2024-2025 School Year Lab Guide

Programming at HMNS Hermann Park and HMNS Sugar Land

Contact us at:

reservations@hmns.org

Program Pricing

WEEKDAY LABS

Lab Times: 9:30 am, 11:00 am and 1:00 pm at Hermann Park

11:00am and 1:00 pm at Sugar Land

Capacity: 25 students per lab

Cost: $225 per lab; $275 for Dissection Lab

HMNS at Hermann Park: Available on select dates each month

HMNS at Sugar Land: Available on select Thursdays and Fridays each month

Homeschool Groups will receive a link to register for the school year via the Reservations team. If you are a new Homeschool group interested in booking a selection of weekday labs for the entire school-year, please email Reservations at reservations@hmns.org.

LAB ON DEMAND

Lab Times: Subject to availability and group's schedule

Capacity: 25 students per lab

Cost: $275 for lab on demand; $275 for Dissection lab

2-Hour Lab: $550

Travel Fee: $75 for traveling presentations

Book using the links provided in your registration email.

Need more information?

For Hermann Park Labs, visit us at hmns.org/labs.

For Sugar Land Labs, visit hmns.org/hmns-at-sugar-land/classes.

Lab Programming

Each lab lasts one hour, unless otherwise noted, and includes admission to the Museum's permanent exhibit halls for lab participants and one chaperone per participant.

WEEKDAY LABS

Students examine ancient objects, investigate technology, meet live animals, or conduct scientific experiments depending on the nature of the lab booking. Three new Weekday Lab topics are available monthly.

Available in-person and virtually.

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LABS ON DEMAND

Want to add a lab experience to your Field Trip? Add a TEKS-aligned Lab on Demand to your reservation. Each of these hands-on labs is tailored to your group's needs. Advanced Lab topics are available for High School students.

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Weekday Labs

Our Weekday Labs are appropriate for **1st - 8th grade students**. *Dissections are limited to 5th grade and up*. These labs are available in person at Hermann Park and Sugar Land, and virtually via Zoom.

Weekday Lab & Lab on Demand Themes

Weekday Lab Topics at HMNS Hermann Park and Sugar Land

Our Weekday Labs are appropriate for 1st - 8th grade students. Dissections are limited to 5th grade and up.

SEPTEMBER

Techno-Science Lab – *Kitchen Science:* Check out the cool chemistry hiding in household items!
Wildlife Lab – *Just Keep Swimming:* Become an amateur ichthyologist in this lab about fish fins. After class, test your knowledge in the Alfred C. Glassell, Jr. Hall of the museum.
Dissection Lab – *Waste Not, Want Not:* From filtration to waste removal, investigate our very own water treatment plant, the kidney. Includes kidney dissection.

OCTOBER

Earth Science Lab – *Volcanoes:* Magma or lava? Explosive or effusive? Explore the types of volcanoes and discover some historic eruptions in this class!
Time Lab – *Histories Mysteries:* Have you ever wondered how the pyramids were built? Want to see the 7 wonders of the ancient world? Travel with us as we learn about these and other ancient marvels of architecture and engineering.
Dissection Lab – *Amazing Annelids:* Check out the internal anatomy of these awesome annelids. During this dissection, you will discover that there is more to a worm than you might have realized.

NOVEMBER

Time Lab – *Can You Dig It?:* See what it takes to uncover the past as we explore the science and history of archeology.
Techno-Science Lab – *Skyscraper Science:* Experiment with tension, compression and more to solve the problems of building sky-high.
Wildlife Lab – *Critter Caverns:* Study some spectacular spelunkers in this lab all about cave-dwelling wildlife!

Weekday Lab Topics at HMNS Hermann Park and Sugar Land

DECEMBER

Time Lab – *Indus River Valley Civilization:* The coolest ancient civilization that you have never heard of. Learn about the rise and fall of this mysterious and advanced civilization. Can you uncover their secrets?
Techno-Science Lab – *Optics:* Explore reflection, refraction and light with mirror and lenses.
Wildlife Lab – *Best Nests:* Discover which mother steals spider silk for her nest, who relies on dripping sap to protect their young, and why one mother even lines the rim of her nest with cigarettes!

