Waukesha County Environmental Education

School Guide

www.WaukeshaCounty.gov/Programs-Events

TABLE OF CONTENTS

STEM opportunities.....3
Program Policies, Fees, NGSS Standards.....4-7
Planetarium Fees, Curriculum & General Audience Programs.....8-12
Grade 4K.....14-15
Grades K-1.....16-19
Grades 2-3.....20-24
Grades 4-5.....25-30
Grades 5-12 Planetarium Programs.....31-32
Grades 6-8.....34-37
Grades 9-12.....39-43
Volunteer Opportunities.....40, 44-46
About Us and General Information.....47

Request a program at www.WaukeshaCounty.gov/Programs-Events

All programs are available at

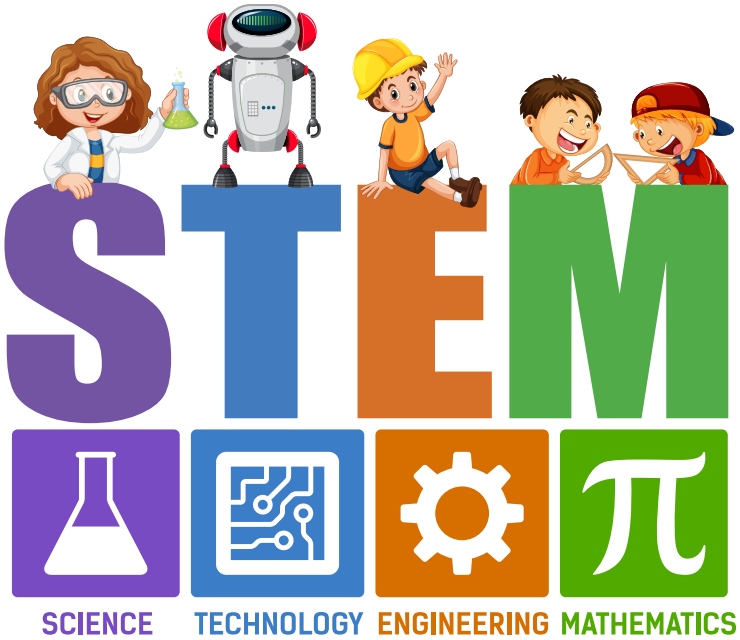
Retzer Nature Center

S14 W28167 Madison Street, Waukesha, WI 53188

unless otherwise noted and subject to change without notice.

Look for this icon throughout the guide for programs that meet **STEM objectives**!

Waukesha County has exciting STEM programs that incorporate engineering standards with an environmental theme lesson and hands-on experimentation time. Check these programs out!



Animal Adaptations
Meets Engineering Standard K-2-ETS1-2
Engineering Design

Papermaking
Meets Engineering Standard 3-5ETS1-1
Engineering Design

Even Better when Booked Together!

PLANETARIUM SHOWS IN PURPLE • NATURE CENTER PROGRAMS IN GREEN

5K
Polaris: The Space Submarine and the Mystery of the Polaris Night
&
Animal Adaptations OR Nature Storytime
(topics- Insect Investigation / Life in a Shell / Things With Wings)

Gr. 1
The Accidental Astronauts
&
Nature Storytime
(Spring Has Sprung)

Gr. 2
Dinosaur: Passage to Pangaea
OR Lila: Life Cycles and Connections
&
I Live in a Watershed
OR Incredible Water Journey

Gr. 3
Extreme Weather
OR
"Up in the Air!"

Gr. 4
Traveling with Light
&
Energy in Nature

Gr. 5
Secret Lives of Stars
&
Energy in Nature

Gr. 6-8
Seeing: A Photon's Journey Across Space, Time and Mind OR Unseen Universe OR Cosmic Colors
& Colors in Nature

Lucy's Cradle & Survival in the Prairie

Supervolcanoes & Soils- Sand, Silt & Clay OR Understanding the Glacial Landscape

Expand your educational experience with paired programs!

Request a program at www.WaukeshaCounty.gov/Programs-Events

POLICIES & FEES

Request a program at: wauk.co/programrequest

RETZER NATURE CENTER PROGRAMS

Experience your choice of programs in a single visit!

Whether it's land, water, resource management or outer space, get double the experience in one place!
Need help planning your field trip? Our staff is ready to help create a program package to suit your needs.

Advance booking is required.

Program Type	Duration	Rates	Number of students
Field Trip	1 hour	$5.00 per student	25 minimum
Field Trip	1.5 hours	$6.00 per student	25 minimum
Field Trip	2 hours	$7.00 per student	25 minimum
At-School Program	1 hour	$155.00 per program	30 maximum
Per additional at-school program within the same visit		$95.00 per program	30 maximum

RETZER CHAPERONE REQUIREMENTS: 1 adult per 10 attending students (10-20 students = 2 chaperones, 21-30 students = 3 chaperones, etc.)

RETZER NATURE CENTER PAYMENT & CANCELLATION POLICY:

- **Payment:** A deposit for 25 participants is due within 30 days of booking (or immediately if booked within 30 days of the program). The remaining balance is due 15 days after scheduled programming has occurred. Early payment in full is welcome. **If the deposit is not received within 30 days of booking, the program may be cancelled.**
- **Cancellation:** Cancellations made within 30 days of the program date are non-refundable and cannot be rescheduled. Minimum Required Deposit is non-refundable within 30 days of program date.
- **Late Cancellation:** If the customer requests a cancellation or change of date less than 48 hours prior to the program, for any reason other than listed closure policies, all program fees are forfeited.
- **School Closure:** If the school/facility closes due to unforeseen circumstances (such as inclement weather) while the County remains open, the group may receive a full refund or credit to reschedule within 365 days of cancelled event.
- **County Closure:** If the County facility closes due to unforeseen circumstances (such as inclement weather), groups may receive a full refund or program credit to be used within 365 days of cancelled event.

Payment can be made via credit card
(online or over the phone) or via check addressed to:

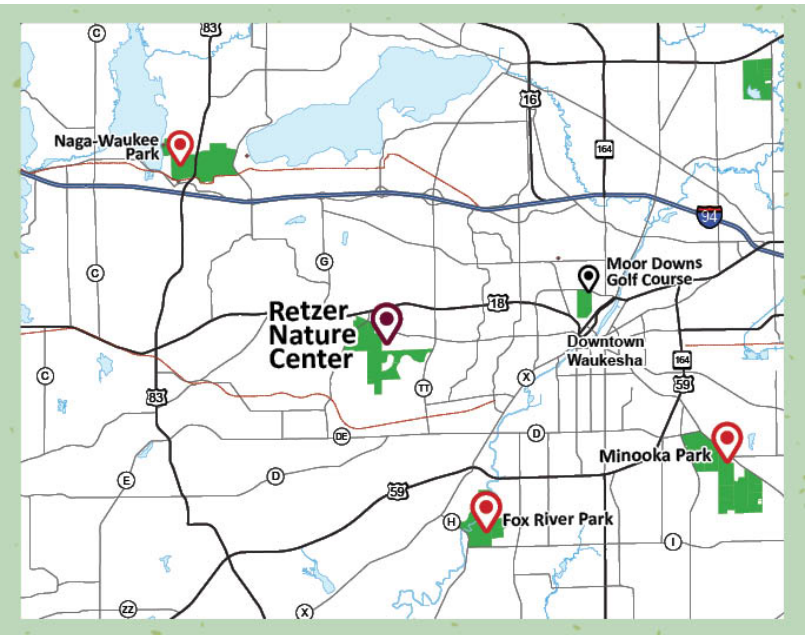
Retzer Nature Center
S14 W28167 Madison St, Waukesha, WI 53188

GRANT FUNDING ELIGIBILITY

For Retzer Nature Center programs, limited funding may be available through the Friends of Retzer Nature Center Educational Program Grant (up to $500) towards program fees or transportation.
Visit https://friendsofretzer.org/family-programs/

RETZER NATURE CENTER

Retzer Nature Center is located approximately 2½ miles west of Waukesha (halfway between Waukesha and Wales) just south of Highway 18 near the intersection of Madison Street and County Road DT.



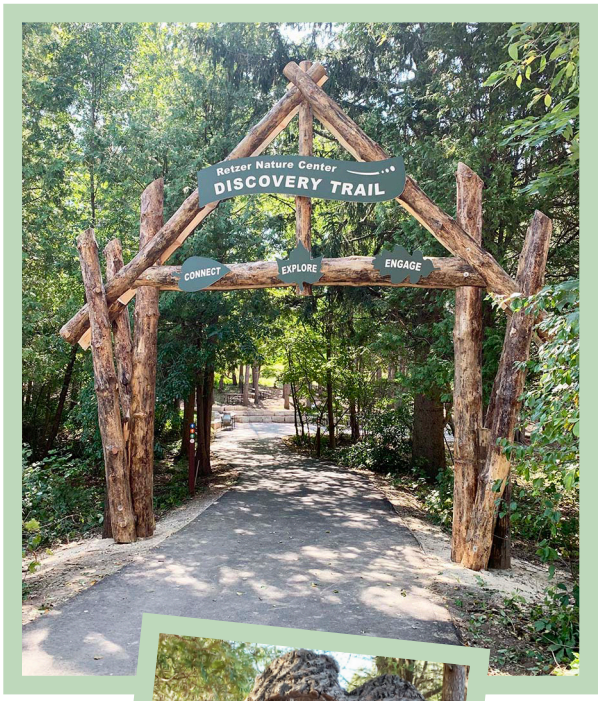
The Retzer entrance is on Madison Street, about 1/8 mile east of this intersection, on the south side of the road.

Retzer Nature Center's Discovery Trail

The Discovery Trail has expanded accessibility at Retzer Nature Center, by providing a paved trail and boardwalk to Retzer Creek. This was made possible by support from the Waukesha Rotarians, the Friends of Retzer Nature Center, Community Development Block grants, sponsors and public donors.

The accessible trail and educational features bring the wonders of the natural world to people of all abilities and levels of mobility.

The trail features a series of Exploration Stations for outdoor education, sensory-based play experiences, and STEM activities for families and school groups. The trail also includes an area for outdoor classes and events to fully immerse attendees of all abilities in nature.



RETZER NATURE CENTER NGSS STANDARDS

Grades	Program Title	Standards Addressed
K - 1	Animal Adaptations	K-LS1-1 • K-ESS3-1 • 1-LS1-2
	Animal Adapations: Animal Lab	K-2-ETS1-2
	Crystal's Clean Water Adventure	2-ESS2-3
	Papermaking	K-ESS3-3
	Recycle Raccoon Adventure Hike	K-ESS3-3
	Recycle Raccoon and Friends Discover Recycling	K-ESS3-3
	Recycling: Your Actions Matter	K-ESS3-3
	Nature Storytime	K-LS1-1 • K-ESS3-1
	Nature Storytime: Camouflaged Critters	K-2-ETS1-2 • K-LS1-1
	Nature Storytime: Colors in Nature	K-ESS3-1 • 1-LS1-2
	Nature Storytime: Life in a Shell	1-LS1-2 • K-ESS2-2 • K-2-ETS1-2
	Nature Storytime: Migration/Hibernation	K-LS1-1 • 1-LS1-2
	Nature Storytime: Things with Wings	K-ESS3-1 • 1-LS1-2 • K-2-ETS1-2
	Nature Storytime: Winter Tracks & Animal Signs	K-ESS3-1
	Nature Storytime: Pond Adventure	K-ESS3-1
	Nature Storytime: Insect Investigation	1-LS3-1
	Nature Storytime: Shapes in Nature	K-2-ETS1-2
	Nature Storytime: Spring Has Sprung	1-ESS1-2
	Nature Storytime: Terrific Trees	K-LS1-1 • 1-LS1-2
2 - 3	Animal Adaptations	2-LS4-1 • 3-LS1-1
	Animal Adapations: Animal Lab	K-2-ETS1-2
	Healthy Soils through Composting	2-ESS1-1
	Home Sweet Habitat	3-LS3-2 • 2-LS4-1
	I Live in a Watershed	2-ESS2-3
	Incredible Water Journey	2-ESS2-3 • 2-ESS1-1
	Insect Investigation	3-LS4-2 • 2-LS4-1
	Migration/Hibernation	3-LS4-3
	Nature Exploration	2-LS4-1
	Nature Exploration - Indoor	2-LS4-1
	Papermaking	3-5-ETS1-1
	Plant Adaptations	2-LS4-1 • 2-LS2-1 • 3-LS4-3
	Plants and Pollinators	2-LS2-2 • 3-LS2-1
	Plastic Recycling by Design	3-5 ETS1
	Freshwater Exploration	2-LS4-1 • 3-LS4-3
	The Weather Machine	3-ESS2-1 • 3-ESS2-2
	Winter Tracks and Animal Signs	2-LS4-1 • 3-LS2-1 • 3-LS4-3

RETZER NATURE CENTER NGSS STANDARDS

Grades	Program Title	Standards Addressed
4 - 5	Animal Adaptations	4-LS1-1
	Energy in Nature	4-ESS3-1 • 5-LS2-1
	Healthy Soils through Composting	4-ESS2-1 • 5-LS2-1
	Home Sweet Habitat	4-LS1-1 • 5-PS3-1 • 5-LS2-1
	Insect Investigation	4-LS1-1
	Migration/Hibernation	4-LS1-2 • 4-LS1-1
	Nature Exploration	4-LS1-1
	Nature Exploration - Indoor	4-LS1-1
	Plant Adaptations	4-LS1-1 • 5-LS2-1 • 5-LS1-1
	Plants and Pollinators	5-LS2-1 • 4-LS1-1
	Plastic Recycling by Design	4-SS3-1 • 5-PS1-3 • 5-ESS3-1
	Freshwater Exploration	5-LS2-1 • 4-LS1-1
	Recycling: Your Actions Matter	5-ESS3-1 • 5-PS1-3
	Understanding the Glacial Landscape	4-ESS2-1 • 4-ESS2-2
	When The Spheres Interact	5-ESS2-2
	Winter Tracks and Animal Signs	4-LS1-1
	Food Safety	5-PS3-1
6 - 8	Amazing Renewable Energy	HS-ESS3-1 • MS-PS3-3 • MS-ESS3-4
		MS-ESS3-5 • HS-ESS2-4 • MS-ESS3-1
	Colors in Nature	MS-PS4-2 • MS-LS1-4
	I Live in a Watershed	MS-ESS2-4
	Incredible Water Journey	MS-ESS3-1 • HS-ESS2-5 • MS-ESS2-4
	Invasive Species in our Ecosystems	MS-LS2-2 • MS-LS2-1
		MS-LS2-4 • MS-LS2-3
	Secret Life of Trees	MS-LS1-6
	Soils- Sand, Silt and Clay	MS-LS2-2 • MS-LS2-5
		MS-ESS3-1 • HS-ESS2-5 • MS-ESS3-3
	Stream Water Monitoring	MS-LS2-5
	Survival in the Prairie	MS-LS-4-4
	Understanding the Glacial Landscape	MS-ESS2-2
9 - 12	Engineering Alternative Energy for a Changing Climate	HS-ESS2-4 • HS-ESS3-1
		MS-ESS3-4 • HS-ESS3-5
	Hidden Threats	HS-ESS3-5 • HS-ESS3-1 • HS-LS2-7 • HS-LS2-6
	I Live in a Watershed	HS-LS2-5 • HS-LS2-6 • HS-LS2-7
	Secret Life of Trees	HS-LS1-5

PLANETARIUM PROGRAMS

The Horwitz-DeRemer Planetarium serves as a resource of current trends in astronomy for students, teachers, and the community. The state-of-the-art, 94-seat, Digistar-6 planetarium features a high-definition laser projection system complete with surround sound. Planetarium presentations include a brief tour of the current evening sky and a feature program of your choice. To view planetarium show trailers, visit http://sdwone.us/planetarium. Open captioning and Spanish open captioning is available for many shows, so please mention this option when requesting a field trip. All Planetarium shows can be booked separately or in a combination with any program held at Retzer Nature Center. See Retzer Nature Center Policies and Fees on page 6.

