

# newscience

NEWS FOR MEMBERS AND FRIENDS OF THE SAINT LOUIS SCIENCE CENTER

FALL 2020



Connect with your museum.  
Support science for everyone.

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## Connect with curiosity.

Dear Friends of the Saint Louis Science Center,

As we head into the last few months of the year, I know we have all seen some high and low points throughout 2020 so far. One of the high parts that I've found is how this year has truly demonstrated that science is all around us, and we are always exploring and learning more.

Throughout the COVID-19 Pandemic, we've seen the process of theories being formed and proven or disproven as we continue to learn more about this virus, how it spreads, how to treat it and, hopefully, how to prevent it in the future. And this is just one example of science at work in our daily lives.

Science isn't an esoteric topic that is studied simply to pass a class. It truly surrounds us; it helps us understand our bodies, the environment, the universe, technology, the food we eat and more. It is what inspires us at the Science Center, and is at the core of all that we do. At the Science Center, science is not just one subject matter; it encompasses many. STEAM (science, technology, engineering, arts and mathematics) inspires everything from our educational programs, to our onsite galleries and digital content. We strive to connect people with these topics and ideas and how exciting and meaningful they are in our lives, even when we don't realize it.

This is the second digital-only version of *NewScience*, and we hope you are enjoying the interactive content throughout the publication. Be sure to watch for links throughout so you can delve deeper into a subject matter through videos and other content. In this issue, you can learn about Science Center galleries and the subjects that inspire them, the inventions and accomplishments of Leonardo da Vinci, the Science Center's Youth Exploring Science program and more.

Connecting the community to science remains the core of everything we do. We appreciate your support as we work towards our mission "to ignite and sustain lifelong science and technology." As a nonprofit, the Science Center relies on support from donors and members to keep our region connected to science learning. If you're able, please consider [renewing your membership for another year or gifting a membership](#), [becoming a Supporting Member](#) or [making a gift to the Science Center's Annual Fund](#).



Sincerely,

Todd Bastean  
President and CEO

**To ignite and sustain lifelong science and technology learning.** Mission of the Saint Louis Science Center

Connect with us for updates, special events and fun science.





## Hours

For hours of operation, please [click here](#).

## Contact

314.289.4400

[slsc.org](http://slsc.org)

Saint Louis Science Center  
5050 Oakland Avenue  
St. Louis, Missouri 63110

## Membership

[slsc.org/membership](http://slsc.org/membership)

[memberships@slsc.org](mailto:memberships@slsc.org)

314.289.4424

## Reservations

Advance Sales 314.289.4400

## Education

Field trip information: [slsc.org/field-trips](http://slsc.org/field-trips)

Educator Resources:

[slsc.org/educator-resources](http://slsc.org/educator-resources)

Programming information:

[education@slsc.org](mailto:education@slsc.org)

## Events

Host your next private event at the Saint Louis Science Center. Services and catering provided by Saint Louis Science Center Events. For information: 314.533.8179

## Accessibility

Complimentary wheelchairs and strollers available in the lobby. Motorized scooters are available for a rental fee. Personal Hearing Assistance Devices available at the OMNIMAX® Theater and Planetarium. Captiview captions devices available for all OMNIMAX films.

## Official Partners

The Saint Louis Science Center gratefully acknowledges the support of our Official Partners.



## Features



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### Membership Pledge

At the Science Center, St. Louis is part of our DNA. Science has never been more relevant to our daily lives, and our dedication to our mission has never been more focused.

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### Science Today

Learn about the impact of coronavirus on pollution and why reductions in pollution today aren't enough to fight climate change. Then read about how St. Louis is contributing to vaccine research during the pandemic.

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### Gallery Spotlight

Our galleries are known for hands-on interactive activities and immersive experiences. Today, touch has been put under a microscope, so as we look to new ways to engage, we'll also share the importance of touch and why it's needed.

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### Science Never Stops

Amazing at-home activities bring science straight to your living room. Learn about constellations, the power of observation and more.

24

### Partnership Spotlight

Thank you to our donors and members who have helped us move forward together during these challenging times. We're dedicated to supporting you and the St. Louis region with important science experiences for everyone and ways of connecting, even at a (social) distance.



Engage with *NewScience* in a more interactive way. If you see this icon, click on it to see more content!

# Support science for everyone.

As a part of St. Louis, the Science Center is grateful to have the generous support of our members, donors and community. While we were closed due to the impact of COVID-19, we took the opportunity to reimagine, reshape and rethink the Science Center. During those months, our Science Center team adjusted programming to give you a museum from the comfort of your own home, we worked tirelessly to reopen the building safely for everyone, and we never forgot the importance of science in helping each of us understand the changing world around us.

