



EDUCATOR'S GUIDE

2023-2024



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TEACHER'S CHOICE PROGRAM

ECHO, Vermont's innovative science and nature museum, welcomes school groups year round. With our incredible location on the historic Burlington waterfront, ECHO serves as the perfect destination for your half-day or full-day adventure, no matter the season.

3 Easy Steps to Booking Your ECHO Adventure

- Step 1:** Choose between our 3 field trip options
- Step 2:** Check out our changing exhibits, calendar of events, and theater schedule at echovt.org
- Step 3:** Book your trip by completing our online reservation form at echovt.org/schoolfieldtrips

Group Rates

- \$8.00** PreK - 12th grade student admission
- FREE** One adult admission for every five youth (including teachers)
- \$10.00** Each additional adult admission
- \$3.00** Student and adult Northfield Savings Bank 3D film ticket (additional to admission)



Teachers can purchase an **ECHO Classroom Membership** that gives unlimited admission to ECHO for 1 year. Sign up at echovt.org

Field Trip Option 1: Self-Guided Group Experiences

Self-guided tours give your group access to more than 100 hands-on exhibits, 70 species of live animals, daily activities, and pre-/post-visit slideshows, worksheets, and lessons. Groups receive a personalized welcome by ECHO staff.

Field Trip Option 2: Teacher's Choice Program (additional \$80/program)

Our most popular option. Designed for students grades K - 12, each 50-min, educator-led program is based on the Next Generation Science Standards. Offerings include Engineering in Action programs that encourage hands-on problem solving and other STEM-focused programs. Includes everything listed in the self-guided program option.

Field Trip Option 3: 3D Science & Nature Film (additional \$3/person)

Add this to your visit and experience stunning 3D educational films. Check out current film offerings at echovt.org



Visit our [Teacher Resource](#) page for more materials to support your visit.

50-minute ECHO educator-led programs based on the Next Generation Science Standards.

Available September 5, 2023 – May 24, 2024



Wetland Wonders (K - 3)

It's a sponge, it's a filter, it's a nursery...it's a wetland! Explore the living and nonliving elements of this important habitat as we bring a wetland to life by evoking its unique sights and sounds.

Native American Artifact Inquiry (3 - 8)

Explore Native American artifacts to illuminate the sophistication of pre-1800s Abenaki life. Students will learn how to interpret historical objects in order to better understand traditional ways of life.

Basin Biodiversity (6 - 12)

Explore the variety and importance of species in the Lake Champlain Basin. Students will discover the local threats to native biodiversity and how they can become stewards of the Lake Champlain Basin.

Engineering in Action: Zipcarts (K - 12)

Students will receive a grade-appropriate introduction to ECHO's Turtle Headstart program. They will use the Engineering Design Process to transport model turtles to safety as they plan, build, and evaluate solutions to ECHO's zipline challenge.

Engineering in Action: Fish Assist (K - 6)

Students will learn about Lake Champlain's elusive, endangered lake sturgeon as they use the Engineering Design Process to plan, build and test a solution to an engineering challenge.

Engineering in Action: Nest Rescue (K - 6)

Students will learn about the decline and recovery of peregrine falcon populations. They will then use the Engineering Design Process to plan, build, and test a solution to a related engineering design challenge.

Engineering in Action: Launch, Fling, Fly (K - 6)

Students will learn about the ecology of Vermont butterflies and practice engineering design skills as they plan, build, and test a solution to an engineering challenge.

Engineering in Action: Renewable Ride (K - 6)

Students will develop their understanding of climate change as they use engineering design skills to plan, build, and test a wind-powered vehicle that runs the length of a MagLev track.

Featured Program Available May 28 – June 14, 2024

This is the only program offered during this period.

Engineering in Action: Journey to the Sea (K - 6)

Students will learn about the American eel and their amazing migration of over one thousand miles from Lake Champlain to the Sargasso Sea. They will then use the Engineering Design Process to plan, build, and test a solution to a related engineering design challenge.