Program Type	Base Rates	Additional Rates
Feature Program † Includes Star Talk, see below	$125.00 up to 25 seats	$5.00 per seat
Extended Visit (30-45 minutes) Add either: 1. Make & take astronomy project 2. Second "Feature" program	$50.00 up to 25 student projects or seats	$2.00 per student project or seat
Outreach Program (At-school or within planetarium lobby) See page 9	$150-175 (60 maximum at-school or 30 maximum within planetarium lobby*)	There is a $50 upcharge for outreach groups with more than 30 participants

Maximum of 94 seats per show.
*Shows also available in Spanish, and Spanish open captioning. Bilingual Experiences require two instructors; add $50 upcharge.
† **Each Feature Program includes a Star Talk. Star Talk Options are listed below.**
Unless otherwise specified, the *What's Up: Seasonal Star Talk* will be the default Star Talk.
Total duration of a planetarium feature program and Star Talk is approximately 45 - 60 minutes.

STAR TALK OPTIONS

1. The Sun and its Family

Students take part in an interactive expedition through the solar system! Explore interesting facts about each of our closest celestial family members, the planets.

2. Tales and Tails of the Night Sky

Join us as we explore the tales of the tailed constellations of our night sky. Each animal will be highlighted during the season they become visible within the calendar year.

3. Our Natural Satellite

The moon is an object that has intrigued humans since prehistoric times. How does the moon move? Why does it go through phases? Find out as we talk about Our Natural Satellite: The Moon.

4. Our Unnatural Satellites

Since the launch of Sputnik, humans have been fascinated with altering the space around us. We will take you on a journey to view Hubble, the ISS, and James Webb along with other satellites and debris surrounding the Earth.

5. Whats Up? Seasonal Star Talk†

A basic introduction to the seasonal night sky including learning the importance of the cardinal points, significance of the north star, location of our bright planets, and a tour of current constellations.

6. Brighter World; Darker Sky

In modern times light pollution is a major concern for humans and animals alike. In this show, learn how light pollution affects us, and what you can do to help the cause!

7. Seasons and Reasons

What role does the Earth's axial tilt play when we talk about seasons? What causes day and night? Learn why all we need is a little angle on our world.

8. Scale of the Universe

People often wonder how big the Earth is. However, it would be more accurate to ask "how small is the Earth?" Our universe is massive and contains objects ranging in size from atoms to galaxies. See how we pale in comparison to the cosmos.

9. History of Astronomy

What do prehistoric humans, Copernicus, and Neil DeGrasse Tyson have in common? They were all fascinated by the cosmos. Take a tour through history and discover how the human race developed our knowledge and studies of space!

10. Beyond our Eyes

Up until 2015 all information we ever received from space was in the form of light. When you look up at the night sky you can only see a fraction of what can be seen in the entire electromagnetic spectrum. Let us take you on an expedition to shine a new light on your world and explore space in a whole different wave.

11. Space Race

From Earth's atmosphere all the way to mars, learn about the incredible feats accomplished during the space race that paved the way for future missions. "Space Race" explores the competition between the USA and the USSR, how humans landed on the moon, technology on Mars, and future missions yet to come.

12. Women in Astronomy

When we think about important people in astronomy, names such as Galileo Galilei or Edwin Hubble come to mind, but what about all the women? Amazing women such as Maria Mitchell, Jocelyn Bell Burnell, Katherine Johnson, and many more can be found in "Women in Astronomy" alongside their discoveries and contributions made throughout history.

13. Black Holes

Discover the inner workings of the universe through the life of a black hole. Explore how these large objects impact the universe around them from inside galaxies with their large gravitational influence. "Black Holes" teaches audiences the complex nature of deep space and how black holes play a part in how it all works.

PLANETARIUM OUTREACH PROGRAMS

Most outreach programs can be offered as extended visits or as At-School programs.
Please request online at: https://bit.ly/HDprogramrequestform

The Sun and Su Familia

Recommended for Pre-K through 8th grade

Our bilingual solar system program is sure to spice up childrens' vocabularies. Students take part in an interactive bilingual expedition through the solar system. Shows can be offered in English with a supplemental Spanish component or vice versa. During this program, your children will learn the English and Spanish words for our neighboring celestial bodies! In addition, each child will create a program guide to take home to enjoy. **This program is exclusively offered as a bilingual learning experience.

Tales and Tails of the Night Sky

Recommended for Pre-K through 6th grade

**This program can be offered in English, Spanish, or as a bilingual learning experience.

Join us as we explore the tales of the tailed constellations of our night sky. Each animal will be highlighted during the season they become visible within the calendar year.

Private Star Party

Recommended for all ages

Learn the basics of the night sky, how to navigate using the stars, and view the cosmos with the naked eye or through a telescope. Planetarium experts will help you to become an expert of the cosmos yourself. We encourage participants to bring their own telescopes and binoculars along to the star party. This is an outdoor event that requires clear skies.

Telescope Clinic

Recommended for 6th grade and up

During a telescope clinic, participants will learn what type of telescope you can purchase, the different types of telescopes, how to operate a telescope and point it at certain objects. Planetarium experts will teach participants the basics of the night sky, how to navigate using the stars, and view the cosmos with the naked eye or through a telescope. This program can be offered indoors or outdoors and at your location or at the planetarium.

Our Star: The Sun

Recommended Pre-K through 5th grade

Get ready for a stellar solar experience with a variety of engaging, Sun-themed activities! Choose from options like a Sun planetarium show at your location, safe solar observing, solar ovens, sunprints, and more. Activities are weather dependent, so some adjustments may be made on the day. No matter what, your group's journey will be cosmic, educational, and full of fun under the Sun!

PLANETARIUM BLV SHOW

Audio Universe: Tour of the Solar System

The audience of this 35 minute show are transported inside a special spacecraft that takes them to the European Southern Observatory's Very Large Telescope (VLT) to view the stars in the night sky, before lifting them off into space to visit the Earth, Moon, Sun and all the planets of the Solar System. Unlike traditional planetarium shows the soundtrack takes the lead role. Each of the objects in space is represented with sounds as well as being presented with the 4K resolution visuals, The audience listens to the stars appear and hear the planets orbit around their heads. This means that this show is an immersive experience that can be enjoyed irrespective of the level of vision. This planetarium full-dome show is designed to be educational for children but proves to be an entertaining experience for people of all ages.

Horwitz-DeRemer Planetarium Cancellation Policy

If the billed payment is not received within 30 days of booking, the program will be cancelled. If you cancel a program within 30 days of the program date, we reserve the right to forfeit the paid program fee or issue a credit instead of a refund. Credit must be redeemed within one calendar year unless otherwise noted.

SUGGESTED GRADE PLANETARIUM SHOW CURRICULUM

The programs highlighted below are used for the specific grade level at Waukesha Schools because they meet the listed Wisconsin Standards. Please note that these shows can only be used for the specific grade levels mentioned. Therefore, if you are teaching those Wisconsin standards at that grade level, we strongly recommend these shows for your class.

Grade Level	Program Title	Wisconsin Standards
5K	Polaris: The Space Submarine and the Mystery of the Polaris Night	K-LS1-1. Use observations to describe patterns of what plants and animals (including humans) need to survive. K-ESS3-1. Use a model to represent the relationship between the needs of different plants and animals (including humans) and the places they live. K-PS3-1. Make observations to determine the effect of sunlight on Earth's surface.
Grade 1	The Accidental Astronauts	1-ESS1-1. Use observations of the sun, moon, and stars to describe patterns that can be predicted. 1-ESS1-2. Make observations at different times of year to relate the amount of daylight to the time of year.
Grade 2	Dinosaur: Passage to Pangaea OR Lila: Life Cycles and Connections	2-ESS1-1. Use information from several sources to provide evidence that Earth events can occur quickly or slowly. 2-ESS2-1. Compare multiple solutions designed to slow or prevent wind or water from changing the shape of the land. 2-ESS2-2. Develop a model to represent the shapes and kinds of land and bodies of water in an area. 2-ESS2-3. Obtain information to identify where water is found on Earth and that it can be solid or liquid. 2-LS2-1. Plants depend on water and light to grow. Lila explores photosynthesis, sunlight, and the water cycle, helping students see how water and sunlight support plant life. 2-LS2-2. Plants depend on animals for pollination or seed dispersal. Students experience the world from the perspective of a butterfly and explore connections between plants and animals, making this a particularly good fit. 2-LS4-1. Make observations of plants and animals to compare the diversity of life in different habitats. The show travels from soil to treetops and across global habitats, highlighting different organisms and their relationships.
Grade 3	Extreme Weather	3-ESS2-1. Represent data in tables and graphical displays to describe typical weather conditions expected during a particular season. 3-ESS2-2. Obtain and combine information to describe climates in different regions of the world. 3-ESS3-1. Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.
Grade 4	Traveling with Light	4-PS3-2. Make observations to provide evidence that energy can be transferred from place to place by sound, light, heat, and electric currents. 4-PS4-2. Develop a model to describe that light reflecting from objects and entering the eye allows objects to be seen.
Grade 5	Secret Lives of Stars	5-ESS1-1. Support an argument that the apparent brightness of the sun and stars is due to their relative distances from the Earth.
Middle School Shows	Unseen Universe Lucy's Cradle Supervolcanoes	MS-PS4-1. Use mathematical representations to describe a simple model for waves that includes how the amplitude of a wave is related to the energy in a wave. MS-PS4-2. Develop and use a model to describe that waves are reflected, absorbed, or transmitted through various materials. MS-LS4-1. Analyze and interpret data for patterns in the fossil record that document the existence, diversity, extinction, and change of life forms throughout the history of life on Earth under the assumption that natural laws operate today as in the past. MS-LS4-2. Apply scientific ideas to construct an explanation for the anatomical similarities and differences among modern organisms and between modern and fossil organisms to infer evolutionary relationships. MS-LS4-4. Construct an explanation based on evidence that describes how genetic variations of traits in a population increase some individuals' probability of surviving and reproducing in a specific environment. MS-LS4-6. Use mathematical representations to support explanations of how natural selection may lead to increases and decreases of specific traits in populations over time. MS-ESS2-1. Develop a model to describe the cycling of Earth's materials and the flow of energy that drives this process. MS-ESS2-2. Construct an explanation based on evidence for how geoscience processes have changed Earth's surface at varying time and spatial scales MS-ESS2-3. Analyze and interpret data on the distribution of fossils and rocks, continental shapes, and seafloor structures to provide evidence of the past plate motions

PLANETARIUM GENERAL AUDIENCE SHOWS - 1 HOUR

100 Years of Eternity

Hardly anything has shaped the history of civilization as much as man's confrontation with the heavens. Megalithic stone circles bear witness to this, as do the astronomical origins of science in ancient Greece or the technical principles of modern high seas navigation. Even prehistoric sites tell of the important role the heavens have always played for people, whether in their practical everyday lives or as a repository for mythological imaginings spanning the generations. The planetarium is the latest representation in a long series of sites and inventions reaching far back into human history that served our preoccupation with the starry heavens and the cosmos surrounding us. On the occasion of the centennial of the invention of the projection planetarium, we embark on a journey which begins with the early cultures of mankind and leads along an ever-changing view of the heavens to the modern star theater.

A Teenager's Guide to the Galaxy*

Created and hosted by teenagers from Milwaukee schools, this unique cosmic experience takes you on a dynamic journey across the universe and through time. Science Topics Include: Black Holes, Cosmology-- Origins & Fate of the Universe, Star Cycles, Sun, Earth Origins & History, Water Origins & Chemistry. Many NASA resources were used in this production including the Hubble Deep Field galaxy images.

A to Z Astronomy: From 3 to 103!

English and Spanish open captioning available

Explore the depths of space in a wild ride through the universe! Appealing to all ages, this family romp through the galaxies includes a roller coaster ride on our huge dome, a strange stop at a black hole by Mr. Shakespeare, a talking letter with a jelly-bean universe, and a trip to Egypt to explore hieroglyphs- the origins of our letters. Don't miss any of our out-of-this-world ABC adventures! From the aurora to the zodiac, the alphabet voyage will leave you spinning for more.

The Artistic Universe

Explore fascinating connections between art and science as they both try to understand the incredible beauty and mystery that surrounds us all. Adventures include going inside Van Gogh's Starry Night painting and experiencing a fun, new version of the song Twinkle Twinkle Little Star. In short, discover how STEAM empowers STEM!

Aurora: Lights of Wonder

The northern lights, aurora borealis, produce some of the most amazing scenes you will ever witness in the sky. Most of the time these fleeting, subtle events are hardly noticeable, and photographers share time-lapse images of beauty almost too faint to see with the unaided eye. But occasionally, the aurora can fill the sky and move dramatically fast. Join us to experience amazing real-time recordings of auroral substorms that fill the sky and cover our entire dome! You will also learn what causes this spectacle, see beautiful artwork depicting mythology associated with aurora, and explore the current night sky.