JANUARY

Time Lab – *Egypt 101:* The world's fascination with Ancient Egypt is not unfounded. From the 1st Pharaohs to latest in Hieroglyphics, take a trip through time and learn the true history of this incredible civilization.
Techno-Science Lab – *Water Works:* Discover surprising things about water and explore surface tension and capillary action.
Dissection Lab – *The Fungus Among Us:* Mold, yeast, mushrooms, oh my! Learn about the diverse fungi kingdom while examining some common types of fungus we may encounter in our everyday lives.

FEBRUARY

Earth Science Lab – *Minerals That Could Kill:* Lead, cinnabar, asbestos, OH MY! In this class, we will talk about what makes these minerals so deadly and the products that were created from them.
Time Lab – *Pompeii:* Piece together what life in ancient Rome was like as we learn about the fierce eruption from a sleeping giant that left this bustling city covered in ash.
Wildlife Lab – *Space Invaders:* What happens when the animal brought in for pest control becomes the pest? Meet the invasive species that moved in and made themselves at home, whether we like it or not.

Weekday Lab Topics at HMNS Hermann Park and Sugar Land

MARCH

Time Lab – *Persia:* The largest empire ever recorded. Gardens in the desert. The 1st postal service. Join us as we track these Achaemenid kings, their rise and fall and everything in between.
Biology Lab – *Mud Puppy Mania:* Enter the world of a freshwater predator, the Mud Puppy, and see what makes this salamander unique. Includes dissection.
Wildlife Lab – *Super Sniffers:* Study some stupendous sniffers with surprising features on their superior schnozzes.

APRIL

Earth Science Lab - *Crystallography and Crystal Formation* – From salt to snowflakes, crystals are an important part of geology. Discover the importance of crystal structure and how they are formed!
Techno-Science Lab – *Crash Course:* Investigate the physics of collisions and safety technology.
Wildlife Lab – *Crustacean Station:* What do lobsters, sea monkeys and pill bugs have in common? Immerse yourself in the world of these leggy arthropods to discover how they are all connected.

MAY

Earth Science Lab – *Mass Extinction:* Ever wondered why dinosaurs are extinct or why we don't see centipedes a meter long anymore? Dive into this class to discover some of the biggest exoduses of life and the theories behind them.
Techno-Science Lab- *Shape Science II:* There's so much exciting shape science it wouldn't fit in one class! Come explore more puzzles, tessellations and symmetry.
Wildlife Lab – *Where There's a Will(ow):* Whether they burst, whorl, tumble, or hitch rides on wildlife, seeds have adapted some clever methods for dispersal across great distances.

Recommended Labs on Demand

Labs on Demand are appropriate for **1st - 12th grade students**. Dissections and Biology labs are limited to 5th grade and up. Depending on availability, these labs are available in person at the date and time of your choice at Hermann Park and Sugar Land.

	Earth Science	Technoscience	Wildlife	Biology	Time	Dissection
1-2	Our Place in Space Fossil Sort	Discovering Density Falling Fast	Bite Your Tongue Myrmecology	Flowers and Pollination	Castles Siege Machines	Not available for this age range.
3-5	Total Eclipse of the Sun Volcanoes	Optical Illusions Polymers	Get A Grip Polyp-palooza!	Plant Anatomy Cells	Roman Water Are You My Mummy?	**5th Grade & Up:** Intro to Dissection Owl Pellet Eyeball
6-8	Plate Tectonics Behind the Tides	Sound Science	All in The Family Signs of Intelligent Life	Osmosis and Diffusion Carbohydrates	Art Through the Ages Spice!	Frog Heart Grasshopper
9-12	Minerals That Could Kill Mohs Hardness Scale	Kitchen Chemistry	Magnificent Mollusca Nature's Revenge	Blood Mitosis	Race for Space Industrial Revolution	Brain Kidney Rat

Labs on Demand

Labs on Demand are appropriate for **1st - 12th grade students**. Dissections and Biology labs are limited to 5th grade and up. Depending on availability, these labs are available in person at the date and time of your choice at Hermann Park and Sugar Land. **If you see a hand icon next to a lab, get ready for a hands-on class; dissections are all hands-on.**

Lab on Demand Topics

Earth Science Labs *Supported by Woodside Energy*

Grades 1st – 8th

Behind the Tides Find out why the tides change throughout the day, and what celestial body is to blame.

Bright Side of the Moon Explore the phases of the moon and find out what causes it to wax and wane over the course of a month.

Compost, What Is It Good For? Explore what compost is all about! Determine what every compost pile needs to turn food scraps and yard waste into nutrient-rich soil!

