

2019-2020

CONNECTICUT SCIENCE CENTER

# Educator Guide

OPENS  
SEPTEMBER  
2019



OPENS  
MARCH  
2020

**MAYA**  
HIDDEN WORLDS REVEALED®

Connecticut  
Science Center





## Reservation Center

Phone: 860.520.2150

Email: [reservations@CTScienceCenter.org](mailto:reservations@CTScienceCenter.org)

## Field Trip Hours

Tuesday–Friday, 9AM–5PM

### Payments

- Full payment is due in advance of your scheduled visit. Please contact the Reservation Center if you need to make alternate payment arrangements.
- Accepted forms of payment include organizational check, credit card, or cash.

### Arrival

- Science Center staff will greet your group at your bus(es) when you arrive.

### Parking

- Bus Parking at the Market Street Lot is \$10 per bus. Directions provided upon arrival.
- Teachers and chaperones may park in the Riverfront/Connecticut Science Center garage. Hourly rates apply.

### Lunch

- We recommend that all groups request a lunch room when booking.
- In fair weather, groups may eat outside. However, in the event of inclement weather, the Science Center does not have alternative indoor lunch venues.
- If you are scheduled for a lunch time, please have your lunches ready for collection when you exit the bus.
- Lunches must require no refrigeration.

### Cancelling or Rescheduling

- If you must cancel or reschedule your trip, please call the Reservation Center at least 1 week in advance.
- For same-day emergency cancellations, or if you will be late, please contact us on the emergency hotline at 860.520.2151.

### Accessibility

- We are wheelchair accessible. Elevators link all parking, gallery, and lab areas. Exhibit display panels are positioned for comfortable viewing from a wheelchair.
- For more information please visit [CTScienceCenter.org/visit/accessibility](http://CTScienceCenter.org/visit/accessibility)

# PRICING

## Field Trips *per person*

General Admission .....	\$11
(one free adult per 24 students)	
Add Butterfly Encounter Program.....	\$6
Add a 3D Movie .....	\$6
Add a Stage Show.....	\$6.50
Add a 45-minute Exploration Lab.....	\$7.50
Add a 60-minute Exploration Lab .....	\$9.50

### TEACHERS AND CHAPERONES

- An 8:1 student to chaperone ratio is required for groups bringing grades K–7, and a 12:1 ratio is required for groups bringing grades 8–12.
- 1 adult per 24 students is admitted at no charge. All other adults will pay the same rate as students and will be listed on your Booking Notice as chaperones.

## Traveling Programs

Classroom Program.....	\$250
Add an additional session of the same topic...	\$200
Pre-K Classroom Program.....	\$175
Add an additional session of the same topic...	\$150
Assembly Show (per show) .....	\$500
Activity Stations (per station).....	\$250

**Please note:** Programs require tables and chairs, access to water and/or electricity, and 30 minutes for set up and clean up. **Travel charges may apply.**

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Traveling Exhibit Gallery Sponsored by Saint Francis Hospital and Medical Center

OPENS SEPTEMBER 2019



Presented by **ProHealth**  
PHYSICIANS  
Part of OptumCare®

OPENS MARCH 2020



# MAYA

HIDDEN WORLDS REVEALED®



## OUR CHANGING EARTH

Explore Connecticut's changing landscape throughout the past, present and into the future inside this stunning NEW exhibit gallery featuring the latest scientific findings. Students will make curriculum connections as they investigate the impacts of our changing climate and how decisions we make will affect the future of our planet. Step into the Earth's core to understand magma flow and plate tectonics. Learn about glaciation in the ice age and the correlation between global temperatures and ice flow from a massive simulated ice ledge. The immersive experience features hands-on activities that bring text books to life and align with NGSS.



- Explore historical flood heights on a scale version of the Bulkeley Bridge and a flood height interactive.
- Record your own weather forecast in the WFSB Early Warning Pinpoint Doppler Radar Exhibit.
- Experience hurricane-force winds in the Hurricane Simulator.
- Journey to the center of the earth inside the giant geodesic dome, complete with vibrating core.

Presented by **Pitney Bowes Foundation**



## LEGO® BUILD THE CHANGE

LEGO® Build the Change is all about creativity, imagination, collaboration, and communication. It enables children to use LEGO® bricks as a tool to communicate and express themselves and create enduring memories. LEGO® Build the Change event participants will have access to hundreds of LEGO® bricks and their imaginations to build what they think will be a great change to the communities they live in. This 45-minute hands-on program is included with a paid Science Center field trip admission.