Constellations! Adventures Connecting Earth & Sky

This program will circle the globe and bring these rich and engaging sky legends to life. It will explore how constellations helped organize the sky and tell time. Audiences will depart the Earth—witnessing how constellations change when traveling through the galaxy. Visitors will also marvel at how we also create wild pictures from the Moon and distant nebulae. Discover all the inspiring imaginations in the constellations!

Cosmic Questions: Answers and Mysteries

Everyone has a cosmic question! We asked museum people and local celebrities to send us their space inquiries. Explore our answers and how we handled the big mysteries like aliens, black holes, and multiverse!

Distant Worlds: Alien Life?

Explore the possibility of life on other planets. Learn the limits of biology as we know it. Imaginative visualizations of possible life forms. (No star talk during this program.)

It's About Time: Cosmic Cycles We All Live By

English and Spanish open captioning available

Time impacts us everyday -- but what is it exactly? Where does it come from? Explore these mysteries and many more. Join friendly robots Tortoise and Hare in their voyage around the Earth and beyond to discover the wild origins of time!

Lights Out: Eclipses, Whys, Wonders & Wows!

Sudden darkness during a sunny day? The moon turning deep red? Explore fascinating stories about the rare and awesome eclipses, and find out when an eclipse is coming next to a sky near you!

Request a program at www.WaukeshaCounty.gov/Programs-Events

PLANETARIUM GENERAL AUDIENCE SHOWS - 1 HOUR

Sky Wars: Battles of Discovery

Explore epic battles of change in the sky above us. Follow the struggles, as new discoveries alter our view of Earth and its place in the universe. Witness the connections, and conflicts, between astronomy and astrology. And lastly, voyage into the galaxy to glimpse how future discoveries might start new battles about the sky above!

Sunset Meditation

How do STEM workers, including NASA professionals, cope with stress? Meditation is a powerful tool for maintaining psychological health and resilience. Join us in viewing an amazing sunset as you travel from the Grand Canyon to the North Pole, ending under a night sky filled with stars with glimpses of the Northern Lights.

Surviving Space

Ever dream of rocketing into space or being an astronaut in Earth's orbit? Explore these fascinating journeys and beyond with NASA astronaut Karen Nyberg and her robot helper, S.L.O.T.H.! That's short for Space Life Operations Trainer for Humans. Join us for this fun Planetarium program for all ages.

The Solar System Show

Looking to explore way out worlds? Learn about the sun, moon, and planets; sand dunes of Mars; the red spot of Jupiter; and the rings of Saturn.

Totality!*

Total solar eclipses are a rare and beautiful phenomena, and in this new planetarium show, you will learn how eclipses happen, how to safely view one, and where these two eclipses take place. You will learn the history of eclipse watchers and how to observe safely. The next solar eclipse to cross the US is in 2045 so don't miss this one!

Treasures of the Milky Way

Treasures of the Milky Way is a captivating planetarium show where a knowledgeable pirate teaches stargazing essentials. Using star charts, cardinal points, and navigation tools, audiences learn to find constellations and celestial treasures. This show makes astronomy fun, guiding viewers to the perfect night of exploration.

** Resource guide available for these programs*

HOLIDAY SHOWS

George and Oatmeal Save Santa*

Santa Claus is missing! Mrs. Claus is worried and asks Oatmeal the snowman to help find him. Join Oatmeal and his friend, George, the planetarium wizard, as they travel the world in search of Santa. Along the way they are told constellation stories from many cultures and how to use the stars of the Big Dipper to find north. This show is particularly appropriate for young children.

Halloween: Celestial Origins

Halloween is an astronomical holiday! Learn the history of Halloween and how it fits into the seasons as a "cross-quarter day." Also explore the night sky and learn what planets, constellations, and stars will be out on your Halloween evening.

Let It Snow

Let It Snow is a treat for the eyes and ears, featuring festive full-dome video images choreographed to classic Christmas music. Enjoy seasonal tunes by Frank Sinatra, Chuck Berry, Burl Ives, and Brenda Lee, and a finale by the Trans-Siberian Orchestra. This animated show will have audiences of all ages humming and singing along to the classics associated with the holiday season.

Mystery of the Christmas Star

Journey back over 2000 years to Bethlehem as we seek to discover a scientific explanation for the star the wise men followed to find the baby Jesus. This modern retelling of the Christmas story is sure to charm and captivate audiences of all ages.

Santa's Secret Star*

What? Santa has lost his compass and can't find his way home? Sounds like a disaster in the making! Can the stars help? Learn about the day and night sky and how the stars seem to make pictures in the sky in our newest holiday show for young stargazers.

Season of Light*

Explore the reasons humans are so fascinated with lighting up our lives during the December holiday season. It's an exploration of the astronomical meanings behind seasonal traditions, including the "Star over Bethlehem".

Spooky Space

Meet the stars of Halloween counterparts in space: black holes, zombie stars, and spectacular ghostly nebulas.

Request a program at www.WaukeshaCounty.gov/Programs-Events

Make your program request online!

BOOK EARLY!

Requests can be made up to one year in advance!

- Retzer Nature Center programs
- At-Your-School programs
- High Interest Day programs
- Planetarium shows

SUBMIT YOUR REQUEST NOW:

WWW.WAUKESHACOUNTY.GOV/PROGRAMS-EVENTS

GRADE 4K

Request a program at www.WaukeshaCounty.gov/Programs-Events

RETZER NATURE CENTER PROGRAMS

Animal Adaptations

*1 hour, or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors inside Retzer Nature Center! See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

**Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.*

Recycle Raccoon and Friends Discover Recycling

*1 hour or 1.5 hours with Recycling Exhibit Tour**

Sing, dance, and discover the world of recycling with us! We'll explore the 3 Rs, learn what can be recycled, and find out where recyclables go after they leave your home. Along the way, we'll talk about what a MRF is, what happens at a landfill, and why the choices we make every day matter. Enjoy a fun story time that shows how small actions can make a big difference.

**Add the Recycling Exhibit Tour where students will learn how to "Recycle Right." Classtime rate will increase.*

Nature Storytime

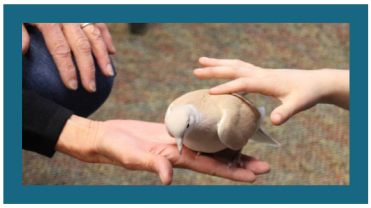
*1 hour, or 1.5 hours when adding snowshoes**

This program focuses on reading and roaming! Naturalists will share a story and lead indoor (and outdoor, when applicable) hands-on explorations designed to complement the program topic and story.

Choose a topic:

- Camouflaged Critters
- Hibernation / Migration
- Insect Investigation (Sept.-Oct. & May-June)
- Life in a Shell (turtles, snails, insects, eggs & seeds)
- Spring has Sprung (April-May)
- Terrific Trees and Leaves (Sept.-Nov. & April-June)
- Things with Wings (birds, butterflies, bees & bats)
- Winter Tracks and Animal Signs* (Nov.-March)

**Add snowshoe rental (weather dependent) for adults and students for $3 / person. Classtime rate will increase.*



AT-YOUR-SCHOOL PROGRAMS

Animal Adaptations

*1 hour or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors. See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

**Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.*

Recycle Raccoon and Friends Discover Recycling

1 hour

Sing, dance, and discover the world of recycling with us! We'll explore the 3 Rs, learn what can be recycled, and find out where recyclables go after they leave your home. Along the way, we'll talk about what a MRF is, what happens at a landfill, and why the choices we make every day matter. Enjoy a fun story time that shows how small actions can make a big difference.

Nature Storytime

1 hour

This program focuses on reading and roaming! Naturalists will share a story and lead indoor (and outdoor, when applicable) hands-on explorations designed to complement the program topic and story.

Choose a topic:

- Camouflaged Critters
- Hibernation / Migration
- Insect Investigation
- Life in a Shell (turtles, snails, insects, eggs & seeds)
- Spring has Sprung
- Terrific Trees and Leaves
- Things with Wings (birds, butterflies, bees & bats)
- Winter Tracks and Animal Signs*

PLANETARIUM PROGRAMS

3-2-1 Liftoff! Space Adventure of Elon the Hamster*

Recommended for grades 4K - 3
45 minutes

Elon is a hamster scientist who lives in a dump yard. He tries to fit in with the local rats' community, but nobody takes him seriously. The rats aren't interested in his scientific experiments which often fail in practice. One day Elon hears a crash. In his garden he finds a crater and a damaged robot inside. How did he get here? Elon fixes the robot and finds out that he fell from a spaceship which is going to prepare Mars for colonization. But the ship leaves in three days. And that's how Elon's great adventure starts. Will he manage to get the robot back to his ship before it leaves with all the robot's friends? 3-2-1 Liftoff! is a film about courage and wits you need to have to get in space and back.

Khrumka's Adventures in the Winter Forest

(only offered November 15 - January 31)
Recommended for grades 3K - 1
45 minutes

On their way through the fairy tale winter forest, little Khrumka and his friends watch the Northern Lights, witness the flight of an asteroid, admire the constellations of the winter sky. Thrilling rides, magic and surprises await them on their fantastic fulldome journey.

Little Draggy Adventure

Recommended for grades 4K - 2
45 minutes

Everyone knows his or her address, in which city and on what street he or she lives. And do you know where does the Earth live? What surrounds it? How far is it from the Earth to the Sun, and what makes our planet different from the others? Take a wonderful journey with a cheerful dragon, Woody, who travels around the Universe in search of fantastic adventures. This time the dragon arrives to the Earth where he meets a smart girl named Lena. Together Woody and Lena will introduce the children to the most interesting things about our planet and tell them about the Solar System. The show will take you to the fantastic and infinite world of stars, bright nebulas, galaxies, stars clusters, and wonderful comets.

One World, One Sky: Big Bird's Adventure*

Recommended for grades 3K - 1
45 minutes
Program also available in Spanish

Explore the night sky with our friends from Sesame Street™. Join Big Bird, Elmo, and Hu Hu Zhu as they take a trip to the Moon. Learn how the Moon differs from Earth and how to find the Big Dipper and North Star.

The Little Star That Could*

Recommended for grades 3K - 2
45 minutes (shorter version of show also available)
Program also available in Spanish

This is a story about Little Star, an average yellow star in search of planets of his own to protect and warm. Along the way, he meets other stars, learns what makes each star special, and discovers that stars combine to form star clusters and galaxies. Eventually, Little Star finds his planets and learns that being average can also be very special.

Wilbear's Adventure*

Recommended for grades 3K - 5K
45 minutes

Follow Wilbear, the Teddy Bear, as he wants to fly and discover flight. His grandpa uses demonstrations about the nature of flight to build up to the story of the Wright Brothers' historic first airplane experience. Grandpa Bear captivates audiences with tales of inventions over time, from kites and gliders to today's jet planes. The program also includes some mythology and a few winged constellations.

** Resource guide available for these programs*

Request a program at www.WaukeshaCounty.gov/Programs-Events

GRADES K-1

Request a program at www.WaukeshaCounty.gov/Programs-Events

RETZER NATURE CENTER PROGRAMS

Animal Adaptations

*1 hour, or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors inside Retzer Nature Center! See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

*Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.

Meets Engineering Standard K-2-ETS1-2 Engineering Design

Recycle Raccoon and Friends Discover Recycling

*1 hour, or 1.5 hours with Recycling Exhibit Tour**

Sing, dance, and discover the world of recycling with us! We'll explore the 3 Rs, learn what can be recycled, and find out where recyclables go after they leave your home. Along the way, we'll talk about what a MRF is, what happens at a landfill, and why the choices we make every day matter. Enjoy a fun story time that shows how small actions can make a big difference.

*Add the Recycling Exhibit Tour where students will learn how to "Recycle Right." Classtime rate will increase.

Crystal's Clean Water Adventure

1 hour

Join Crystal, the clean water drop, on an adventure hike to learn how the things we do at our homes can pollute our lakes and streams through runoff. Learn what creatures live in our waters and how pollution affects them. Students will understand how their actions matter for clean water.

Nature Storytime

*1 hour, or 1.5 hours when adding snowshoes**

This program focuses on reading and roaming! Naturalists will share a story and lead indoor and outdoor hands-on explorations designed to complement the program topic and story.

Choose a topic:

- Camouflaged Critters
- Hibernation / Migration*
- Insect Investigation (Sept.-Oct. & May-June)
- Life in a Shell (turtles, snails, insects, eggs & seeds)
- Spring has Sprung (April-May)
- Terrific Trees and Leaves (Sept.-Nov. & April-June)
- Things with Wings (birds, butterflies, bees & bats)
- Winter Tracks and Animal Signs* (Nov.-March)

**Add snowshoe rental (weather dependent) for adults and students for $3 / person. Classtime rate will increase.*

Papermaking

*1 hour, or 1.5 hours with Recycling Exhibit Tour**

Learn where paper comes from and how it is made. Make paper with wildflower seeds to plant at home. Then, head to the forest to learn what part of the tree is used to make paper products.

**Add on the Recycling Exhibit Tour where students wil learn how to "Recycle Right." Classtime rate will increase*

Recycle Raccoon Adventure Hike

*1 hour, or 1.5 hours with Recycling Exhibit Tour**

Learn about recycling and natural resources from Recycle Raccoon, Waukesha County Recycles mascot. He'll teach us what everyday actions you can do in and around your home and yard by exploring the 4 R's: Reduce, Reuse, Recycle, and Rot. There will be lots of adventure along the way!

**Add the Recycling Exhibit Tour where students will learn how to "Recycle Right." Classtime rate will increase.*

AT-YOUR-SCHOOL PROGRAMS

Animal Adaptations

*1 hour or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors. See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

**Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.*

Recycling Assembly

45 minutes

For multiple grades or groups of 75 or more

Our high-energy recycling assembly is sure to rev up your students to recycle more and to recycle right! Students take part in a lively recycling relay race along with an interactive presentation. Learn what to recycle, where recyclables go, and what recyclables become. Learn how your actions matter!

Recycling in Action!

50 minutes

Learn how your actions matter by exploring the 3 Rs, what to recycle, where recyclables go, and what recyclables become.

Nature Storytime

1 hour

This program focuses on reading and roaming! Naturalists will share a story and lead indoor (and outdoor, when applicable) hands-on explorations designed to complement the program topic and story.