HOW PEOPLE MAKE THINGS

Inspired by the Mister Rogers' Factory Tours

SPECIAL EXHIBIT
September 16, 2023 – January 7, 2024

Join Mister Rogers on the factory floor to learn how familiar toys and objects are made. Get to know the people, ideas, and technology used to transform raw materials into manufactured products. Then try your hand at deforming a wire, molding melted wax into a spoon, assembling a model trolley, and more.

Created by Children's Museum of Pittsburgh in collaboration with Family Communications, Inc. (FCI), the producer of Mister Rogers' Neighborhood, and the University of Pittsburgh Center for Learning in Out-of-School Environments (UPCLOSE).



MISSION AEROSPACE

AN AH-MAZE-ING ADVENTURE

SPECIAL EXHIBIT
January 20, 2024 – May 12, 2024

Explore the history of flight, navigation, and NASA in this immersive maze-themed exhibit. Experiment with thrust, lift, and gyroscopes. Imagine your own future as an engineer or pilot at NASA. Build paper planes and rockets, and then test them for distance and accuracy in custom test ranges.

Created by Minotaur Mazes, a company specializing in interactive maze exhibits.



THE PIGEON COMES TO BURLINGTON!

A **Mo Willems** EXHIBIT

SPECIAL EXHIBIT
May 25, 2024 – January 5, 2025

Enter the whimsical world of award-winning children's author Mo Willems. Have a hilarious conversation in the voices of Elephant and Piggie at a double-sided phone booth. Spin a laundry machine in search of the lost Knuffle Bunny. Launch foam hot dogs at The Pigeon. And enjoy more fun-filled activities alongside Willems' lovable cast of cartoon characters.

Co-organized by Children's Museum of Pittsburgh and The Eric Carle Museum of Picture Book Art.
Art © 2023 Mo Willems

PARTNER ECLIPSE ACTIVITY

Activity by Exploratorium
www.exploratorium.edu

- 1 Decide whose head will be "the Sun" and whose head will be "the Earth."
- 2 Partners stand several feet apart, facing each other.
- 3 "Earth" covers one eye with one hand and extends the other hand with their thumb ("the Moon") pointing up.
- 4 Partners switch roles. Repeat steps 2 – 4.
- 5 Discuss what happened: Although the Sun is much larger than the Moon, the Moon is closer to Earth. If the Moon moves directly in front of the Sun, it can block the Sun's light completely.



Visit ECHO's Teacher Resource Page for more eclipse activities.



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2:14 PM FIRST CONTACT

Partial eclipse begins.
Edge of Moon starts to
overlap the Sun.



2:50 PM

The Moon partially
covers the Sun.



3:26 PM SECOND CONTACT

Total eclipse begins.
The Moon covers the entire
disk of the Sun.



3:27 PM TOTALITY

The Sun is completely
covered. Only the Sun's
corona (outermost
atmosphere) is visible.



3:29 PM THIRD CONTACT

Total eclipse ends.
The Moon continues its
path past the Sun.



4:03 PM

A greater portion
of the Sun is visible.



4:37 PM FOURTH CONTACT

Partial eclipse ends.
The full Sun is visible.



WATCH

Planets and bright stars appearing
Plant buds opening or closing
A 360° sunset

Note: Wear eclipse glasses when
looking directly at the Sun.



HEAR

Daytime birds singing an
evening song, quieting, then
calling to the dawn

Nocturnal animals waking:
crickets chirping, owls hooting,
frogs croaking



FEEL

The air cooling
Wind direction changing
Wind speed decreasing
A sudden stillness



Photo Credit: NASA/Aubrey Gemignani

ECLIPSE FACTS

Baily's Beads (left) appear when
light rays shine through the
Moon's mountains and valleys.

The next total solar eclipse in
Vermont will be in 2079.

TOTAL SOLAR ECLIPSE

BURLINGTON, VERMONT
MONDAY, APRIL 8, 2024