Grades 1-7 | October 23, 24, 25

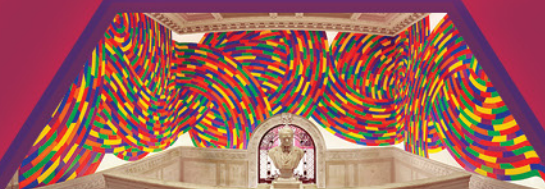


Presented by Miracle League of Connecticut

## SENSORY FRIENDLY DAYS

We are lowering the volume and dimming the lights to accommodate our groups with children on the autism spectrum or with other developmental disabilities. Sensory Friendly Days offer all the fun of the Science Center without all the loud sounds and bright lights.

Sunday, September 22  
Wednesday, October 2  
Sunday, November 3



## WADSWORTH JOINT FIELD TRIP

Two amazing field trips for one low price? We've got it! Visit the Connecticut Science Center as well as the Wadsworth Atheneum. You will have the option of a themed or general tour at the Atheneum plus a self-guided experience at the Science Center.

\*Tour must be reserved at least 3 weeks before desired tour date. General tours are appropriate for all ages. Themed tours are ideal for grades 6-12.

\$12 per person



## SPECIAL THEMED WEEKS

Make your field trip memorable and unique by visiting during one of our special themed weeks. We're amping up your field trip experience with extra opportunities for content-rich, hands-on science in our exhibit galleries.

Earth Science Week, October 15-18  
Exploring Matter Week, December 10-13  
National Engineers Week, February 18-21  
Brain Awareness Week, March 17-20  
DNA Days, April 21-24

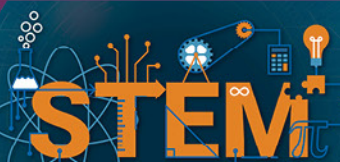


## OVERNIGHT FIELD TRIPS

Make it a field trip to remember with a sleepover at the Connecticut Science Center! The exclusive, overnight experience starts at 6PM. Students and chaperones will explore our exhibits and experience unique, hands-on activities only available at night. Your group can view a 3D movie in our theater, sleep in our exhibit spaces, and enjoy admission to the Science Center the following day. School groups of any size in grades 1-6 can join in one of our planned dates or book your own private date for larger groups (must guarantee a minimum of 200 participants). Groups may vary in size, but must maintain a minimum 1:8 ratio of chaperones to children. Chaperones must be at least 18 years old.

Upcoming Overnight Dates: October 19, 2019;  
November 9, 2019; February 8, 2020;  
March 21, 2020; April 4, 2020; April 18, 2020

Group pricing is \$55 per person.



Presented by The Hartford and Cognizant U.S. Foundation

## STEM CAREER SHOWCASE

What do you want to be when you grow up? Meet real STEM professionals while being immersed in hands-on activities that dive into the science and technology behind careers in the medical, IT, robotics fields, and more! This STEM Career Showcase welcomes visitors young and old alike to explore STEM career paths in Connecticut in an innovative and festive atmosphere.

October 22 - High Schools  
December 3 - Middle Schools  
March 24, 2020

During a field trip to the Science Center, students can explore more than 165 fascinating exhibits that were designed to support the Next Generation Science Standards. They'll take part in immersive science activities that will inspire their curiosity about the world around them.

### Engineering Lab

Presented by Stanley Black & Decker: LEVEL 4

Explore 18 hands-on experiences inspired by engineering from the past, present, and future in this new permanent exhibition. Build structures, hoist yourself into the air with pulleys, practice coding, create circuits, and much more. Engage with all areas of engineering, from electrical to mechanical, and find real-life examples of engineering heroes who show how engineering impacts our daily lives.

This exhibit pairs well with **DREAM BIG** in our theater. See pages 9-10.



### Forces in Motion

Eversource Gallery: LEVEL 4

Welcome to the world of extreme engineering, where you can race against gravity, build a unique structure with Imagination Playground blocks, and explore the physics of motion through a variety of interactive activities that investigate motion-related phenomena.

### Sight and Sound Experience

Chase Family Foundations Gallery: LEVEL 4

Discover the hands-on scientific fun behind music and art. In this laboratory of artistic expression, you will use your eyes, ears, emotions, and full body to hear, see, and feel the energy forces behind all light and sound.