Choose a topic:

- Camouflaged Critters
- Hibernation / Migration
- Insect Investigation
- Life in a Shell (turtles, snails, insects, eggs & seeds)
- Spring has Sprung
- Terrific Trees and Leaves
- Things with Wings (birds, butterflies, bees & bats)
- Winter Tracks and Animal Signs

Recycle Raccoon and Friends Discover Recycling

1 hour

Sing, dance, and discover the world of recycling with us! We'll explore the 3 Rs, learn what can be recycled, and find out where recyclables go after they leave your home. Along the way, we'll talk about what a MRF is, what happens at a landfill, and why the choices we make every day matter. Enjoy a fun story time that shows how small actions can make a big difference.

Request a program at www.WaukeshaCounty.gov/Programs-Events

PLANETARIUM PROGRAMS

Amazing Planet

Recommended for grades 1 - 4
1 hour
Why is the Earth so various and amazing? To get answers, join our interactive Quiz! We'll journey from the mind-bending beauty of coral reef shallows to the deepest depths of the Mariana Trench. Climb the highest mountain peak-Everest. And fly over the largest river in the worldAmazon. We'll take viewers on the visual ride of their lives, introducing them to our Amazing Planet.

Dinosaurs: A Story of Survival

Recommended for grades 5K - 3
1 hour
Like almost all children, Celeste is fascinated with dinosaurs. She is preparing a talk for her class about how they went extinct when Moon, a very wise and magical character, poses a tantalizing question: what if I told you that there are still dinosaurs among us? Celeste will join Moon in a journey through time. An exciting adventure that will show them the Earth as it was in a very, very distant past. They will see the fascinating transformations that these animals underwent over millions of years, creating giant creatures, armored beasts and super predators, until the day that a cataclysmic impact event caused a mass extinction on Earth. But all is not lost. Celeste will discover the key to their survival.

One World, One Sky: Big Bird's Adventure*

Recommended for grades 3K - 1
45 minutes
Program also available in Spanish
Explore the night sky with our friends from Sesame Street™. Join Big Bird, Elmo, and Hu Hu Zhu as they take a trip to the Moon. Learn how the Moon differs from Earth and how to find the Big Dipper and North Star.

** Resource guide available for these programs*

Max Goes To The Moon

Recommended for grades K - 3
45 - 60 minutes
Max (the dog) and a young girl named Tori take the first trip to the Moon since the Apollo era. Along the way, the story sets the stage for the more sophisticated science of the "Big Kid Box" sidebars, which cover topics including "Phases of the Moon," "Wings in Space?," and "Frisbees and CurveBalls of the Moon"- all thoughtfully explained so that grownups and children can learn together about science. Toward the end, Max and Tori's trip proves so inspiring to people back on Earth that all the nations of the world come together to build a great Moon colony.

Our Place in Space*

Recommended for grades 5K - 2
1 hour
This award-winning children's planetarium show introduces jungle animals and a space crossword puzzle to explore the wonders of the universe. This program will inspire your young astronomer to appreciate the beauty of the night sky.

Polaris: The Space Submarine and the Mystery of the Polar Night

5K only - Suggested Curriculum Aligned Show
1 hour
Program also available in Spanish
James, a traveling penguin from the South Pole, and Vladimir, a funny bear from the North Pole, meet on the Arctic sea ice. They become friends, talk about their respective regions and observe the stars together, wondering why the night is so long at the poles of the Earth. Novice astronomers, they are trying to solve this mystery by reasoning and observation. Thanks to the rigor of James and the inventive genius of Vladimir, their scientific adventure leads them to build an observatory and then an improvised spaceship. During a trip around the Earth, extended to Mars and Saturn, they get their answer and discover that the planets have similarities but also have differences.

PLANETARIUM PROGRAMS

Rusty Rocket's Last Blast*

Recommended for grades 1 - 4
1 hour
After decades of teaching the basics of rocket physics, Rusty Rocket has decided this will be his last blast. Still, there is one final mission to command: an introductory tour of the solar system for a new class of rocket rookies, focusing on the wide variety of planetary environments. He also emphasizes the immense distances between the planets and using cars and jets for comparison.

Secret of the Cardboard Rocket*

Recommended for grades 1 - 4
1 hour
Program also available in Spanish
Join two children on a magical journey through the Solar System, aided by a talking astronomy book, a cardboard rocket, and a vivid imagination. During this imaginative show, audiences will land on Venus, fly through the rings of Saturn, and discover the secrets of the Solar System.

Space Quiz

Recommended for grades K - 2
1 hour
"Space Quiz" is an interactive and educational film that shows the relationship between the three best known astronomical bodies- the Earth, Moon, and Sun, the solar system, and the phases of the Moon. Why is the Moon sometimes lit? What makes the Sun shine? These are just some of the questions that will be answered in this space quiz. Everyone leaves a winner because even if you didn't know all the right answers, you will have learned something! If you request this show, it will run for an entire hour, because it is three separate shows at 20 minutes each. There will be no startalk.

The Accidental Astronauts*

Grade 1 only - Suggested Curriculum Aligned Show
1 hour
Program also available in Spanish
English and Spanish open captioning available
Follow the adventures of Cy and Annie and their dog, Armstrong, as they embark on an unexpected journey into Space! Explore the Earth, Sun, and Moon system with a wise-cracking spaceship computer. See an asteroid crash into the Moon. Bounce along with them on the lunar surface. Get up close and personal with a solar storm. And gain a new appreciation of our home planet. The Accidental Astronauts is a great space adventure for all ages. Topics: stars, astronomy, science, moon, solar system, sun, earth

The Little Star that Could*

Recommended for grades 4K - 2
1 hour
Program also available in Spanish
This is a story about Little Star, an average yellow star in search of planets of his own to protect and warm. Along the way, he meets other stars, learns what makes each star special, and discovers that stars combine to form star clusters and galaxies. Eventually, Little Star finds his planets and learns that being average can also be very special.

Worlds of Curiosity*

Recommended for grades 1 - 4
1 hour
Worlds of Curiosity dives into the questions "What would it be like to live on an Earth with no Moon?" or "What if the Earth was tilted on its side (like Uranus)?" Join Mateo and Dr. Alicia Woods as they explore how our lives would be different on these Earths, discuss other hypothetical planets that could exist, and marvel at the even stranger worlds that astronomers have discovered beyond our solar system.

** Resource guide available for these programs*

Request a program at www.WaukeshaCounty.gov/Programs-Events

GRADES 2-3

Request a program at www.WaukeshaCounty.gov/Programs-Events

RETZER NATURE CENTER PROGRAMS

Animal Adaptations

*1 hour, or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors inside Retzer Nature Center! See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

**Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.*

Healthy Soils through Composting

1.5 hours

Join us to explore the importance of healthy soil. View a real soil profile, understand how soil is formed, and discover the important role of organic matter. Conduct an erosion experiment and observe compost microorganisms. Learn how to put your food waste to use through the simple act of composting and improve soil health. Students will head outside to look for some of the compost microorganisms we just learned about and see how many they can find.

Home Sweet Habitat

*1.5 hours, or 2 hours when adding snowshoes**

Explore wildlife habitats from the viewpoint of the animals that live there. Compare and contrast the different habitats observed. Students will play the role of an animal as they go in search of their animal's basic survival needs: food, water, shelter, and territory. Decide which animal would call a given location home.

**Add snowshoe rental (weather dependent) for adults and students for $3 / person. Classtime rate will increase.*

I Live in a Watershed

1.5 hours

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Incredible Water Journey

1.5 hours

Be transformed into a water drop and discover where water on earth is located and how it travels fast and slow through the water cycle. Then take a closer look at groundwater with our model and see a well being pumped as we talk about drinking water and how to protect it.

Insect Investigation

September - October and May - June

1.5 hours

Join the Retzer naturalists as we explore the most diverse and abundant animal on earth – insects! Learn what an insect is, get an up close look at some of Retzer's teaching insects and examine insect adaptations that help them survive, grow and reproduce. We'll head outside to search for insects and the signs they leave behind while we compare insect diversity in different habitats.

Migration Hibernation

September - March

*1.5 hours, or 2 hours when adding snowshoes**

Hit the trails at Retzer to see which animals stay, sleep or leave during winter. Learn about their special adaptations and strategies that help them to survive and search for their various forms of shelter and food sources. Fall will focus on departure and preparation; spring will focus on arrival and awakening.

**Add snowshoe rental (weather dependent) for adults and students for $3 / person.. Classtime rate will increase.*

Nature Exploration

*1 hour, or 1.5 hours when adding snowshoes**

On this outdoor adventure, students won't just look at nature—they will dive right into it. As we hike though the ever-changing Retzer Nature Center trails, our naturalists will transform students into real-world nature detectives. Through hands-on challenges like "I Notice" observation, "I Wonder" questions, and building "It Reminds Me Of..." explanations, we provide an engaging outdoor backdrop for scientific discovery. Every hike is a brand-new experience shaped entirely by what is blooming, buzzing, and happening on the trails!

**Add snowshoe rental (condition dependent) for students and adults for $3 / person. Class time rate will increase*

Nature Exploration - Indoor

1 hour

The indoor program program brings the "nature detective" investigative spirit indoors, shifting the focus from outdoor trails to indoor discovery stations. Through hands-on challenges like "I Notice" observation, "I Wonder" questionsm and building "It Reminds Me Of..." explanations, we provide an engaging indoor backdrop for scientific discovery.

Papermaking

*1 hour, or 1.5 hours with Recycling Exhibit Tour**

Learn where paper comes from and how it is made. Make paper with wildflower seeds to plant at home. Then, head to the forest to learn what part of the tree is used to make paper products.

**Add on the Recycling Exhibit Tour, where students will learn how to "Recycle Right." Classtime rate will increase*

Meets Engineering Standard 3-5ETS1-1 Engineering Design

Plant Adaptations

1.5 hours

Explore the plants at Retzer Nature Center to compare the diversity of plant life in different habitats. See how the physical traits of plants can help them survive as we explore the concepts of habitat and adaptation. Compare and contrast what different plants need to survive, grow and reproduce successfully in their habitat.

Plants and Pollinators

September - October & May - June

1.5 hours

Come explore what is buzzing around the blooms at Retzer Nature Center! Investigate the relationship between plants and the animals that contribute to the process of pollination. An educational but fun role-play acting out these "jobs," help students to understand this important process and find out what "buzz pollination" is all about. Hike the trails looking for what is in bloom and observe the pollinators in action.

Freshwater Exploration

1.5 hours

Explore aquatic ecosystems at Retzer Nature Center with hands-on field science. Our freshwater investigation based on current field conditions may include some of the following: Connect with reptiles and amphibians that call the pond home, get a close-up look at stream macro-invertebrates, explore Retzer's watershed by hiking our waterways, learn how you can help keep our waters clean and explore mammals that live in endangered wetlands.

Recycle Raccoon Adventure Hike

*1 hour, or 1.5 hours with Recycling Exhibit Tour**

Learn about recycling and natural resources from Recycle Raccoon, Waukesha County Recycles mascot. He'll teach us what everyday actions you can do in and around your home and yard by exploring the 4 R's: Reduce, Reuse, Recycle, and Rot. There will be lots of adventure along the way!

**Add on the Recycling Exhibit Tour where students will learn how to "Recycle Right." Classtime rate will increase*

Recycling: Your Actions Matter

1 hour

Learn how your actions matter by exploring the 4Rs-Reduce, Reuse, Recycle and Rot! Students will learn what it means to close the recycling loop during our interactive exhibit tour and hands-on composting activities.

Plastic Recycling by Design

1 hour

In this interactive program, students will investigate how recyclables are collected, sorted, then recycled. Using a hands-on density lab, students test unknown plastic samples to see whether they float or sink in different liquids, then use evidence to identify the material and design a better sorting solution.

The Weather Machine

1.5 hours

Discover the basics of the Earth's "Weather Machine" – sun, air, water, land and ice. We'll learn how the global weather machine is responsible for Wisconsin's climate and compare our climate to different regions of the world. We'll also head outside on the Retzer trails to measure current weather conditions and make predictions about our weather based on the seasons

Winter Tracks and Animal Signs

December - March

*1.5 hours, or 2 hours when adding snowshoes**

Animals leave behind a number of clues for us to find as we explore our winter world. Start indoors with a presentation on animal tracks and evidence of their adventures. Then head outdoors to hunt for some of these winter clues.

**Add snowshoes (weather dependent) for adults and students for $3 / person. Classtime rate will increase.*

AT-YOUR-SCHOOL PROGRAMS

Animal Adaptations

*1 hour, or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors. See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

**Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.*

I Live in a Watershed

45 minutes

Maximum of 30 participants

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Incredible Water Journey

1 hour

Maximum of 30 participants

Be transformed into a water drop and discover where water on earth is located and how it travels fast and slow through the water cycle. Then take a closer look at groundwater with our model and see a well being pumped as we talk about drinking water and how to protect it.

Recycling Assembly

45 minutes

For multiple grades or groups of 75 or more

Our high-energy recycling assembly is sure to rev up your students to recycle more and to recycle right! Students take part in a lively recycling relay race along with an interactive presentation. Learn what to recycle, where recyclables go, and what recyclables become. Learn how your actions matter!

Recycling in Action!

50 minutes

Learn how your actions matter by exploring the 3 Rs, what to recycle, where recyclables go, and what recyclables become.

PLANETARIUM PROGRAMS

Cosmix

Recommended for Grades 2 - 5
1 hour
Have you ever wondered how the astronauts do their job? After watching the Cosmix show it will be absolutely clear to you! But hold tight, it will be a crazy ride. You will find out what a space flight looks like and how to prepare for it. You will jump from a spinning centrifuge straight into a cosmic rocket. And where will it take you? Why, to the International Space Station!

Did an Asteroid Really Kill the Dinosaurs?

Recommended for grades 3 and up
1 hour
See dinosaurs and asteroids like never before! Did a space rock six miles wide slam into the Earth 66 million years ago and wipe out 75 percent of all species alive, including the dinosaurs? Explore impacts and cosmic collisions across the Solar System in this dynamic show.

Dinosaurs: Passage to Pangaea*

Grade 2 only - Suggested Curriculum Aligned Show
1 hour
Program also available in Spanish
This delightful claymation adventure explains some of the greatest geological events in the history of the earth: the separation of the supercontinent Pangaea. When two children embark on a geology field trip, they are thrown into a fantastic voyage where they witness incredible geological wonders and learn the mysterious process that shaped our present-day continents. From roaming the untamed prehistoric wilds to journeying to the center of the Earth, this show is the perfect educational look at the tectonic forces that forged our world.

