2024 - 2025 DISCOVERY CENTER

EDUCATOR'S GUIDE

www.explorethedc.org

(615) 890 - 2300

VISITING WITH THE DISCOVERY CENTER

Discovery Center provides fun and effective, informal learning experiences that reinforce classroom learning. Located adjacent to 20 acres of spectacular wetlands, Discovery Center is full of exciting exhibits and wildlife to explore - both inside and out.

Most programs include a 30 to 60-minute field study. The specific field study content is based on the grade level attending. We also offer Mobile labs where our educator comes to you and special topics for PreK and Kindergarten.

Our goal is to make the Discovery Center an extension of your classroom with premier hands-on and inquiry-based learning. We can adjust our curriculums to meet the needs of your group. All Field Study objectives and programming is carefully vetted to correlate with up-to-date TN state educational standards.

Ready to schedule a Field Study?

Start your reservation at www.explorethedc.org/fieldtrips or call us at (615)890-2300 ext 246.

A Discovery Center staff member will call or email you to complete your reservation.

Our Mission

Engaging Curious Minds to Fuel the Future

Our Vision

To build a community with the courage to ask thoughtful questions, the drive to find creative solutions, and the confidence to implement positive change

Our Values

Fun & Play, Diversity & Inclusion, Creativity, Transformative Learning, Curiosity

Rules of Play inside the Museum

- Always use your walking feet.
- Return exhibit items to their home.
- School groups are not allowed in Tiny Town. It is for children under the age of 5.
- When going down the slide: 1 person at a time, walking feet first, and on your bottom. Say “All Clear” at the bottom of the slide.
- Stay with your adult and group.
- Be courteous to other visitors around you.
- You may not go out a door leading to the outside without an adult with you and letting your teacher know.
- There are bathrooms on both floors. Where there is a bathroom, there is also a water fountain.

FIELD STUDIES

Animals All Around (PreK - 5) *Also available as a Mobile

Reptiles, amphibians, mammals, and birds are part of our menagerie! Students learn through guided animals encounters.

Outcomes:

- Students analyze internal and external structures that function supporting survival along with how the animals adapt to their environment
- Students develop an understanding of how plants, animals, and nonliving things in an ecosystem interact with each other.
- Students get to meet animals and learn about mammals, birds, reptiles, and amphibians.
- Students learn life cycles and classifications of animals and adaptations for survival.

Standards:

- Kindergarten: K.KS1; K.LS3; K.ESS3; K.ETS2
- 1st Grade: 1.LS1; 1.LS2; 1.ETS1
- 2nd Grade: 2.LS1; 2.LS2; 2.LS3
- 3rd Grade: 3.LS4
- 4th Grade: 4.LS2
- 5th Grade: 5.LS1; 5.LS3; 5.LS4

Wetland Wonders (PreK - 5)

(offered April - October)

Explore the urban wetlands that unique plants and animals call home. You can choose how the students discover with options for boots and wading in the creek or catch and release in the Lily pad Pond. Then choose how your group will see different species by choosing between an animal encounter, guided wetland walk, or focusing on life cycles.

Outcomes:

- Students develop an understanding of how plants, animals, and nonliving things in an ecosystem interact with each other.
- Students analyze internal and external structures that function supporting survival along with how they adapt to their environment

Standards:

- Kindergarten: K.KS1; K.LS3; K.ESS3; K.ETS2
- 1st Grade: 1.LS1; 1.LS2; 1.ETS1
- 2nd Grade: 2.LS1; 2.LS2
- 3rd Grade: 3.LS4
- 4th Grade: 4.LS2
- 5th Grade: 5.LS1; 5.LS4

FIELD STUDIES

Dissection Labs (2 - 5)

Explore the parts of the body and functions of organs through hands-on investigations and dissections of real frogs or owl pellets.

Outcomes:

- Analyze internal and external structures that function supporting survival along with how they adapt to their environment.
- Develop an understanding of how plants, animals, and nonliving things in an ecosystem interact with each other.
- Explore anatomy, paying close attention to the internal and external structures that support survival, growth, behavior, and reproduction.