Crystallography and Crystal Formation From salt to snowflakes, crystals are an important part of geology. Discover the importance of crystal structure and how they are formed!

Dams! From beavers to buttresses, dams are essential to modern society. From big to small, we will explore what they do and why we have them!

Discover Maps! Learn about latitude, longitude, and cartography in this class about maps!

Fossil Fuels Dig into fossil fuels! Explore the formation of these resources.

Fossil Sort Watch your students become paleontologists! From shark teeth to seashells, students will catch a glimpse of the past. They will have the opportunity to sort through the fossil matrix and identify the fossilized remains of prehistoric ocean creatures.

Hurricanes It's hurricane season! Learn about these powerful storms, how they form and how to prepare for them in this whirlwind class.

Land Forms Explore the basic landforms and waterways found in Texas. Follow our water from spring to shore!

Layers of the Atmosphere Let's take it from the top! In this lab, we'll explore the layers of the earth's atmosphere, and discuss how altitude, pressure, and temperature change in our atmosphere.

Layers of the Earth Journey to the center of the earth? Of course! We're going to explore everything from the core to the crust and all the layers in between.

= hands-on activity focused class

Lab on Demand Topics

Earth Science Labs *Supported by Woodside Energy*

Grades 1st – 8th

Layers of the Ocean Take a journey into the depths of the ocean! Learn about the ocean's layers and the pressure it creates for the living and nonliving things in each layer.

Minerals That Could Kill Lead, cinnabar, asbestos, OH MY! In this class, we will talk about what makes these minerals so deadly and the products that were created from them.

Mohs Hardness Scale From talc to diamonds, minerals have a known hardness. Discover the Mohs Hardness Scale and how that hardness can be harnessed!

Our Place in Space Delve into our solar system to find out what makes it unique and see what lies outside of its boundaries.

Plate Tectonics From Pangea to the present, the continents have shifted over time. Discover tectonic plates and how they shift a little bit every year!

Rock Cycle Sedimentary, metamorphic and igneous, oh my! Take a spin through the rock cycle and investigate how rocks are changed and formed.

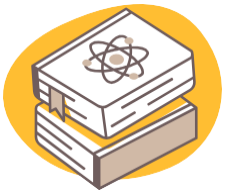
Rocks and Minerals Is it a Mineral? Is it a Rock? Could it be both?! Discover the difference between rocks and minerals and learn how you use them daily.

Smaller than a Planet What else is in our solar system? Discover comets and asteroids, meteors and meteorites, and other bits found in space!

Total Eclipse of the Sun Explore what happens during an eclipse, and prepare for our next total solar eclipse!

Volcanoes Magma or lava? Explosive or effusive? Explore the types of volcanoes and discover some historic eruptions in this class.

= hands-on activity focused class



Lab on Demand Topics

Time Labs

Grades K – 12th

Are You My Mummy? Discover the process of mummifying the dead; and delve into the closely held secrets of the ancient embalmers.

Art Through The Ages From petroglyphs to photography - discover how humans have expressed themselves and how art shapes how we view history.

Can You Dig It? See what it takes to uncover the past as we explore the science and history of archeology.

Castles Explore the basics of medieval castle structure and life inside these amazing fortresses. Then use what you've learned to design your own.

Industrial Revolution Bigger, faster, stronger! Learn about the processes and technology that built the modern age.

Is There A Dr. In The Hut? Explore the good and the bad as we examine bile and blood through the lens of medicine in the ancient world. Not for those with a queasy stomach.

Race For Space Since the beginning of time Humanity has been fascinated by the stars. Learn about how we got to the moon and beyond!

Roman Water Rome was not built in a day, it's true. Lots of careful planning went into it and some amazing technological achievements came out of it. Join us as we figure out the physics and revel in the fun of moving Roman water.

Siege Machines Discover the weapons of the "Medieval Arms Race" and design a model.

Spice! Follow the spice routes as you take a flavorful journey to investigate spices and their impact on the economy, health, and food.

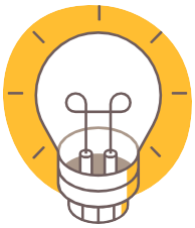
CSI Labs Grades 8th – 12th

Bloodstain Pattern Analysis: Spatter Lab Bloodstains have a story to tell if you know how to listen. Get hands-on experience and learn to "listen" in our spatter lab. *Basics – 1 hour; Extended in-depth – 2 hours*

Fingerprinting Discover the techniques crime scene investigators use to collect and examine the evidence. In addition to the classroom presentation, this hands-on class offers you the opportunity to practice lifting fingerprints and basic fingerprint identification in order to better understand the science.