Up in the Air: Rainbows, Aurora, Meteors, & More

Grade 3 - Suggested Alternative Curriculum Aligned Show
1 hour
"Up in the Air" celebrates the sky above! Join our two rollicking, rambunctious narrators—Air and Space—as they explore cool sky sights like rainbows, clouds, lightning and thunder, auroras, meteors, and sun dogs! (Yes, sun dogs!) Get ready to be amazed by the air you breathe every day—and by everything else that's up in the air!

Extreme Weather*

Grade 3 only - Suggested Curriculum Aligned Show
1 hour
Program also available in Spanish
Get closer than you've ever been to collapsing glaciers, out-of-control wildfires, and tornado-whipped debris while discovering the surprising connections among these powerful forces. About National Geographic: National Geographic is the world's premium destination for science, exploration, and adventure. Through their world-class scientists, photographers, journalists, and filmmakers, Nat Geo gets you closer to the stories that matter and past the edge of what's possible.

Flight Adventures*

Recommended for grades 3 and up
1 hour
Discover the science of flight through the eyes of a young girl and her grandfather as they explore how birds, kites, planes, and models fly. Learn about the history and future of flight and how NASA is discovering new and safer ways to travel with the help of future engineers and aviators—like you!

On the Blue Planet

Recommended for grades 2 - 5
1 hour
The Earth is just one of the planets orbiting the Sun, but the only one where conditions are just right to support life. How long has the Earth existed and what are the conditions that make it suitable for sustaining life? Why do penguins live in Antarctica and lions in Africa? This trip around the blue planet will help to answer these, and many more questions, about our unique and wonderful home.

Our Place in Space*

Recommended for grades 5K - 2
1 hour
This award-winning children's planetarium show introduces jungle animals and a space crossword puzzle to explore the wonders of the universe. This program will inspire your young astronomer to appreciate the beauty of the night sky.

** Resource guide available for these programs*

PLANETARIUM PROGRAMS

Rusty Rocket's Last Blast*

Recommended for grades 1 - 3
1 hour
After decades of teaching the basics of rocket physics, Rusty Rocket, has decided this will be his last blast, and he already has plans for how he will spend his free time. Still there is one final mission to command: an introductory tour of the solar system for a new class of rocket rookies focusing on the wide variety of planetary environments. Along the way, we learn Rusty is related to every famous spacecraft to explore the solar system. He also emphasizes the immense distances between the planets and using cats and jets for comparison.

Secret of the Cardboard Rocket*

Recommended for grades 1 - 4
1 hour
Program also available in Spanish
Join two children on a magical journey through the Solar System, aided by a talking astronomy book, a cardboard rocket, and a vivid imagination. During this imaginative show, audiences will land on Venus, fly through the rings of Saturn, and discover the secrets of the Solar System.

The Case of the Disappearing Planet

Recommended for grades 2 - 4
1 hour
Program also available in Spanish
English and Spanish open captioning available
The Case of the Disappearing Planet looks into the changing status of objects we call "planets." It not only covers Pluto, but the temporary planetary status of asteroids as well. The tally of "planets" in our solar system has been going up and down for hundreds of years! Have fun with this program as it features a sly, street- smart gumshoe called Skye Watcher. After a frenzied phone call from a 3rd grade teacher, she collects clues to find out what happened to Pluto. This show highlights the scientific method as well as understanding our Solar System.

** Resource guide available for these programs*

The Little Star that Could*

Recommended for grades 5K - 2
1 hour
Program also available in Spanish
This is a story about Little Star, an average yellow star in search for planets of his own to protect and warm. Along the way, he meets other stars, learns what makes each star special, and discovers that stars combine to form star clusters and galaxies. Eventually, Little Star finds his planets and learns that being average can also be very special.

Zodiac: The Stars, the Moon & the Path of the Sun

Recommended for grades 3 - 5
1 hour
This show teaches the basics of celestial movements using the planetarium as a giant teaching tool. It compares the movements of each celestial body explaining how you will find those objects in the sky throughout the different seasons, different times of the month and even that specific night.

Lila: Life Cycles and Connections*

Grade 2 only - Suggested Curriculum Aligned Show
1 hour
Program also available in Spanish
Join Lila on an epic 360° adventure through nature's interconnected networks. Students shrink to a caterpillar's size to explore photosynthesis and the water cycle, then soar as butterflies to discover the "Wood Wide Web" and connections between global habitats. From microscopic soil to the treetops, Lila: Life Cycles and Connections transforms science into an immersive journey that reveals how all living things are connected—and why protecting those connections matters.

Request a program at www.WaukeshaCounty.gov/Programs-Events

GRADES 4-5

Request a program at www.WaukeshaCounty.gov/Programs-Events

RETZER NATURE CENTER PROGRAMS

Animal Adaptations

*1 hour, or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors inside Retzer Nature Center! See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

**Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.*

Energy In Nature

1.5 hours

Learn how life on Earth is powered by the sun and see energy transferred throughout the food web. We will explore outside to look for sources of energy and learn the difference between renewable and non-renewable energy that powers our daily lives. Special emphasis will be placed on solar, geothermal and wind energy.

Home Sweet Habitat

*1.5 hours, or 2 hours when adding snowshoes**

Explore wildlife habitats from the viewpoint of the animals that live there. Compare and contrast the different habitats observed. Students will play the role of an animal as they go in search of their animal's basic survival needs: food, water, shelter, and territory. Decide which animal would call a given location home.

**Add snowshoe rental (weather dependent) for adults and students for $3 / person. Classtime rate will increase.*

I Live In A Watershed

1.5 hours

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Incredible Water Journey

1.5 hours

Be transformed into a water drop and discover where water on earth is located and how it travels fast and slow through the water cycle. Then we will take a closer look at groundwater with our model and see a well being pumped as we talk about drinking water and how to protect it.

Insect Investigation

September - October and May - June

1.5 hours

Join the Retzer naturalists as we explore the most diverse and abundant animal on earth – Insects! Learn what an insect is, get an up close look at some of Retzer's teaching insects and examine insect adaptations that help them survive, grow and reproduce. We'll head outside to search for insects and the signs they leave behind while we compare insect diversity in different habitats.

Migration/Hibernation

September - March
*1.5 hours, or 2 hours when adding snowshoes**
Hit the trails to see who you can find. Find out which animals at Retzer stay, sleep or leave during winter. Learn about their special adaptations and strategies that help them to survive and search for their various forms of shelter and food sources. Fall will focus on departure and preparation; spring will focus on arrival and awakening.

**Add snowshoe rental (weather dependent) for adults and students for $3 / person. Classtime rate will increase.*

Nature Exploration

*1 hour or 1.5 hours when adding snowshoes**
On this outdoor adventure, students won't just look at nature—they will dive right into it. As we hike though the ever-changing Retzer Nature Center trails, our naturalists will transform students into real-world nature detectives. Through hands-on challenges like "I Notice" observation, "I Wonder" questions, and building "It Reminds Me Of..." explanations, we provide an engaging outdoor backdrop for scientific discovery. Every hike is a brand-new experience shaped entirely by what is blooming, buzzing, and happening on the trails!

**Add snowshoe rental (condition dependent) for students and adults for $3 / person. Class time rate will increase*

Nature Exploration - Indoor

1 hour
The indoor program brings the "nature detective" investigative spirit indoors, shifting the focus from outdoor trails to indoor discovery stations. Through hands-on challenges like "I Notice" observation, "I Wonder" questions, and building "It Reminds Me Of..." explanations, we provide an engaging indoor backdrop for scientific discovery.

Plant Adaptations

1.5 hours
Explore the plants at Retzer Nature Center to compare the diversity of plant life in different habitats. See how the physical traits of plants can help them survive as we explore the concepts of habitat and adaptation. Compare and contrast what different plants need to survive, grow and reproduce successfully in their habitat.

Plants and Pollinators

September - October & May - June
1.5 hours
Come explore what is buzzing around the blooms at Retzer Nature Center! Investigate the relationship between plants and the animals that contribute to the process of pollination. An educational but fun role-play acting out these "jobs," help students to understand this important process and find out what "buzz pollination" is all about. Hike the trails looking for what is in bloom and observe the pollinators in action.

Freshwater Exploration

1.5 hours
Explore aquatic ecosystems at Retzer Nature Center with hands-on field science. Our freshwater investigation based on current field conditions may include some of the following: Connect with reptiles and amphibians that call the pond home, get a close-up look at stream macro-invertebrates, explore Retzer's watershed by hiking our waterways, learn how you can help keep our waters clean and explore mammals that live in and engineer wetlands.

Recycling: Your Actions Matter

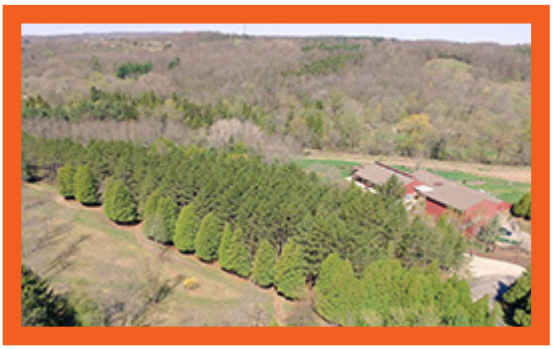
1 hour
Learn how your actions matter by exploring the 4Rs-Reduce, Reuse, Recycle and Rot! Students will learn what it means to close the recycling loop during our interactive exhibit tour and hands-on composting activities.

GRADES 4-5

Request a program at www.WaukeshaCounty.gov/Programs-Events

RETZER NATURE CENTER PROGRAMS

GRADES 4-5



Understanding the Glacial Landscape

1.5 hours

Learn to read the glacial landscape of Retzer and recognize the importance of the glaciers to our region. Students will investigate different glacial landforms and how they were created. A comparison of ice age flora and fauna to that of today's world will be explored.

When The Spheres Interact

1.5 hours

What happens when the hydrosphere, geosphere, atmosphere and biosphere interact? We'll use soil to look at some of the many interactions that occur between the spheres. Be prepared to go outside, get your hands dirty and be amazed at what goes on under your feet!

Winter Tracks and Animal Signs

December - March

*1.5 hours, or 2 hours when adding snowshoes**

Animals leave behind a number of clues for us to find as we explore our winter world. Start indoors with a presentation on animal tracks and evidence of their adventures. Then head outdoors to hunt for some of these winter clues.

**Add snowshoe rental (weather dependent) for adults and students for $3 / person. Classtime rate will increase.*

Plastic Recycling by Design

1 hour

In this interactive program, students will investigate how recyclables are collected, sorted, then recycled. Using a hands-on density lab, students test unknown plastic samples to see whether they float or sink in different liquids, then use evidence to identify the material and design a better sorting solution.

Request a program at www.WaukeshaCounty.gov/Programs-Events

AT-YOUR-SCHOOL PROGRAMS

Animal Adaptations

*1 hour or 1.5 hours with Animal Lab**

Enjoy a visit from our live animal ambassadors. See how an animal's physical and behavioral traits can help it to survive as we explore the concepts of adaptation and habitat.

**Add the 30 minute Animal Lab where students can choose stations to explore animal fur, skulls and bones, owl pellets, and create-a-critter activity where students can use colored pencils to draw a unique critter illustrating adaptations modeled by Retzer's animal ambassadors.*

Food Safety

30 - 60 minutes

Become aware of food safety and the consequences of mishandling food. Hand washing emphasized and interactive activities are available.

Healthy Soils through Composting

1 hour

Join us to explore the importance of healthy soil. View a real soil profile, understand how soil is formed, and discover the important role of organic matter. Conduct an erosion experiment and observe compost microorganisms. Learn how to put your food waste to use through the simple act of composting and improve soil health. Students will head outside to look for some of the compost microorganisms we just learned about and see how many they can find (nearby outdoor area capable of being dug into by small hand shovels required – weather dependent).

I Live In A Watershed

45 minutes

Maximum of 30 participants

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Recycling Assembly

45 minutes

For multiple grades or large groups of 75 or more

Our high-energy recycling assembly is sure to rev up your students to recycle more and to recycle right! Students take part in a lively recycling relay race along with an interactive presentation. Learn what to recycle, where recyclables go, and what recyclables become. Learn how your actions matter!

Recycling in Action!

50 minutes

Learn how your actions matter by exploring the 3 Rs, what to recycle, where recyclables go, and what recyclables become.

Water Resources*

45 minutes

For individual classes or multiple grades/large groups of 75 or more

Gain a better understanding of water in this interactive power point program. Learn where drinking water comes from and where it goes after we are done with it. Discover the difference between storm sewer and sanitary sewer. Students will learn what actions they can take to protect our water resources from runoff pollution.

PLANETARIUM PROGRAMS

Live Solar Observing

Optional to take the place of a live star talk, or add 30-minutes to field trip if both options are preferred.
FOR GRADES 4 AND UP. Following the planetarium show, planetarium educators will offer students the opportunity to use STEM equipment to observe the sun in a safe manner. In addition to using astronomy equipment, a basic explanation about telescopes and how they work will be included.

Dark Side of Light

Recommended for grades 5 - 12
1 hour
Have you admired the beautiful night sky dotted with thousands of stars above your head? Isn't it strange that the naturally dark starry night sky, the one that was a source of inspiration for your ancestors for thousands of years, is now so rare that we have to travel to designated areas to see it in its full beauty? Why and how do we as humans destroy our surroundings with light pollution? Dark Side of Light will teach us about the impact it has on humans, nature as a whole, as well as explain what we can do to keep our night skies dark.

Defying Gravity

Recommended for grades 3 - 12
1 hour
Meet Apollo Aurora, host of the Planetarium Channel's universally loved gravity news source. With robot correspondents Apple 1-6-8-6 and EGR-1, Apollo and her team explore rocket power, gravity on other planets, monstrous black holes, and even what keeps us grounded here on Earth! Tune in to uncover the mysteries of gravity!

Did an Asteroid Really Kill the Dinosaurs?

Recommended for grades 3 - 12
1 hour
See dinosaurs and asteroids like never before! Did a space rock six miles wide slam into the Earth 66 million years ago and wipe out 75 percent of all species alive, including the dinosaurs? Explore impacts and cosmic collisions across the Solar System in this dynamic show.

Forward! To the Moon*

Recommended for grades 4 - 12
1 hour
Kari Byron from Crash Test World and Myth Busters launches us on a journey beyond the Earth towards a sustainable future in space. NASA's 21st century Artemis program, named after the Greek moon Goddess and twin of Apollo, is the next step in our mission to explore the universe and land the first woman and person of color on the surface of the Moon. Produced by Fiske Planetarium in collaboration with TEND Studio with funding from NASA SSERVI and Lockheed Martin.