### Invention Dimension

Travelers Gallery: LEVEL 5

Challenge yourself to create the next great invention. Think outside the box like the scientists, engineers, and technicians behind Connecticut's rich history of ingenuity, invention, and innovation. For inspiration, check out the unique inventions created by Connecticut students participating in the Connecticut Invention Convention.



### Exploring Space

United Technologies Corporation Gallery: LEVEL 5

Step beyond the light-lock entrance of this gallery and enter into a dark and dramatic abyss of the spectacular and the unknown. Here, the Earth, the Moon, Mars, galaxies, solar systems, remote planets, and the rest of the universe await your exploration. Travel to a black hole, create a crater, pilot a Mars rover, and more.

This exhibit pairs well with **APOLLO 11** in our theater. See pages 9-10.





## The Picture of Health

Aetna Foundation Gallery: LEVEL 5

Unravel the mysterious inner workings of the human body to discover how much of our health and well being is a matter of choice, and how much is a matter of chance. Examine the powerful (and often surprising) connections between your mind and body, strength and flexibility, and diet and exercise.



## The Sports Lab

The Hartford Gallery: LEVEL 5

Push, pull, pedal, touch, observe, examine, and analyze the connections between body and mind and how they each affect our performance in everyday activities and competitive athletics. In the process, you'll learn a little more about the inner athlete in each of us.



## River of Life

LEVEL 6

Encounter the Connecticut River from unique and perhaps unfamiliar perspectives. Dive deep into the river's past, starting at its geological origins, and then journey through time into the modern era where you can assess how our everyday human activity has had an impact on the life of this river and all the ecosystems it sustains.



**new**

## Our Changing Earth

Presented by Pitney Bowes Foundation: LEVEL 6

Explore Connecticut's changing landscape throughout the past, present, and into the future inside this stunning NEW exhibit gallery featuring the latest scientific findings. Step into the Earth's core to understand magma flow and plate tectonics. Learn about glaciation in the ice age and the correlation between global temperatures and ice flow from a massive simulated ice ledge.

This exhibit pairs well with **PLANET POWER** in our theater. See pages 9-10.

## Energy City

Energize Connecticut Gallery: LEVEL 6

Wind turbines. Solar panels. Hydropower. Fuel cells. These are just a few of the alternative energy technologies you will discover in this gallery. Find out how electricity travels from energy sources to your home. Tour this virtual city to measure the effect of your energy uses and how they affect the planet.

## OUR EXPLORATION GUIDES HELP BRING OUR EXHIBITS TO LIFE!

Students can use the guides to explore our exhibits through interactive activities, which immerse them in fun, hands-on science while providing connections to the Connecticut State Science Standards.

► [CTScienceCenter.org/Explore](https://CTScienceCenter.org/Explore)



MEDIA SPONSOR: **Hartford Courant**

PRESENTED BY:  
**Mark & Luanne Paley**  
and **Roger & Sondra Beit**

Dive into a live, tropical environment at the **Butterfly Encounter**.

Experience life science at its best in a unique and immersive exhibit with free flying butterflies. With new species added regularly and a variety of tropical plants, this exhibit is not only fully living, but constantly growing.

- All-season butterfly habitat and greenhouse.
- Experience 40-50 different species of butterflies. New species added weekly to showcase their amazing diversity.
- Observe the magic of the final stage of metamorphosis by watching butterflies emerge from their chrysalis and then be released.
- Features more than 30 different species of plants chosen specifically with our butterflies in mind.

**20 Minute Programs .....\$6.00 per person\***

**Butterfly Spy (Grades K-2)**

**Wild Wings (Grades 3-5)**

**Butterfly Biomes (Grades 6-8)**

\*must also purchase General Admission



**Scheduling:** Complete and submit the Reservation Request Worksheet:

▶ **CTScienceCenter.org/BookNow**

For more information, please call 860.520.2150.

## Discovery Center Programs

During a hands-on program in the Science Center's Pfizer Discovery Center, students perform investigations and learn how science is part of their everyday life.

Students are active participants, performing experiments and making discoveries while having FUN with science.

Descriptions available online:

► [CTScienceCenter.org/DiscoveryCenter](http://CTScienceCenter.org/DiscoveryCenter)

Discovery Center Programs  
supported by

**TRAVELERS** 



## Discovery Center Programs

Each program models a classroom period that aligns with the Next Generation Science Standards.