Standards:

- 2nd Grade: 2.LS1; 2.LS2; 2.LS3
- 3rd Grade: 3.LS1; 3.LS4
- 4th Grade: 4.LS2
- 5th Grade: 5.LS1; 5.LS3; 5.LS4

Eco Engineers (3 - 5)

Energize your students with this exploration of engineering. Using a variety of materials and their knowledge, students will build their own relocation containers to help rescue a beaver in the wetlands. As students iterate through this design challenge, they gain first-hand experience in the design process.

Outcomes:

- Students will be able to design and build a device that uses different types of mechanisms to capture an animal.
- Students will be able to explain design considerations.
- Students will be able to utilize the three step design process to meet a real-world problem that includes specified criteria and constraints.

Standards:

- 3rd Grade: 3.LS1; 3.LS4; 3.ETS1; 3.ETS2
- 4th Grade: 4.LS2; 4.ETS1; 4.ETS2
- 5th Grade: 5.ETS1; 5.ETS2

FIELD STUDIES

Science Sampler (K - 5)

Be prepared to be wowed by our science a la carte offerings. You get to choose two physical science experiences tailored to your grade level. Experiences include states of matter, magnets, circuits, forces, and light waves.

Outcomes:

- Students will understand matter can exist in different states and has properties that can be observed- Chemical and physical change
- Students will explore the effects of light with transparent, translucent, opaque, and reflective. Deeper understanding of light waves and bending of light
- Students will explore push, pull, collision, and trajectory
- Students will explore potential and kinetic and Newton's law of motion
- Students will gain an understanding of electricity and the completion of circuits

Standards:

- Kindergarten: K.PS1
- 1st Grade: 1.PS4
- 2nd Grade: 2.PS2
- 3rd Grade: 3.PS1; 3.PS2; 3.PS3
- 4th Grade: 4.PS3; 4.PS4
- 5th Grade: 5.PS1; 5.PS2

STAR Tour (1 - 5) *Also available as a Mobile

Our STARlab portable planetarium takes students on an exploration of the night sky during the day! Program topics inside the planetarium include the solar system, constellations, day and night cycles, and moon phases. Outside the planetarium, students experiment with launching rockets.

Outcomes:

- Student will observe planets and stars in the solar system using observational data to categorize the planets
- Students will observe planets and stars in the solar system
- Students will observe day and night patterns and shadows
- Students will observe how stars and constellations appear to move from the Earth's perspective throughout the seasons.

Standards:

- 1st Grade: 1.PS3; 1.ESS1
- 2nd Grade: 2.PS2, 2.PS3, 2.ESS1
- 3rd Grade: 3.PS3; 3.ESS1
- 4th Grade: 4.PS3; 4.ESS1; 4.ETS1; 4.ETS2
- 5th Grade: 5.PS2; 5.ESS1

MOBILE LABS

Weather Whizzes (K, 3)

Explore the wonders of weather through hands-on demonstrations about warm and cold fronts, thunderstorms, lightning, and tornadoes.

Outcomes:

- Students analyze internal and external structures that function supporting survival along with how the animals adapt to their environment
- Students develop an understanding of how plants, animals, and nonliving things in an ecosystem interact with each other.
- Students get to meet animals and learn about mammals, birds, reptiles, and amphibians.
- Students learn life cycles and classifications of animals and adaptations for survival.

Standards:

- Kindergarten: K.ESS2; K.ESS3
- 3rd Grade: 3.ESS2; 3.ESS3

BioDiversity (4 - 6)

Take a look at how macroinvertebrate biodiversity in streams can determine water quality with a small group experiment. Students also discuss and learn about water quality testing through hands-on activities.

Outcomes:

- Students will define biodiversity.
- Students will discuss water quality and impacts of water quality on species biodiversity.

Standards:

- 4th Grade: 4.LS2; 4.ESS3
- 6th Grade: 6.LS2; 6.LS4

MOBILE LABS

Invasive Plant Eradicators (4 - 6)