Mars: The Ultimate Voyage*

Recommended for grades 4 - 12
1 hour
Ever wondered what it will take for astronauts to travel to the Moon, Mars and beyond? On this long journey, what challenges will astronauts face? How will they stay motivated and healthy on their spacecraft so far away from Earth? Mars: The Ultimate Voyage, explores these questions and more!

Nine Planets and Counting*

Recommended for grades 3 - 12
1 hour
How many planets are in the Solar System? Take a tour to explore the variety of objects that populate our Solar System. Along the way, each planet is examined as well as other objects in our solar neighborhood. This show was produced just before Pluto was demoted to dwarf planet status.

Satelix

Recommended for grades 4 - 12
1 hour
They are with us all day. When we wake up, go to school, to work or for a trip, and when we spend time with our families in the evening, too. And at night? In the darkness of the night, they guard us while we sleep. Without them, we would not have navigation in our cars or mobile phones, accurate weather forecasts, and in fact many everyday items, either. Do you ask who they are? None other than artificial satellites! Satellite technologies help us every day. They are the symbol of international cooperation across the continents. And they might enable us to live on this planet for another millennium.

Secret Lives of Stars*

Grade 5 only - Suggested Curriculum Aligned Show
1 hour

Not all stars are created equal. Some are massive. Others are tiny; almost insignificant. The specific characteristics of a star will determine what type of life it will lead, how long it might live and even the type of death it will die. We will witness the amazing variety of stars and peer into their secret lives.

Star Signs

Recommended for grades 5 - 8
1 hour

The astrological signs take their names from the star patterns people found long ago in a sky they considered sacred and influential in the affairs of Earth. Although we see things differently today, we can still go outside and find these patterns in a sky filled with signs and stories of our own making. And those stars can still guide us, not from the pages of a newspaper, but in real ways that can link us with the past and lead us to the stars.

Sunstruck*

Recommended for grades 4 - 12
1 hour

Travel back to the beginning of time and experience the birth of the sun. Discover how it came to support life, how it threatens life as we know it, and how its energy will one day fade away. Audiences will gain an enhanced understanding of the Sun and how it impacts the world.

Totality: Explore the Wonder of Eclipses

Recommended for grades 4 - 5
1 hour
Program also available in Spanish

Totality. This program is all about eclipses, from lunar to total solar. We cover how they occur and what happens when they do. We look back to the proof of general relativity and look forward to upcoming eclipses and where to witness them. From spectacular space environments to humorous pop-up books. A very special part of the show relates, in a very human way, what happens when you are caught in the shadow of the Moon and the Sun is plunged into a total solar eclipse.

The Stargazer*

Recommended for grades 5 - 12
1 hour

Nichelle Nichols (Lt. Uhura of the television series Star Trek) narrates this fascinating program about stars. "Stargazer" traces the life experiences of astronomy professor Dr. James Kaler. From childhood to adult, his love for the sky shows us that there is a "human" connection to the stars. This show was funded by NASA and has accompanying materials.

Traveling with Light

Grade 4 only - Suggested Curriculum Aligned Show
1 hour
Program also available in Spanish

Through the conversation between a child and his mother, this program tackles the importance of light in all areas of our lives and presents different scenarios that reveal the complexity of light and its direct influence on our planet. The Sun is the closest star to Earth and generates the energy that provides the light and heat necessary for life. The study of the Sun's light and that of other stars and galaxies enables the development of several models that explain the origin, structure and evolution of the universe.

Two Small Pieces of Glass*

Recommended for grades 4 - 8
1 hour
Program also available in Spanish

This program celebrates 400 years since Galileo first pointed his telescope at the sky. Don't miss this fascinating look at the incredible contributions to astronomy made by Galileo and the world's greatest telescopes.

Voyage to Distant Worlds

Recommended for grades 4 - 12
1 hour

A science-rich show that includes the latest information from various observatories and robotic space probes all while you take a tour of the planets in our solar system. An original show produced by the Casper Planetarium, where you will discover facts you never knew about our neighboring worlds.

** Resource guide available for these programs*

PLANETARIUM 1-HOUR PROGRAMS, GRADES 5 - 12

SOCIAL SCIENCE

Cleopatra's Universe

Explore the truths and mysteries of Egypt's legendary queen Cleopatra. Experience the life and times of Cleopatra in dramatic fashion as you travel back in time to see stunning recreations of the Alexandria Library, Cleopatra's Palace, and the Pharos Lighthouse.

Living in Balance: Anishinaabe Star Knowledge*

This program highlights Anishinaabe stories of constellations and moons in relation to contemporary insights about environmental changes. Teachings shared by Native Skywatchers Carl Gawboy, William Wilson, and Dr. Annette S. Lee are narrated by Aarin Dokum with Anishinaabemowin translations by Alphonse Pitawanakwat set to art by Elizabeth LaPensée.

Mayan Archaeoastronomy: Observers of the Universe*

Program also available in Spanish

Learn how the Mayan temples were actually observatories that were critical to the lives of the Mayan civilization. The stars and planets became their calendar for floods, feasts, and wars. The messages they read in the stars guided all aspects of their lives. The show takes viewers on a tour of 6 Mayan temples – San Gervasio, Chichen Itzá, Uxmal, Edzná, Palenque and Bonampak – where the spectator dives into a Mayan world of knowledge about the importance of the orientations of its temples in relation to the movement of some stars like our sun, our moon and Venus.

Mexica Archaeoastronomy: Between Space and Time

Program also available in Spanish

This feature illustrates the important role played by astronomical observation for the evolution of pre-Hispanic cultures in central Mexico. They used the calendrical and astronomical knowledge inherited by the predecessor cultures to find the capital of their empire: Tenochititian. Vibrant colors, shapes and sounds transport the viewer to one of the most important cultures in Mesoamerica.

One Sky Project

Each short film represents the perspective of a different culture or Indigenous society from around the globe. Each film stands alone as a short story or in combination as a longer narrative – organized around themes of "Finding Patterns" and developing tools, or as we say, "To Seek Far."

Rising Star: A South African Astronomy Journey

Take an astronomical journey from our beginnings through the development of astronomy research in South Africa and look at what the future of astronomy holds for the country. In addition to introducing multi-wavelength and multi-messenger astronomy, the show highlights the many remarkable facilities hosted in South Africa along with some of their latest results. This includes unrestricted views of the 10-meter class Southern African Large Telescope and the most powerful radio telescope in the Southern Hemisphere, MeerKAT.

Seven Wonders

Turn back the page of time and witness the ancient wonders of the world as they appeared thousands of years ago. Explore the Great Pyramid, stand in the shadow of the towering Colossus and experience the rest of the world's Seven Wonders along with investigating how the wonders were created.

Sky Tellers: The Myths, The Magic & The Mysteries of the Universe*

Explore the mysteries of our Universe with Sky Tellers! Ten Native American myths and legends investigate the reason for day and night, why we have seasons, the origin of the stars and other wondrous phenomena of our night sky. Each narrative is accompanied by the story that scientists tell today. This is truly a story telling planetarium show with few graphics or visuals.

Stargazers of Africa*

English and Spanish open captioning available

From the dawn of time, African people have looked to the skies above for inspiration and guidance. Stargazers of Africa is a journey connecting the stars, moon, and planets to the people across this great continent- from long ago to the stargazers of today.

Stars of the Pharaohs*

This program highlights the amazing stellar alignments of the pyramids and other structures of the ancient world. Scientists describe and explain the life and power of the Pharaohs and their significance on world history.

The Mayans Cosmic Planners

Travel to ancient cities Chichén Itza and Palenque for the first time in full-dome 4K video and 3D animations to learn how the Mayans cities were planned. The film introduces the cosmovision of this ancient culture based on elements of the cosmos like the Sun, Venus, the Moon and the stars, following their position they defined much of its planning for the construction of their cities, plus their astronomical knowledge lasted by generations, forming the pillars of their culture that nowadays we are still learning to listen.

The Secret of Calakmul

Discover The Secret of Calakmul in this new full-dome show from Planetarios Digitales. Discover the mysteries around Calakmul, a Maya city lost for a thousand years under the jungle, be guided through relationships between the starry sky and the architecture as well as about the biodiversity wealth of the jungle in Campeche state, Mexico.

EARTH SCIENCE

The Cosmic Recipe: Setting the Periodic Table

The famous astronomer Carl Sagan once said: "If you wish to bake an apple pie from scratch, you must first invent the universe." Pull up a chair at the Planetarium's Periodic Table and discover how the Big Bang cooked up everyday elements such as the calcium in your teeth, the silicon in our smartphones, and even the carbon in our apple pies!

Drifting North – Into the Polar Night

Join scientists on an ice floe in the middle of the Arctic Ocean as they race fading light to set up one of the most ambitious international climate collaborations ever, MOSAiC, the Multidisciplinary Drifting Observatory for the Study of Arctic Climate. Now, in 360°, you can experience the first three months of the year-long expedition as darkness descends, storms swirl, and scientists work to gather data from a harsh and unforgiving environment.

Drifting North – The Arctic Pulse

Follow an international team of scientists from over twenty countries who embark on an epic year-long expedition to the Central Arctic, MOSAiC. The Multidisciplinary Drifting Observatory for the Arctic Climate (MOSAiC) team froze the German Icebreaker R/V Polarstern into the sea ice for a year. For a year, the team drifts with an ice floe and strives to understand the Arctic climate system and its future.

Our Violent Planet

This program features some of the most catastrophic natural events our world will ever occur. We live out our lives on our planet's fractured crust "plates" that pull apart, collide, grind past each other, and even sink below one another, producing violent earthquakes, volcanic eruptions, and catastrophic walls of water known as tsunamis.

** Resource guide available for these programs*

LIFE SCIENCE

A Place Like No Other

This program takes you all over the state to experience Alaska in a way few ever will. In addition to the animals of Round Island, you'll learn about polar bears, salmon, and other iconic Alaska species. You'll also learn about the roles these animals play in the lives of Alaskans. As the climate changes in the Arctic, scientists are studying how our state is being affected, and what the future holds.

DinoSoars! Change Over Time

Perhaps the most astounding discovery about dinosaurs is that they are still around today - and not just in the movies. Birds are living dinosaurs! Follow the story of Malkia, a museum paleontologist, as she explores fascinating connections between birds and dinosaurs.

Dynamic Earth*

This program explores the inner workings of Earth's climate system. Follow a trail of energy that flows from the Sun into the interlocking systems that shape our climate: the atmosphere, oceans, and the biosphere.

Mysteries of Your Brain

Mysteries of Your Brain takes you on an immersive, animated adventure into the human brain, exploring how the brain works and what makes human brains so special. Your tour guides on this journey are a curious girl and her crow companion. You'll learn how your brain makes you YOU and that, ultimately, we each have the power to change our brains.

Space Aliens: Looking for Life in the Universe

Join the alien "experts" – Hopeful and Skeptical – as they try to convince each other whether or not life exists beyond Earth. Follow their astrobiology arguments from the ocean floor to a journey across the galaxy. Water and "habitable zone" are explained in this exciting show.

The Sun, Our Living Star*

The Sun is our nearest star and our planet's powerhouse, the source of the energy that drives our winds, our weather and all life. Discover the secrets of our star and experience never-before-seen images of the Sun's violent surface.

Beyond Our Senses: Bank Swallows*

Each spring, thousands of Bank Swallows return to the Lake Michigan bluffs, forming cliffside colonies and raising their young in a brief window of time. "Beyond Our Senses" invites audiences to experience their world—one of vivid colors, slowed time, and aerial precision, unveiling the hidden forces that shape their survival.

GRADES 6-8

Request a program at www.WaukeshaCounty.gov/Programs-Events

RETZER NATURE CENTER PROGRAMS

Amazing Renewable Energy

2.5 hours
Retzer Nature Center and Planetarium fees apply
Minimum of 20 participants required, Maximum of 50 participants

Understand renewable and nonrewable energy sources and how we can minimize negative enviornmental impact using alternative forms of energy. Explore thermal energy transfer and discover how energy from the earth can be used to help heat and cool buildings. Learn how energy from the sun can be used to create electricity and how recycling and consumer choices save energy. See the Planetarium show Dynamic Earth that explores the inner workings of earth's climate system.

Colors in Nature

September - October and April - June
2.5 hours
Retzer Nature Center and Planetarium fees apply

This field experience is designed to last a half day with students participating in two rotations. In one rotation, students will observe how light waves interact through natural materials including feathers, leaves, furs and flowers and conduct a scavenger hunt focusing on the function of colors in nature. The second rotation is a planetarium visit to see the show Cosmic Colors: An Adventure Along the Spectrum.

I Live in a Watershed

1.5 hours

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Incredible Water Journey

1.5 hours

Be transformed into a water drop and discover where water on earth is located and how it travels fast and slow through the water cycle. Then we will take a closer look at groundwater with our model and see a well being pumped as we talk about drinking water and how to protect it.

Invasive Species in our Ecosystems

1.5 hours

Students will learn about terrestrial and aquatic invasive species threatening the ecosystems of Southern Wisconsin. Identification of plant and animal invasive species, their origins, and their control methods will be discussed.
This program will provide training for invasive species identification and management that may be applied at Retzer during the course of the program, or taken back to your school.

Nature Exploration

*1 hour, or 1.5 hours when adding snowshoes**

On this outdoor adventure, students won't just look at nature—they will dive right into it. As we hike though the ever-changing Retzer Nature Center trails, our naturalists will transform students into real-world nature detectives. Through hands-on challenges like "I Notice" observation, "I Wonder" questions, and building "It Reminds Me Of..." explanations, we provide an engaging outdoor backdrop for scientific discovery. Every hike is a brand-new experience shaped entirely by what is blooming, buzzing, and happening on the trails!

*Add snowshoe rental (condition dependent) for students and adults for $3 / person. Class time rate will increase

Nature Exploration - Indoor

1 hour

The indoor program brings the "nature detective" investigative spirit indoors, shifting the focus from outdoor trails to indoor discovery stations. Through hands-on challenges like "I Notice" observation, "I Wonder" questions, and building "It Reminds Me Of..." explanations, we provide an engaging indoor backdrop for scientific discovery.

Secret Life of Trees

1.5 hours

Discover the hidden communication system that exists in our forests. Learn how to recognize and describe characteristics that differentiate trees. Take a hike in the forest and learn how to use a dichotomous key to identify a variety of trees.