Grades K-2	Grades 3-5	Grades 6-8	Grades 9-12
<b>On A Roll</b> <b>Habitats and Homes</b> <b>NEW</b> <b>Sound Breakdown</b> <b>The Secret Life of Plants</b> <b>Fact of the Matter</b> <b>NEW</b> <b>Pollen-Nation</b> <b>Wash Out!</b> <b>Butterfly Spy</b>	<b>Crash Lab</b> <b>All Eyes on Evolution</b> <b>NEW</b> <b>Make It Magnetic</b> <b>Making Waves</b> <b>NEW</b> <b>Choose Your Chompers</b> <b>Streaming Away</b> <b>A Chem-Mystery</b> <b>Share the Air</b> <b>Oceans In Motion</b> <b>Into the Shadows</b> <b>Energy Through Time and Space (Grades 4&amp;5)</b> <b>Wild Wings</b>	<b>Refraction Action</b> <b>Reason for the Seasons</b> <b>Gene-ius of Taste</b> <b>NEW</b> <b>Tectonic Travels</b> <b>NEW</b> <b>Roller Coasters</b> <b>Lights, Color, Action!</b> <b>Energy Through Time and Space</b> <b>Butterfly Biomes</b>	<b>Gene-ius of Taste</b> <b>NEW</b> <b>Energy Through Time and Space</b>

## Discovery Center Add-On Programs *per person*

20 minute <b>Butterfly Encounter Program</b> .....	\$6.00
45 minute <b>Exploration Lab</b> .....	\$7.50
60 minute <b>Exploration Lab</b> .....	\$9.50

# Maximilian E. and Marion O. Hoffman Foundation Science Theater

Experience science in an engaging environment with a visit to our Hoffman Foundation Science Theater. Each show is carefully selected for science content and offers relevant connections to the Next Generation Science Standards.

## 3D MOVIES

3D Movies offer a unique three-dimensional experience enabling students to learn about the science that affects our lives.

Join the adventure to experience the life-saving superpowers and extraordinary bravery of some of the world's most amazing dogs. In this inspiring true story, our best friends are also real-life superheroes. Journey around the globe to meet remarkable dogs who save lives and discover the powerful bond they share with their human partners. Follow the journey as we discover the incredible abilities of dogs and the astonishing science behind their superpowers, we'll never look at our best friends the same way again!

Recommended for All Ages;  
40 minutes

Available  
through  
11/27/19



Opens  
2/15/20



*Dinosaurs of Antarctica* is a giant screen film and outreach project that documents the work of NSF-funded researchers on expeditions to Shackleton Glacier during the 2017-2018 field season. This immersive film and companion television special will bring the past to life and engage the public, and particularly students in middle grades (6-9), with polar science through appealing, entertaining media experiences and informal learning programs.

Recommended for All Ages;  
40 minutes

## Special Movies for School Groups Only

Available year-round.



### Dream Big

Recommended for Grades 3 and up; 40 minutes



### Galapagos

Recommended for all ages; 40 minutes



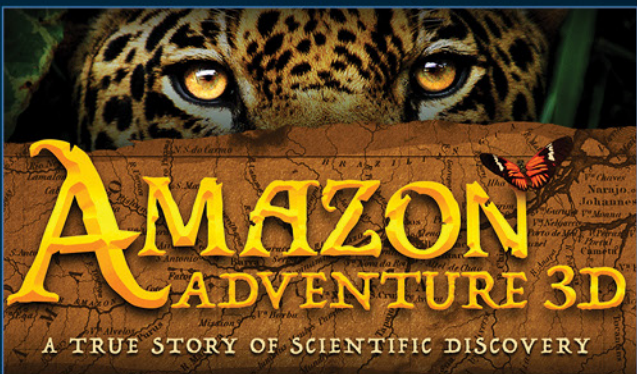
### Extreme Weather

Recommended for Grades 3 and up; 40 minutes



### Planet Power

Recommended for all ages; 20 minutes or 40 minutes



### Amazon Adventure

Recommended for Grades 3 and up; 40 minutes



### Turtle Odyssey

Recommended for all ages; 40 minutes

See more films available for school groups and download educator guides on our website:

► [CTScienceCenter.org/SchoolShows](http://CTScienceCenter.org/SchoolShows)

# LIVE STAGE SHOWS

Join us for an interactive  
LIVE stage show hosted  
by our STEM Educators.



