chaska, MN 55318

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U.S. POSTAGE
PAID
PERMIT NO. 320
MINNEAPOLIS, MN

Finding the Arboretum

THE ARBORETUM IS LOCATED WEST OF CHANHASSEN
ON STATE HIGHWAY 5, NINE MILES WEST OF 494.



WWW.ARBORETUM.UMN.EDU