Soils- Sand, Silt and Clay

1 hour

View a soil profile and learn about soil layers and their formation. Discuss the differences in particle size of sand, silt and clay. Then get your hands dirty by texturing soil samples to feel the difference. Classify each sample using a textural triangle.

Stream Water Monitoring

1.5 hours

Students will measure turbidity, dissolved oxygen and temperature at the stream and discuss the importance of each. Then students will collect macroinvertebrates and calculate a biotic index. These basic measurements will give insight into the water quality of the stream. We can bring the stream to your classroom if you don't have access to a site.

Survival in the Prairie

*2 hours, or 3 hours with Planetarium show add-on**

Observe the differences between four distinct ecosystems – prairie, field, pine plantation, and forest and make connections to the life cycles and adaptations that have taken place over time. Students will investigate ecosystem succession, compare biodiversity between different ecosystems, and observe plant and animal adaptations up close to see how organisms' traits help them survive and reproduce.

**Add-on the Planetarium show Lucy's Cradle: The Birth of Wonder that explores the long-term changes that spurred human development and migration. Planetarium fees apply.*

Understanding the Glacial Landscape

1.5 hours

Learn to read the glacial landscape of Retzer and recognize the importance of the glaciers to our region. Students will investigate different glacial landforms and how they were created. A comparison of ice age flora and fauna to that of today's world will be explored.

Plastic Recycling by Design

1 hour

In this interactive program, students will investigate how recyclables are collected, sorted, then recycled. Using a hands-on density lab, students test unknown plastic samples to see whether they float or sink in different liquids, then use evidence to identify the material and design a better sorting solution.

Request a program at www.WaukeshaCounty.gov/Programs-Events

AT-YOUR-SCHOOL PROGRAMS

Food Safety*

30 - 60 minutes

Become aware of food safety and the consequences of mishandling food. Hand washing emphasized and interactive activities are available.

I Live in a Watershed*

1 hour

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Incredible Water Journey*

1 hour

Be transformed into a water drop and discover where water on earth is located and how it travels through the water cycle. Then we will take a closer look at groundwater with our model and see a well being pumped as we talk about drinking water and how to protect it.

May be eligible for grant funding (see page 6)

Soils- Sand, Silt and Clay*

45 minutes

View a soil profile and learn about soil layers and their formation. Discuss the differences in particle size of sand, silt and clay. Then get your hands dirty by texturing soil samples to feel the difference. Classify each sample using a textural triangle.

Stream Water Monitoring*

1.5 hours at your school or local stream

Students will measure turbidity, dissolved oxygen and temperature at the stream and discuss the importance of each. Then students will collect macroinvertebrates and calculate a biotic index. These basic measurements will give insight into the water quality of the stream. We can bring the stream to your classroom if you don't have access to a site.

Recycling and Solid Waste 101

50 minutes

Understand the recycling process and its relationship to natural resources, pollution prevention and energy savings. Compare landfilling to recycling. Find out how Wisconsin's recycling law works, and the importance of reducing waste to minimize the negative impact on our planet.

PLANETARIUM PROGRAMS

Ask an Astronomer with Dr. Bob Benjamin

Professor, University of Wisconsin-Whitewater

Star talk (10-15 minutes) followed by astronomy question-and-answer session with your students (Recommended for grades 6 - 12) Three star talk options:

- The Milky Way Unveiled- Dr. Bob will update students on his work with NASA and on the state of our home galaxy, Our Milky Galaxy.
- Citizen Science in Astronomy- Students will learn how students in your classes can get involved in ground-breaking research by participating in a Citizen Science project that he has developed.
- Death from the Skies- Dr. Bob will add a short 10-15 minute presentation on two major threats to human civilization: super volcanoes and asteroid strikes. He will talk about the history of these kinds of events on our planets and what we are doing to make sure that humans can survive the next threat

Back to the Moon for Good*

Recommended for grades 6 - 12, 1 hour

This show opens with the first era of space exploration in the late 1960s and early 1970s. We see what that era of landers and orbiters taught us about our nearest neighbor including the discovery of the Moon's origin, composition, structure, and the accessibility of raw materials on its surface. The Google Lunar XPRIZE is designed to democratize space and create new opportunities for eventual human and robotic presences on the Moon. We see the engineering and innovation steps taken by the international distributed teams competing to land a spacecraft on the Moon and vie for additional prizes. We highlight the human spirit of competition and collaboration as teams take on this audacious challenge. Who will win the $30 million Google Lunar XPRIZE? The audience is taken through a successful launch, landing and lunar surface travel. The show ends with a stunning glimpse of a plausible scenario for our future on the Moon.

PLANETARIUM PROGRAMS

Big Astronomy: People, Places and Discoveries!*

Recommended for grades 6 - 12
1 hour
This planetarium show will take audiences to cutting-edge telescopes in the remote mountains of Chile and introduce people who make sure these instruments operate day and night, unlocking the secrets of the universe. Explore ALMA, VLT, and the new Veta Rubin Observatory (formerly LSST) and how these incredible facilities are changing our view of the cosmos.

CapCom Go: The Apollo Story*

Recommended for grades 6 - 12
1 hour
An immersive, historical documentary that showcases the achievements of the Apollo program and what it took to put the first human on the Moon. It introduces a new generation to the immense challenges they overcame and will inspire them to become the explorers, designers, engineers, thinkers and dreamers of the future.

Cosmic Castaways*

Recommended for grades 6 - 12
1 hour
There are places where the night sky has no constellations. NO Orion, no Big Dipper, nothing but a few lonely, far away stars and a few faint, ghostly patches of light. Most stars lie within the crowded boundaries of galaxies, travellling with their brothers and sisters in a vast galactic family. But some find themselves on their own, deep within voids between the galaxies. These are the cosmic castaways.

Cosmic Colors: An Adventure Along the Spectrum*

Recommended for grades 5 - 12
1 hour
Cosmic Colors will take you on a wondrous journey across the entire electromagnetic spectrum. Discover why the sky is blue and why Mars is red. Take a tour within a plant leaf and journey inside the human eye. Investigate x-rays by voyaging to a monstrous black hole and then back at your doctor's office. You will even see the actual color of a dinosaur-based on recent evidence. Get ready for an amazing adventure under a rainbow of cosmic light!

Cosmic Mashups: Gravity, Galaxies and Supermassive Black Holes

Recommended for grades 6 - 12
1 hour
Supermassive black holes are found in most galaxies and we're beginning to uncover how the merging of galaxies activates galactic centers.

Exoplanets

Recommended for grades 6 - 8
1 hour
This show is a fulldome planetarium show about the planets outside our solar system and the methods used to find them by astronomers.

Galileo: The Power of the Telescope

Recommended for grades 6 - 12
1 hour
This beautiful and historic program, produced by the Daniel Soref Planetarium at the Milwaukee Public Museum, celebrates 400 years of telescope viewing. The program also examines the fascinating life and scientific accomplishments of Galileo.

Lucy's Cradle*

Suggested Curriculum Aligned Show for Middle School Only
1 hour
Over a hundred planets and moons of all sizes orbit the sun, yet only Earth has intelligent life, or perhaps any life at all. What are the required conditions to foster life? Solar energy, a protective atmosphere, liquid water, but maybe much more. The record of Earth's past shows long-term stability, punctuated by moving continents, periods of rising and falling ocean and ice ages followed by global warming. What combination of environmental variation and stability is required for life to begin and to become intelligent?

** Resource guide available for these programs*

PLANETARIUM PROGRAMS

Red-Eye to the Stars- the Flying Observatory to SOFIA

Recommended for grades 6-12
1 hour

On a clear evening, a jumbo jet takes off heading into the sunset on California's Pacific coast. Once the Boeing 747SP has reached its cruising altitude in the stratosphere, a hatch in the back of the plane opens to reveal the view into the depths of space. "SOFIA", the Stratospheric Observatory For Infrared Astronomy, gathers thermal radiation from distant celestial objects unobstructed by the water vapor in the Earth's atmosphere. Among other things, it can be used to observe the nurseries of young stars in distant gas nebulae that remain hidden in the spectrum of visible light. Our production team was able to shoot impressive full-dome videos during two flights with SOFIA in September 2018, allowing you to experience the flight almost live. Join our team on a red-eye flight aboard the flying observatory SOFIA to unravel the mysteries of star birth from 50,000 feet above the sea.

Unseen Universe

Suggested Curriculum Aligned Show for Middle School Only

This exciting show looks into cutting edge astronomy features the Event Horizon Telescope and the first image of a black hole ever captured. For millions of years our view of the heavens has been limited by our eyes, allowing us to only see a narrow band of electromagnetic radiation we call visible light. For the first time ever, in the greatest breakthrough since the invention of the telescope, we now have the technology to capture the Universe over an amazing width of the spectrum and beyond. We can even interlink telescopes around the world to capture data on a global scale. Unseen Universe provides a stunning visual treat as we explore the latest splendors of the heavens and makes what was once thought to be unseeable, seeable.

Seeing: A Photon's Journey Across Space, Time and Mind*

1 hour

Ride a photon across the galaxy to your mind's eye and experience how we see. "SEEING!" follows a photon's creation and journey across the galaxy to a young stargazer's eye.

The viewer follows the photon into the girl's eye, learning the structures of the eye and their functions, prior to taking a ride on the optic nerve. Seeing uses hemispheric 2D and 3D animations and video to teach how human vision works.

Supermassive Black Holes- Uncovering the Invisible

Recommended for grades 6 - 12
1 hour

Leading scientists in observational and theoretical studies of black holes and galaxies, industrial experts in cutting-edge big technologies, and professionals in science dissemination have been brought together to set up research projects which will combine the latest state-of-the-art observations, numerical simulations and innovative analytic tools to compare theory with observation, and shed light on the physics of black hole formation in the context of galaxy evolution.

Supervolcanoes*

Suggested Curriculum Aligned Show for Middle School Only
1 hour

Feel the Heat! Supervolcanoes explores rare types of volcanic eruptions that marshal the energy that lurks, like a sleeping dragon, beneath the surface of planet Earth. The story of these big blow outs is a tale of havoc and mayhem: mass extinctions, climate collapses, and violence beyond anything humans have ever witnessed. In this unique immersive experience, audiences will explore the impact of volcanism on Earth and other worlds in our solar system. Can a supervolcano erupt in our own time? The answer is surprisingly close to home.

The First Stargazers

Recommended for grades 6 - 12
1 hour

Investigate the mysterious alignments of the pyramids. Travel to Stonehenge and other giant astronomical sites to see the incredible structures, made by the first stargazers.

** Resource guide available for these programs*

GRADES 6-8

Join our team as a Retzer

TEACHING NATURALIST

Retzer Nature Center

WHO is it for?

Adults who enjoy nature, working with kids, and want to volunteer at Retzer Nature Center.

WHAT is it?

RTN volunteers assist in leading Environmental Education programs and help at Special Events.

WHEN is it?

Free RTN training and assisting with programs is flexible according to your interest & availability.

WHERE is it?

Programs are held at the Retzer Environmental Learning Center, and off-site at area schools, daycares and parks.

WHY volunteer?

Be part of an amazing team of educators who love nature and engaging with others!

Complete an individual interest form:

www.waukeshacounty.gov/parkvolunteers

GRADES 9-12

Request a program at www.WaukeshaCounty.gov/Programs-Events

RETZER NATURE CENTER PROGRAMS

Additional Retzer Nature Center programs for grades 9-12 can be adapted from all grades 6-8 programs.

Engineering Alternative Energy for a Changing Climate

2.5 hours

Retzer Nature Center and Planetarium fees apply

Students will rotate through three stations where they will develop a deeper understanding of alternative energy applications. Stations include a tour of Retzer's geothermal heating and cooling system, a look at the Eco-house's solar panel to learn how sunlight is captured to create energy and the planetarium show, Dynamic Earth, that explores the inner workings of Earth's climate system.

Hidden Threats

3 hours

Retzer Nature Center and Planetarium fees apply

Students will explore local threats to the land and water, their impacts, and how these threats may be mitigated. Students will investigate terrestrial and aquatic invasive species threatening the ecosystems of southern Wisconsin. In addition, students will use a watershed model to see what threats to water quality are affecting our waters and how they get there. This program includes a planetarium show, Dynamic Earth, that explores the inner workings of Earth's climate system.

I Live in a Watershed

1.5 hours

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Incredible Water Journey

1.5 hours

Discover where water on earth is located and how it travels fast and slow through the water cycle. Then we will take a closer look at groundwater with our model and see a well being pumped as we talk about drinking water and how to protect it.

Nature Exploration

*1 hour or 1.5 hours when adding snowshoes**

On this outdoor adventure, students won't just look at nature—they will dive right into it. As we hike though the ever-changing Retzer Nature Center trails, our naturalists will transform students into real-world nature detectives. Through hands-on challenges like "I Notice" observation, "I Wonder" questions, and building "It Reminds Me Of..." explanations, we provide an engaging outdoor backdrop for scientific discovery. Every hike is a brand-new experience shaped entirely by what is blooming, buzzing, and happening on the trails!

*Add snowshoe rental (condition dependent) for students and adults for $3 / person. Class time rate will increase

Nature Exploration - Indoor

1 hour

The indoor program brings the "nature detective" investigative spirit indoors, shifting the focus from outdoor trails to indoor discovery stations. Through hands-on challenges like "I Notice" observation, "I Wonder" questions, and building "It Reminds Me Of..." explanations, we provide an engaging indoor backdrop for scientific discovery.

Secret Life of Trees

1.5 hours

Discover the hidden communication system that exists in our forests. Learn how to recognize and describe characteristics that differentiate trees. Take a hike in the forest and learn how to use a dichotomous key to identify a variety of trees.

Soils- Sand, Silt and Clay

1 hour

View a soil profile and learn about soil layers and their formation. Discuss the differences in particle size of sand, silt and clay and how those differences affect the characteristics of that soil. Then get your hands dirty by texturing soil samples to feel the difference. Classify each sample using a textural triangle.

Understanding the Glacial Landscape

1.5 hours

Learn to read the glacial landscape of Retzer and recognize the importance of the glaciers to our region. Students will investigate different glacial landforms and how they were created. A comparison of ice age flora and fauna to that of today's world will be explored.

Stream Water Monitoring

1.5 hours

Students will measure turbidity, dissolved oxygen, and temperature at the stream and discuss the importance of each. Then students will collect macroinvertebrates and calculate a biotic index. These basic measurements will give insight into the water quality of the stream.