Forensic Anthropology Get up close and personal with bones and discover what secrets they can tell you if you know how to listen. Class includes work with skeletal reproductions. *Basics – 1 hour; Extended in-depth – 2 hours*

= hands-on activity focused class



Lab on Demand Topics

TechnoScience Labs

Grades 1st – 8th

Balancing Act From levers and mobiles to leaning towers, explore the center of mass and find out why it matters.

Crash Course Investigate the physics of collisions and safety technology.

Discovering Density Discover how hot air balloons rise, why rocks sink, and explore cool density tricks.

Falling Fast Explore parachutes and other ways to cushion a fall, then design and protect an egg 'passenger' from a crash.

Kitchen Chemistry Check out the cool chemistry hiding in household items.

Light Explore fluorescence, luminescence, and color as we experiment with light. Magnets Explore properties of magnets, testing different materials and investigating magnetic fields.

Marvelous Mixtures Investigate properties of solutions, colloids, alloys, and other mixtures and figure out how to separate them.

Optical Illusions Investigate ambiguous pictures, impossible shapes, strobe effects, and other amazing illusions.

Optics Experiment with water drop lenses and mirrors to explore reflection, refraction, and light.

Polymers From plastic and rubber to gummy bears and slime, polymers are everywhere.

Pressure Lift, crush, and hover with the amazing power of air pressure.

Shape Science Discover the science and math of shapes through tessellations, construction, and more.

Shape Science II There's so much shape science it wouldn't all fit in one class! Explore more puzzles, tessellations, and symmetry.

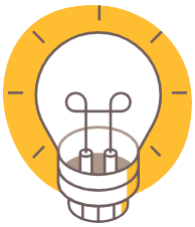
Skyscraper Science Experiment with tension, compression, and more to solve the problems of building sky-high.

Sound Science Use tuning forks and tubes to investigate pitch, resonance, and the science of music.

Speed Explore circular motion and discover what shapes are speediest.

Water Works Discover surprising things about water and explore surface tension and capillary action.

= hands-on activity focused class



Lab on Demand Topics

TechnoScience Labs

Grades 9th – 12th

Density Discover how hot air balloons rise, why rocks sink, and explore cool density tricks.

Polymers Investigation Polymers from plastics and rubber to gelatin and glue are all around us and are incredibly useful! Explore different polymer types and properties (like strength or stickiness) and learn how they are made.

Biology Labs

Grades 1st – 12th

Blood Nobody can do without it, and we mean nobody! Learn about some different kinds of blood and use simulated blood to identify human blood types.

Carbohydrates Discover the facts about the structure and properties of a powerful energy source: carbohydrates. Crack the code and identify an unknown carbohydrate.

Cells What do you have over 75 trillion of but have never seen with the naked eye? Compare animal and plant cells as you take an up-close look at our most basic component.

Flowers and Pollination Get the buzz on how some plants pull out all the stops to attract their perfect, specific pollinator. Investigate how flower form meets function in full color.

Mitosis Learn about chromosomes and cellular division as you study mitosis.

Osmosis and Diffusion Explore the mystery of molecular motion as you experiment with diffusion and osmosis.

Plant Anatomy Examine the xylem and phloem of a celery stalk, spot the structures in leaf anatomy, and ponder over photosynthesis. Carotenes, anthocyanins, xanthophylls, and tannins color our world, in this class we uncover how.

= hands-on activity focused class

Lab on Demand Topics

Wildlife Labs

Grades 1st – 8th

All in the Family School yourself with this fun class PACKED full of information!

Amphibians Are frogs and salamander fortune tellers? Study these environmental indicators to discover what they could tell you about your own future.

Australian Wildlife It's got flying foxes, the only two egg laying mammals in the world, and more!

Bite Your Tongue Why are giraffe tongues dark? Are frog tongues really on backward? Answer these questions as we study this important and often overlooked organ.

Get a Grip Animals use everything from claws to wrinkles to hang on tight.

Get Batty! Who runs the best pest control service in Houston? It might just be our bats! Get to know your neighbors as we learn about bats.

How It's Made If you have eaten honey or worn silk, you have benefited from the labor of industrious creatures. Take a behind-the-scenes look at animal-run factories.