While the world searched for answers to the challenges facing our global community, we examined our identity and how we can make an even greater impact on the study of science. The Science Center mission is to “ignite and sustain lifelong science and technology learning”, and with this in mind, we dove deep and developed an enlightened focus and pledge defining what the Science Center membership community stands for.



Tapioca flour and starch  
come from Cassava

## Corn

19.5% global calorie consumption

Top corn producing  
Brazil, China, India,

There are more than 3,500  
different uses for corn products.

less diversity  
we find in our  
back to a small  
grown around  
g to the United  
ops—rice, wheat,  
provide more  
derived calories  
worldwide.

## Rice

16.5% global calorie consumption

190,000 acres of rice grown  
in Missouri and Illinois

Top producing rice countries:  
China, India, Indonesia

There are  
40,000

Rice is consumed  
of the world's population



# A Pledge To Our Membership Community

The Saint Louis Science Center is more than just a museum. We're a community, and together we inspire, challenge and lift one another. We welcome each curious mind to question every assumption and test every theory.

In an often uncertain world, we put science at the center of everything. We're guided by proof, not presumption. And through that critical lens, we find answers. We find hope.

Science lights the way for every dreamer and discoverer, every innovator and explorer. By supporting science, you become a part of those journeys, and we hope to inspire you to embark on your own.

St. Louis is part of our DNA and for nearly three decades we have supported science education in our community. We invite you to play an important part in our mission and help us illuminate what science makes possible. Together, we move forward to the future — connected together by the Saint Louis Science Center.

## Our Focus



### Science First

Science has never been more relevant to our daily lives. We are dedicated to being your resource for science education and a space for science supporters.



### Community

We will continue to support the St. Louis region in science and technology education for the discoveries of today and the breakthroughs of tomorrow.



### Forward Together

With each new advancement and in spite of inevitable setbacks, we have the opportunity to learn from one another for a better future together.



### Safe Institution

We are dedicated to providing you a place of hope, facts and logic, as well as a space that is safe, comforting and inspiring.



# Has Coronavirus' Reductions in Pollution Affected Climate Change?

Back in March 2020, as the United States and most of the world began shutting down as part of the coronavirus pandemic, news stories circulated noting dramatic reductions in carbon dioxide (CO<sub>2</sub>) levels and nitrogen dioxide (NO<sub>2</sub>) emissions.





Between stay-at-home orders and social distancing, fewer people were out driving and traveling, and a wide range of industries significantly decreased their energy consumption or shut down entirely.

Recent studies from the Missouri Department of Natural Resources back up the claim that pollution levels from nitrogen dioxide did in fact drop during St. Louis' shutdown. According to a report released in mid-May 2020, between the period of March 23 to May 4 pollution levels had decreased compared to the same span during 2019.

However, a recent article from Alejandra Borunda at National Geographic explains that, despite decreases between 17 and 30 percent in carbon dioxide emissions around

the world, those decreases have made only a small impact on the overall carbon dioxide concentration in the Earth's atmosphere.

Borunda writes,

***"About 45 percent of the world's CO<sub>2</sub> waste generally comes from making heat and power." During the stay-at-home orders, people still needed things like electricity and heat. "All in all, the reduction in daily emissions got us, as a planet, back down to the [CO<sub>2</sub>] levels we were at in 2006."***

Goals proposed by the United Nations' Intergovernmental Panel on Climate Change suggest that the world needs to get back to the emissions levels of the 1990s and

do so within approximately one decade to keep the most destructive effects of climate change from affecting life on Earth. That's an approximately 7.6 percent decrease in emissions each year for the next decade, compared to the approximately 8 percent decrease we'll see this year.

While the feasibility of reducing emissions levels by keeping global economies shut down may not be realistic, the situation does show that large scale issues like climate change pose more complex challenges than people might expect.

If nothing else, the unique situation shines a light on just how much pollution is produced even when people are stuck at home.



# Using Mice to Unlock the Secrets of Another Pandemic

**Mice are by far one of the most common test subjects used by scientists and researchers when studying the effects of illness and disease.** The race to discover ways of treating COVID-19 or vaccinating against it are paramount on researchers' minds.

What makes mice so special is that they are affordable, friendly and don't take up much space. Plus, mice produce large litters of offspring with a similar genetic makeup, which in turn makes it easier to watch how a disease works, as well as how a subject's immune system responds.