## Global Soundscapes

Recommended for Grades 4–8; 45 minutes

Embark on a mission to investigate the dramatic soundscapes of Costa Rica's rainforests, Hawaii's coral reefs, and Mongolia's vast grasslands. Learn how animals use sounds to survive and communicate in lush, but threatened environments. Funded by the National Science Foundation.



## Forces and Motion

Recommended for Grades 4–8; 45 minutes

Break a few eggs in the name of science as we drop, throw, and splatter our way through the forces and motion that govern our life here on Earth, (and beyond). Explore the physics of car races and rocket launches, learn how to clear a table using science, and discover how to break a board using a ping-pong ball. Learning physics has never been so egg-citing!

**New**

# EXTREME AIR

## Extreme Air

Recommended for Grades 4–8; 45 minutes

See the amazing power of air as we make objects hover in mid-air, break a board using only a ping pong ball, and explore the effects of the pressure that surrounds us. You'll be blown away by our extreme air finale!

Supported by LEGO Community Fund U.S.



### 3D Movie and Stage Show Pricing *per person*

Add a 3D Movie .....	\$6
Add a Stage Show .....	\$6.50

### Scheduling:

Complete and submit the  
Reservation Request Worksheet:  
[CTScienceCenter.org/BookNow](http://CTScienceCenter.org/BookNow)



# SCIENCE IN MOTION

## TRAVELING PROGRAMS



### We bring science to you

Traveling Programs are a mix of science demonstrations and hands-on activities that spark students' scientific curiosity. All programs are aligned with the Next Generation Science Standards.



### Traveling Classroom Programs

We bring fun, hands-on science activities to your classroom with these programs that accommodate up to 25 students and last 50 minutes:

Pre-K (30 minutes)	Grades K-2	Grades 3-5	Grades 6-8
Weather Wonders Need for Seed Wiggly Worms Bubble-ology	On a Roll Habitats and Homes <b>new</b> Sound Breakdown Let It Grow Fact of the Matter <b>new</b> Shifting Sediments <b>new</b> Pollen-Nation Bubble-ology Playing with Polymers	Crash Lab All Eyes on Evolution <b>new</b> Choose Your Chompers Where Does the Water Go? A Chem-Mystery Share the Air Into the Shadows Alchemy Lab Roller Coasters Zip Lines Playing with Polymers	Refraction Action Reason for the Seasons <b>new</b> Tectonic Travels <b>new</b> Bouncing Around Lights, Color, Action! Roller Coasters Living in Space Toppling Towers

For more information on Traveling Programs visit:

► [CTScienceCenter.org/Traveling](https://CTScienceCenter.org/Traveling)

Supported by **TRAVELERS** 



## Traveling Activity Stations for Grades K-9

Ideal for larger events, Activity Stations are tabletop demonstrations and hands-on activities designed to engage groups of students or families in 5-10 minute walk-up experiences. More than one station can be booked for an event. Please be sure to mention audience size when booking.

Electricity  
Dry Ice

Polymers  
Robots

Magnets  
Air Pressure

Bubbles

## Traveling Assembly Shows

45-minute assembly-style shows are designed to get students excited about science in a fun and interactive way. Shows are available for groups of 100–250.

The Science of "Suds"	Grades PreK-5
Rockin' Robots	Grades 2-12
Extreme Air <b>new</b>	Grades 4-8
Forces and Motion	Grades 4-8

Hosting a STEM Carnival or Family Science Night? Contact us to ask about our **NEW Extreme Air Program!** Start your event off with our exciting Extreme Air Show, followed by engaging hands on activities for families and students. It'll blow you away!



See page 12 for details.

## Traveling Program Pricing

Classroom Program .....	\$250
Add an additional session of the same topic ....	\$200
Pre-K Classroom Program .....	\$175
Add an additional session of the same topic ....	\$150
Assembly Show .....	\$500 per show
Activity Stations .....	\$250 per station

**Please note:** Programs require tables and chairs, access to water and/or electricity, and 30 minutes for set up and clean up. **Travel charges may apply.**

**Scheduling:** Complete and submit the Reservation Request Worksheet:

▶ [CTScienceCenter.org/BookNow](http://CTScienceCenter.org/BookNow)

For more information, please email [outreach@CTScienceCenter.org](mailto:outreach@CTScienceCenter.org) or call 860.520.2165.





# LIVE GALLERY SCIENCE



Join us daily for fun and interactive LIVE science demonstrations. Program a robot, build an electric circuit, or get up close and personal with a lizard to learn how it's adapted to survive. Experience hair-raising science with our Van de Graaff generator or even extract a dog's DNA.