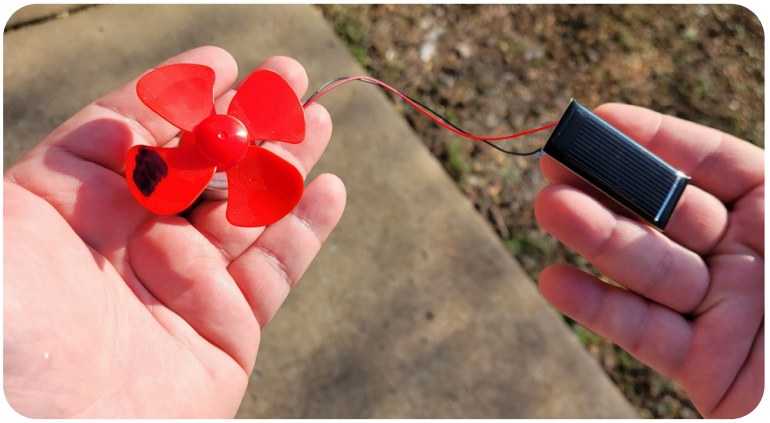
Work as a team of environmental engineers to develop a machine to rid a wetland habitat of invasive plants. Students learn about a common invasive plant in the Murfree Spring Wetlands and discuss the impacts invasive plants can have on an environment.

Outcomes:

- Students will discuss native versus invasive species.
- Students will learn different ways invasive species can impact an ecosystem.
- Students will be able to utilize the three step design process to meet a real-world problem that includes specified criteria and constraints

Standards:

- 4th Grade: 4.LS2; 4.ETS1
- 5th Grade: 5.ETS1
- 6th Grade: 6.LS2; 6.LS4; 6.ESS3; 6.ETS1



Solar Scientists (4 - 6)

Perform an experiment to see how the amount of light or even color of light affects how much energy is produced by a solar cell.

Outcomes:

- Students will discuss renewable and non-renewable energy sources.
- Students will design and test different solutions that impact energy transfer.

Standards:

- 4th Grade: 4.ESS3
- 6th Grade: 6.ESS1; 6.ETS1

MOBILE LABS

Science Assembly (K - 5)

Prepare to be wowed with our science a la carte offerings. You get to choose two or more physical science experiences tailored to your grade level. Experiences include States of Matter, Light, Electricity, Bernoulli's Principle, and Gyroscopic Forces.

Outcomes:

- Students will understand matter can exist in different states and has properties that can be observed- Chemical and physical change
- Students will explore the effects of light with transparent, translucent, opaque, and reflective. Deeper understanding of light waves and bending of light
- Students will explore push, pull, collision, and trajectory
- Students will explore potential and kinetic and Newton's law of motion
- Students will gain an understanding of electricity and the completion of circuits

Standards:

- Kindergarten: K.PS1
- 1st Grade: 1.PS4
- 2nd Grade: 2.PS2
- 3rd Grade: 3.PS1; 3.PS2; 3.PS3
- 4th Grade: 4.PS3; 4.PS4
- 5th Grade: 5.PS1; 5.PS2

STEM/Science Nights

Have a family engagement night at your school and want the Discovery Center to participate? We'll bring information about our museum and upcoming programs along with a hands-on activity for your visitors to enjoy.

PRE-K AND KINDERGARTEN SPECIALS

Available as Field Study or Mobile Lab

The following programs are designed for students aged 3-6 and have a adult-child engagement piece to help the student learn through play. High Chaperone to student ratio is suggested for the best experience. Teachers who participate in the topics will also receive a copy of the book used in the lesson while supplies last.

Engineering with the 3 Little Pigs

Explore the Engineering Design Process with iconic characters. Students practice failing and retrying by building a house with commonly found materials and attempting to blow it down.

Outcomes:

- Students will engage in scientific inquiry through the process of asking questions, investigating, and constructing explanations.
- Students will solve a problem using the three-step design process, and they will also have opportunities to learn science and math elements, such as problem-solving, counting, adding and subtracting, and multi-step processing.

Standards:

- PreK: PK.PD.5; PK.PD.6
- Kindergarten: K.PS1; K.ETS1; K.ETS2
- 1st Grade: 1.ETS1; 1.ETS2

Seeds to Plants

Watch your students' knowledge grow like a weed! Students make observations about the life cycle of plants through hands-on activity and learning beginner microscope skills.

Outcomes:

- Students will explore and observe plants and seeds, shapes, sizes, textures, and colors.
- Students will use various tools to support scientific inquiry, such as recording data and observations with multiple materials, making classifications, and predictions.
- Students will investigate plants, parts of the plant, life cycle of plants and identify measurable attributes of a plant.

Standards:

- PreK: PK.PD.5; PK.PD.6
- Kindergarten: K.ETS1; K.ETS2
- 1st Grade: 1.LS1; 1.LS2; 1.ETS1; 1.ETS2