Just Keep Swimming Become an amateur ichthyologist in this lab all about fish fins.

Magnificent Madagascar This island sits off the coast of Africa and is a hotspot for biodiversity. Learn more about the strange inhabitants of this land.

Magnificent Mollusca What has a beak (but it's not a bird), a mantle (but it's not a fireplace), a foot (but no legs), and jet propulsion (but isn't a rocket)?

Myrmecology There are over 10,000 ant species. Become a myrmecologist and discover ants that cooperate to form super colonies, set traps to capture prey, and even grow their own food!

Nature's Revenge Don't make them mad; these animals are equipped with toxins to fight back! Delve into the world of venomous and poisonous animals, particularly those found in Texas.

One of These Things is Not Like the Other Study characteristics of living things and sort them into their taxonomic groups; then, meet the animals you sorted!

Pollution and the Food Web Small changes in an environment can have a big impact on wildlife. Discover the impact humans have had, both good and bad, as you explore the effects of pollutants in a food web.

Polyp-palooza! Often confused for plants or rocks, coral beds are full of fascinating animals working together to support an incredible amount of life forms. Pay these polyps the attention they deserve in this wildlife lab.

Signs of Intelligent Life Discover the creative methods used to study animal intelligence.

= hands-on activity focused class

Lab on Demand Topics

Wildlife Labs

Grades 1st – 8th

Slow and Steady Turtles and tortoises seem invincible with their heavy armor, but these living tanks are quite vulnerable to human influence. Investigate why in this lab.

Texas Wildlife Learn about this beautiful state that supports everything from alligators, to songbirds, and even tarantulas.

The Better to Bite You With Say cheese! Say plants! Say meat! Smile wide and examine your teeth and the teeth of other animals to see how they match up to their favorite meal.

Young Wonders Learn about the interesting forms young animals take on their journey to adulthood.

Grades 9th – 12th

Endangered Species Come quickly because they're going fast! Why are some animal populations on the decline? What can we do to help them?

Pollution and the Food Web Small changes in an environment can have a big impact on wildlife. Discover the impact humans have had, both good and bad, as you explore the effects of pollutants in a food web.

Taxonomy Study features of living things and sort them into their taxonomic groups; then, meet some of the animals you sorted!

= hands-on activity focused class

Lab on Demand Topics

Dissection Labs

Grades 5th – 12th

Introduction to Dissection Learn how to hold a scalpel, what tools are needed for success, and which way is up in this class for anyone unfamiliar with dissection.

Brain Put your axons to work as you model nerves and neurotransmitters.

Eyeball Blind spots, color blindness, or myopia a problem? Come find out why as you take an inside look at the eye and see how it functions.

Fetal Pigs An extended lab for older students. Explore mammalian anatomy of thoracic and abdominal cavities with dissection of a fetal pig in this 2-hour advanced lab.

Frog A classic example of vertebrate anatomy, the frog still has a few surprises in store.

Grasshopper Explore the world of insects as you look at the Lubber grasshopper (Romalea).

Heart Nothing beats that "Aww" moment! Take a detailed, in-depth look at one powerful muscle and vital body organ, the heart.

Kidney From filtration to waste removal, investigate the body's very own specialized water treatment plant and body fluid balancer, the kidney.

Owl Pellet Ever wonder what happens to the indigestible parts when raptors swallow food whole? Find out as you deconstruct and explore an owl pellet.

Rat Beavers, capybara and agoutis, oh my? More fascinating than fearsome, learn about the Rodent Family from the outside in.

Shark Dissection An extended lab of older students. Get up close and personal with a real shark specimen. Learn about shark ecology, anatomy, and physiology in this 2-hour advanced lab.

Snake Dissection Snakes are marvels of adaptation. They can climb, burrow, swim and move swiftly across sand…all without legs! Come see what other amazing internal body changes allow snakes to make the most of their elongated form in this 2-hour advanced lab.

*If you have questions about the animal source for the dissection materials, please email Reservations@hmns.org.

= hands-on activity focused class

Houston Museum of Natural Science
5555 Hermann Park Drive
Houston, Texas 77030

Houston Museum of Natural Science at Sugar Land
13016 University Blvd
Sugar Land, Texas 77479

CONTACT US

Questions?
Email us at reservations@hmns.org.
Due to the high volume of booking requests, email is the best way to reach us at this time.

Office Hours
Mon-Fri; 9:00am - 4:00pm