With dozens of programs on a variety of science topics, every visit promises a unique experience.

**LIVE Gallery Science is FREE with Group Admission.**

Programs vary and change weekly. Demonstration times and locations are posted throughout the building – just look for the *LIVE Gallery Science* signs.



Supported by LEGO Community Fund U.S.

# FUNDRAISING PROGRAM

**EARN  
\$4.95  
PER TICKET**

## FREQUENTLY ASKED QUESTIONS

**Must I sell a minimum number of tickets?**

No, but there are prizes for the top sellers!

**How long should we run our fundraiser?**

Fundraisers have no set length of time, but we recommend a 10-day sale.

**Can we sell tickets for one specific date?**

Yes; we can create a special day for your school or organization at the Connecticut Science Center. Tickets will be valid for a few months beyond the set date just in case your buyers can't attend on that day.

**Will I have support?**

Yes! You will have support from our sales team.



## ADVANTAGES OF THE PROGRAM

- Everyone pays kids' price
- Your organization earns \$4.95 per ticket
- Pay only for the tickets that are sold
- Marketing materials and posters are provided

For more information or to start a program please contact Group Sales at 860.520.2112 or [groupsales@CTScienceCenter.org](mailto:groupsales@CTScienceCenter.org)



Joyce D. and Andrew J. Mandell  
**Academy for Teachers**  
 at the Connecticut Science Center



## Mandell Academy for Teachers

### Powerful Professional Development

The Mandell Academy for Teachers is your provider of high quality, lasting professional development for educators in and around Connecticut. Our programs give teachers, instructional leaders, and administrators the skills, tools, confidence, and excitement they need to transform classroom instruction and increase student interest and performance in science and other subjects.

Our offerings range from partial day introductions to multi-day intensive experiences to customized, In-District Support. Our programming promotes rigorous science, technology, engineering, and math (STEM) instruction and inquiry and is fully committed to the vision of the Next Generation Science Standards (NGSS). Regardless of time or experience level, we have an option designed to meet the needs of all educators.

#### ► For Teachers

Our engaging and immersive workshops are designed to reinvigorate teachers while they work on their teaching practice. Educators experience inquiry and three dimensional teaching and learning through common experiences that we debrief to build ability with NGSS, STEM, and science integration with other subjects. We offer multi-district sessions at the Connecticut Science Center and at partner locations throughout the state. *See also, In-District Support.*

### Educator Workshop Offerings

Foundation Setting		Capacity Building		Extended Learning	
Offering Title	Days	Offering Title	Days	Offering Title	Days
Elements of NGSS	0.5	Practice of NGSS	3	NGSX Introduction to Three-Dimensional Learning, Part 2	3
Making Sense of NGSS	1	NGSX Introduction to Three-Dimensional Learning, Part 1	4.5	NGSS Assessment Workshop	1
Introduction to Inquiry	5	Classroom Applications of Inquiry	5	Formative Assessment	2
Engineering is Elementary	1-2			NGSS District Transition Planning	1



## ► For Administrators and Instructional Leaders

Like our workshops for teachers, our workshops for administrators and instructional leaders are active experiences designed to build foundational knowledge and skills that can be adapted for individual schools and districts. In addition, we can work with district and school leaders to plan a progression that makes sense for their implementation of the Next Generation Science Standards (NGSS). See also, *In-District Support* for our custom coaching options. Alternatively, for group sizes of at least 12, we can provide a workshop in your district or school.

### Workshops for Administrators and Instructional Leaders

Foundation Setting		Capacity Building		Extended Learning	
Offering Title	Days	Offering Title	Days	Offering Title	Days
Providing Evidence Based Feedback	0.5	Principals Learning About, Networking, and Supporting 3D Science Learning (PLANS)	1.5	NGSS Assessment Workshop	1
Introduction to Inquiry	5			NGSS District Transition Planning	1



## ► In-District Support

Our In-District Support can be aimed at building capacity of district or building coaches or at working directly with teachers. We provide in-action professional learning for coaches and teachers. We use a variety of coaching models to support teachers and students where they are, one on one, in small groups, or in a mix of formats.



Browse all upcoming workshops at ► [CTScienceCenter.org/PD](https://CTScienceCenter.org/PD)

For more information, contact us at [MandellAcademy@CTScienceCenter.org](mailto:MandellAcademy@CTScienceCenter.org) or call 860.520.2193