AT-YOUR-SCHOOL PROGRAMS

Food Safety

30 - 60 minutes

Become aware of food safety and the consequences of mishandling food. Hand washing emphasized and interactive activities are available.

I Live in a Watershed

45 minutes

Our watershed model provides a hands-on, interactive demonstration of the sources and effects of runoff pollution. Students will learn about the watershed they live in and see how it connects... all the way to the ocean! By the end of this program, students will understand what a watershed is, how it functions and how they are part of it.

Incredible Water Journey

1 hour

Discover where water on earth is located and how it travels through the water cycle. Then we will take a closer look at groundwater with our model and see a well being pumped as we talk about drinking water and how to protect it.

Soils- Sand, Silt and Clay

1 hour

View a soil profile and learn about soil layers and their formation. Discuss the differences in particle size of sand, silt and clay and how those differences affect the characteristics of that soil. Then get your hands dirty by texturing soil samples to feel the difference. Classify each sample using a textural triangle.

Stream Water Monitoring

1.5 hours at your school or local stream

Students will measure turbidity, dissolved oxygen, and temperature at the stream and discuss the importance of each. Then students will collect macroinvertebrates and calculate a biotic index. These basic measurements will give insight into the water quality of the stream.

Composting from Start to Finish

45 minutes

Learn how to create and use your own compost. Look at different compost bin styles that you can build and buy. Understand how compost works to improve the health of your soils for lawns and gardens.

Green Cleaning Workshop

45 minutes

We strive to keep our homes clean and healthy, but sometimes use toxic chemicals to do so. Is there a safer way? Find out what common household ingredients can be used to keep your home healthy, clean and safe.

Home Makeover: Green Edition

45 minutes

Whether you're looking to green your home, your lawn, or wallet- we'll cover them all! Learn ways to live a comfortable and sustainable lifestyle from recycling right to lawn care.

Recycling and Solid Waste 101

50 minutes

Description: Understand the recycling process and its relationship to natural resources, pollution prevention and energy savings. Compare landfilling to recycling. Find out how Wisconsin's recycling law works, and the importance of reducing waste to minimize the negative impact on our planet.

Recycling: Up Close and Personal

45 minutes

We use a lot of finite resources. Discover the numbers behind consumption on a global and nationwide scale and how you can reduce this number. Find out what happens to many of these materials and how recycling helps us manage much of what we consume.

Request a program at www.WaukeshaCounty.gov/Programs-Events

PLANETARIUM PROGRAMS

Ask an Astronomer with Dr. Bob Benjamin

Professor, University of Wisconsin-Whitewater

Star talk (10-15 minutes) followed by astronomy question-and-answer session with your students (Recommended for grades 6 - 12)

Three star talk options:

- The Milky Way Unveiled- Dr. Bob will update students on his work with NASA and on the state of our home galaxy, Our Milky Galaxy.
- Citizen Science in Astronomy- Students will learn how students in your classes can get involved in ground-breaking research by participating in a Citizen Science project that he has developed.
- Death from the Skies- Dr. Bob will add a short 10-15 minute presentation on two major threats to human civilization: super volcanoes and asteroid strikes. He will talk about the history of these kinds of events on our planets and what we are doing to make sure that humans can survive the next threat

5,000 Eyes- Mapping the Universe with DESI*

Recommended for grades 9 - 12

1 hour

This program opens with a view of a CLUES dark matter simulation. This simulation shows dark matter as a glowing, evolving web where galaxies form and interact with each other. These motions happen on timescales much longer than a human lifetime so we can't actually watch it happen in real time. However, there is a way for astronomers to look back in time... The screen fades to a sunset on Kitt Peak and DESI, the Dark Energy Spectroscopic Instrument, is introduced. DESI is mapping out the positions of millions of galaxies to see what the largest structures in the universe look like and how they evolve.

Chasing the Ghost Particle: SP to the Edge of the Universe

Recommended for grades 9 - 12

1 hour

Deep in the ice at the heart of Antarctica, IceCube, the biggest and strangest detector in the world waits for mysterious messengers from the cosmos. Scientists are using tiny, elusive particles called neutrinos to explore the most extreme places in the universe. These ghostly neutrinos give us an exclusive way to study powerful cosmic engines like exploding stars and black holes.

** Resource guide available for these programs*

Cosmology

Recommended for grades 9 - 12

1 hour

The study of our universe is as old as time, yet our understanding of the origins and nature of the universe is less than 100 years old. This fulldome planetarium program, written and produced by high school and college students is an overview of the science of cosmology. From our earliest theories about the size of the universe to the big bang theory, this show details how our understanding has evolved over time.

Einstein's Gravity Playlist

Recommended for grades 9-12

1 hour

What are gravitational waves? How are these ripples in space-time created? Albert Einstein predicted their existence in 1916, and a century later, scientists detected these waves using incredibly precise laser technology here on Earth. See the Laser Interferometer Gravitational-Wave Observatory (LIGO) and Lucia, a PhD student in physics, on an exploration of gravitational waves and their importance in helping understand the universe.

Galaxies

Recommended for grades 6-12

1 hour

Add-on to your show! This is a full-dome, 15-minute introduction to galaxies. It talks about the classifications and history of galaxies throughout time.

GRADES 9-12

Request a program at www.WaukeshaCounty.gov/Programs-Events

PLANETARIUM PROGRAMS

Dark: Understanding Dark Matter

Recommended for grades 9 - 12
1 hour
English and Spanish open captioning available

DARK is a fulldome movie that explains and explores the nature of dark matter, the missing 80% of the mass of the Universe. The search for dark matter is the most pressing astrophysical problem of our time – the solution to which will help us understand why the Universe is as it is, where it came from, and how it has evolved over billions of years – the unimaginable depths of deep time, of which a human life is but a flickering instant. But in that instant, we can grasp its immensity, and through science, we can attempt to understand it. The movie is presented by Dr. Alan Duffy, a brilliant young astronomer from the International Centre for Radio Astronomy Research (ICRAR) at the University of Western Australia – who creates simulations of dark matter evolution inside supercomputers. Alan introduces us to the idea of dark matter, why astronomers think it exists, and explains why radio astronomy is so well-suited to its discovery. We explore why the new Australian Square Kilometre Array Pathfinder (ASKAP) Telescope, currently under construction in remote Western Australia, will be so important in this scientific quest. But this is only the beginning. We journey through completely immersive visualizations of dark matter evolution calculated upon some of the world's fastest supercomputers – cosmological visions on a truly vast scale, in which galaxies themselves are but points of light, distributed across far larger intergalactic structures of Dark Matter. These visualizations, developed by Paul Bourke, demonstrate the cutting-edge of contemporary supercomputer visualization of massive scientific datasets and astrophysical simulation. It sounds like Science Fiction, but it's not. It's the real stuff. Real Data, seen in this way for the very first time.

Europe to the Stars

Recommended for grades 9 - 12
1 hour

Europe to the Stars takes the viewer on an epic journey behind the scenes at the most productive ground-based observatory in the world, revealing the science, the history, the technology and the people. It is a story of observing a Universe of deep mysteries and hidden secrets and of designing, building and operating the most powerful ground-based telescopes on the planet. The movie focuses on the essential aspects of an astronomical observatory, while offering a broader view of how astronomy is done.

From Earth to the Universe*

Recommended for grades 9 - 12
1 hour

Using sparkling sights and sounds, this voyage through space and time conveys the universe revealed to us by science. Viewers can revel in the splendor of the worlds in the Solar system and our scorching Sun. The show takes the audience out to the colorful birthplaces and burial grounds of stars, and still further out beyond the Milky Way to the unimaginable immensity of a myriad of galaxies. Along the way, the audience will learn about the history of astronomy, the invention of the telescope, and today's giant telescopes that allow us to probe even deeper into the Universe.

IBEX: Search for the Edge of the Solar System*

Recommended for grades 9 - 12
1 hour

Join scientists who are investigating the boundary between our Solar System and the rest of our galaxy. Follow the creation of NASA's Interstellar Boundary Explorer (IBEX) and get an in-depth look at the mission and how IBEX is collecting high-speed atoms to create a map of our Solar System's boundary. Narrated by two inquisitive teenagers, audiences will hear from the scientists and engineers that developed the IBEX mission and created the spacecraft, and get the latest updates on the mission's discoveries.

PLANETARIUM PROGRAMS

Out There: The Quest for Extrasolar Worlds

Recommended for grades 6 - 12
1 hour

For thousands of years, mankind thought that the Earth was the center of the Universe. Thanks to our curiosity, imagination and urge to explore, we now know that planets like our Earth are nothing special in the cosmos. The Sun is just one ordinary star among hundreds of billions in our galaxy, the Milky Way. With the world's most powerful telescopes, we are able to explore more and more of the Universe. A huge diversity of different worlds is out there, just waiting to be discovered.

Phantom of the Universe*

Recommended for grades 9 - 12
1 hour

Join us on a journey of discovery, following the efforts of scientists around the world as they try to unlock the mystery of Dark Matter. Starting with its creation during the Big Bang, the role of dark matter in the formation of galaxies and thus ourselves is explored, highlighting its discovery from its effects on the motions of stars and galaxies. Thousands of feet below the Earth's surface, teams of scientists are building extremely sensitive experiments to detect the very rare direct interactions of dark matter particles with normal matter. Finally, there's a whirlwind tour of the gigantic CERN laboratory where beams of protons are hurled together in head on collisions in an attempt to create new dark matter particles for study.

The Dark Matter Mystery: Exploring a Cosmic Secret*

Recommended for grades 9 - 12
1 hour

Today, we know that approximately a quarter of the universe is filled with mysterious glue: Dark Matter. We know it is out there, but we have no idea what it is made up of. This show takes you on the contemporary astrophysics. You will see why we know that Dark Matter exists, and how this search is one of the most challenging and exciting searches science has to offer.

The Hot and Energetic Universe*

Recommended for grades 9 - 12
1 hour

This show explores the achievements of modern astronomy, the basic principles of electromagnetic radiation, and the natural phenomena related to the High Energy Astrophysics. This science probes hot gas in clusters of galaxies, and around super-massive black holes in the centers of galaxies. High energy radiation provides important information about our own galaxy, neutron stars, supernova remnants and stars like our Sun.

Unveiling the Invisible Universe

Recommended for grades 6 - 12
1 hour

At the beginning of the 17th century, the invention of the astronomical telescope by Galileo revolutionized our knowledge of the Universe. In the 20th century, with the arrival of rockets, it became possible to travel above the Earth's atmosphere and observe X-ray and gamma ray radiation, evidence of a hot and violent Universe. Enjoy spellbinding images of the Cosmos.

** Resource guide available for these programs*

Request a program at www.WaukeshaCounty.gov/Programs-Events

CONSERVATION IN THE PARKS

CITIZEN SCIENCE & STEWARDSHIP VOLUNTEER PROGRAMS

Supported by FRIENDS of Retzer

Help create healthier natural areas throughout Waukesha County! Take part in stewardship projects or help collect data within your community to assist with local conservation efforts.

- No prior experience is necessary.
- Attendance at a training program is required and equipment will be provided.
- Depending on the project, volunteers may work independently or with trained personnel.

Register at least one weekday prior to program at
waukeshacounty.gov/conservationintheparks

SEEKING VOLUNTEERS!

Perfect for students, groups, and teachers!

Volunteering with Parks and Land Use is a great opportunity for individuals and groups to enjoy the outdoors while giving back:

- **Park Maintenance (weeding, painting, trail woodchipping)**
- **Invasive Species Control / Removal**
- **Adopt-A-Park Program**
- **Adopt-A-Drain Program**
- **Adopt-A-Trail Program**
- **Park Clean Up / Litter Pick up**
- **Retzer Nature Center Special Events**
- **Retzer Nature Center Teaching Naturalist**
- **Citizen Science Programs**
- **Stewardship Projects**
- **Scout Project Information**

www.WaukeshaCounty.gov/parkvolunteers

About Us

Retzer Nature Center is part of the Waukesha County Park System, a natural resource-based park system that demonstrates stewardship while providing recreational and educational opportunities.

The original 90 acres was purchased by John Retzer from the Federal Land Bank in 1938. The property served as John and Florence Retzer's retirement homestead. In 1973, Florence Horn Retzer bequeathed the property to Waukesha County for park purposes. Her vision was "to conserve the scenery, natural life and wildlife, leaving the land unimpaired for the enjoyment of future generations."

Guided by Mrs. Retzer's wishes, the Waukesha County Park System developed Retzer Nature Center, which focuses on environmental education, natural land management, community restoration, and wildlife habitat improvement. The interactive exhibit space expands the existing nature center exhibits and programming to provide additional opportunities for schools and residents alike.

Planetarium Programs: General Information

Our programs are designed to meet the needs of students of all ages. The programs support the curriculum of several content areas, but especially science. To assist you in choosing an appropriate program, some shows have the curriculum standards addressed (Disciplinary Core Ideas) for the stated age-range appropriate. Other shows are aligned to the Next Generation Science Standards or the Wisconsin Standards for Science; yet, for other shows the standards are being determined. Teachers may have to complete additional activities and assessments to fully meet individual performance expectations. Upon request, additional teacher resources may be provided as many shows offer these already.

Planetarium basic program consists of live star talk and a full-dome film. Most programs are approximately 60 minutes in length other than our 4K programs which last approximately 45 minutes. This year we are able to offer interactive shows at the middle school and high school levels as part of a continuing education partnership with the University of Whitewater.

• Full-dome films offer a stimulating array of immersive visuals augmented by a recorded sound track. In addition, there is usually time after the program which can be tailored to suit your needs. If one of these programs fits what you teach, they can be an excellent addition to your curriculum.

• Interactive programs are live presentations in which the planetarium instructor and the students would typically explore a certain subject using the planetarium's simulation system. The interactive nature of these programs provides an engaging environment for learning, and allows us to tailor the program to the needs of your students and the questions that they have.

Another feature offered in some of our planetarium shows is the opportunity to view in other languages, specifically Spanish. Show trailers are available at http://sdwone.us/planetarium

Follow Us!

@WaukeshaCountyParks
@RetzerNatureCenter
@WaukeshaCountyRecycles
@hdplanetarium

@WaukeshaCountyParks
@hdplanetarium

Waukesha County Parks and Land Use
Horwitz-DeRemer Planetarium

@hdplanetarium

Waukesha County
Parks and Land Use

www.WaukeshaCounty.gov/Programs-Events