Since the genetic structure of a mouse is different from that of a human, scientists must sometimes breed a different strain. For example, with COVID-19 ordinary mice aren't typically susceptible, as they don't carry the same ACE2 protein as humans, which the virus attaches to once inside the body.

Recently, [Smithsonian Magazine looked at one research institution, the Jackson Laboratory in Maine](#), that is working to take the frozen embryos of mice that were genetically modified to research SARS and breed them to help crack the coronavirus case. But demand still outweighs supply, making it difficult for researchers to get the modified mice for testing.

[So, here in St. Louis, a team of researchers at Washington University are taking a slightly different approach.](#) Led by Dr. Michael Diamond, a professor of medicine who specializes in infectious diseases, the research team has developed a mouse model of COVID-19. But rather than using mice bred with the human ACE2 protein, they've developed a method of inserting the gene for the human ACE2 into mice using a modified respiratory virus called adenovirus.

The adenovirus delivers the gene, causing the mice to produce the necessary protein, which then allows scientists to examine COVID-19 on mice who wouldn't ordinarily have been viable candidates. In addition, this new approach opens avenues of studying the effects of COVID-19 on mice that suffer from high blood pressure, obesity, heart disease and more.

Dr. Diamond and his team have published their mouse model for other researchers to use, potentially increasing the number of scientists able to study the virus as the world waits for an effective treatment or vaccine.







# Your Membership Benefits

For our membership community, we are always looking to enhance your benefits and provide you important perks that pique your curiosity. Many of you have been with us since we had to close our doors and then safely reopen to the public. What you see is the same Science Center you love but with new guidelines and precautions to keep you safe in the current reality of COVID-19. We truly appreciate your support as we work through it together.

To keep you connected with us, even outside of the building, we launched new digital programs – virtual member events and an online museum – that you can still take advantage of from home. These new member benefits continue and help enhance and broaden the ways you can connect with science. To help ensure that funding is available for our education programs, we have shifted much of our communication to email.

As we continue to evaluate COVID-19, membership benefits will keep evolving. We hope you will stay on this journey with us as we find new ways of connecting you with science education. For a current list of membership benefits, please visit [slsc.org/memberships](https://slsc.org/memberships).

If you haven't been back to the Science Center yet and plan on visiting soon, please be aware of our new precautions and protocols before your visit. For more information, go to [slsc.org/exploresafe](https://slsc.org/exploresafe).



## Watch Previous Virtual Member Events



**Member Mission:**  
Inside the Hive



**Community Chat:**  
The Food Supply Shift



**Member Mission:**  
Collections Tour –  
Archeology Department



**Chat with a Scientist:**  
Mars Rover Launch



## Member Preview Days

# Science Center Reopens

Thank you to all our members who joined us as we reopened the Science Center building for Member Preview Days on June 18 & 19. We were so happy to see our members again and felt the overwhelming support from those who were able to experience the Science Center before we reopened to the public on June 20.



### Save The Dates



## Virtual Member Events

**Virtual Collections Tour:**  
**Women in Science**  
Tuesday, September 15

**Virtual Member Mission: Energy Stage**  
Thursday, October 1

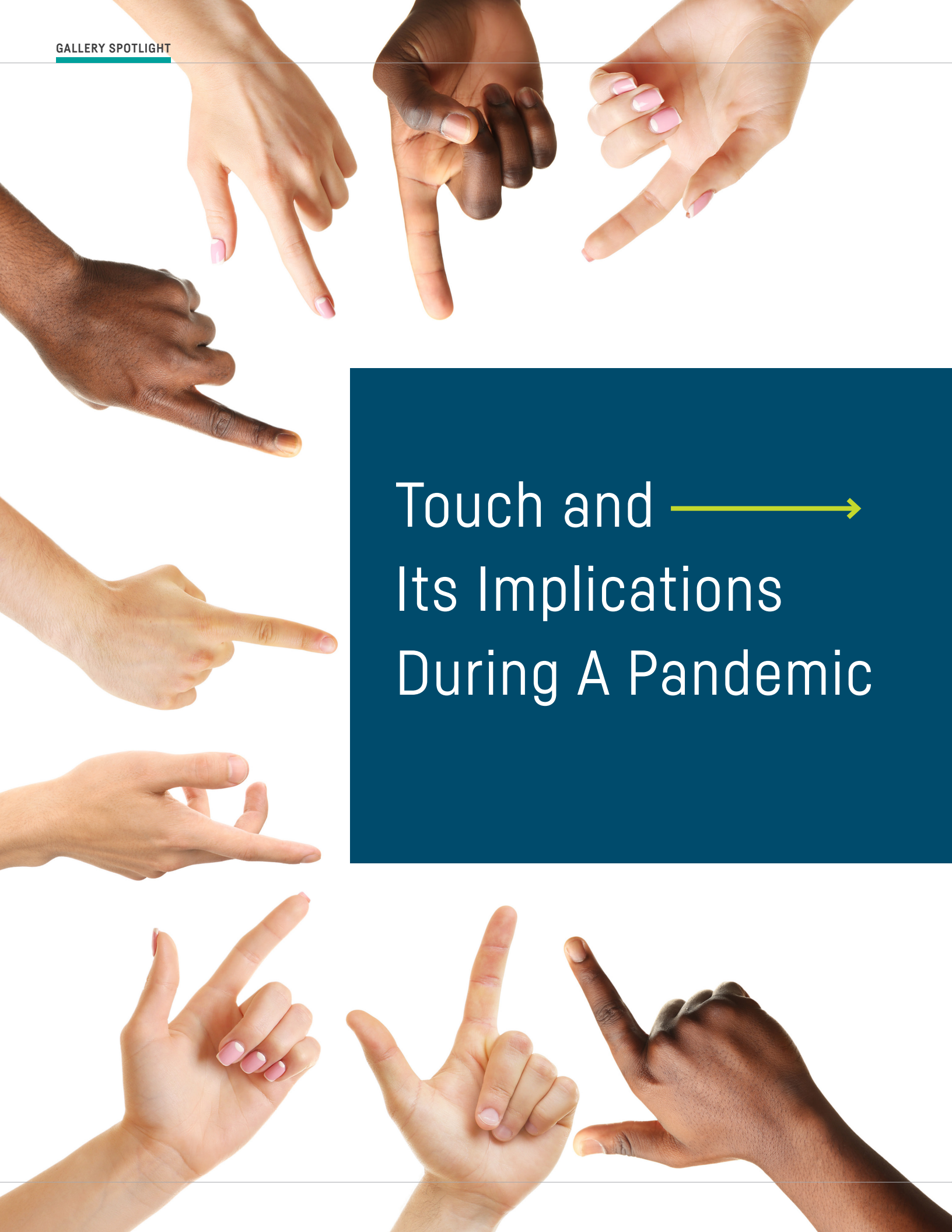
**Virtual Member Mission: GROW**  
Thursday, October 22

**Virtual Collections Tour: Zoology**  
Thursday, November 12

Event dates are subject to change during this time. Please visit [slsc.org](https://slsc.org) for the latest information.



Watch the team's Welcome Back video



Touch and —————→  
Its Implications  
During A Pandemic





MakerSpace has been completely rethought and focuses on scientific observation - the basis for many of today's discoveries! (Read about this change on page 17.)



Liquid nitrogen and warm water mix to create a cooling cloud the audience can feel from a distance.

The sense of touch is how we engage with the world, and at the Science Center it's central! Connecting with objects through touch can take us to different time periods or parts of the world. Touch plays an important role inside the museum—it's one of the primary ways we bring our members, guests and community closer to science.

To do that, we consider how we can demonstrate a concept like clouds and weather, then ask the question, "How can someone touch that?" In this case our answer is by mixing liquid nitrogen and warm water, which results in a cloud with cooling effects that can be felt even from a safe distance. (See this in person at the Colder Than Ice demo at the Energy Stage each day.) When touch might not be physically possible, like with DNA, we use physical models or even some representations that are 3D printed in our Makerspace. You can see many of those models in our Life Science Lab.

Our work is framed around touch and group learning. As we started to reopen we quickly realized, in order to serve our mission, we would have to adapt to some new constraints, like physical distancing, mask wearing and increased cleaning to keep our hands-on experiences within important city guidelines for safety. As we started thinking about how to accomplish

this, we wanted to keep touch at the forefront as much as we could. We relied on the design and engineering process—Think, Make, then Try—and included time at the end of each day to reflect on what worked, as well as what we can do better.

After reopening, we started offering one-on-one engagement with objects. These allow us to connect with our guests, have meaningful conversations and keep touch's role in our learning model central to the guest experience. As our members and guests begin to return they can expect the galleries to look a bit different. Our Makerspace gallery has been completely rethought, and guests can learn about scientific observation. (Read more about this on page 17.) And while the Discovery Room is closed, little learners can experience pop-up early childhood stations on select days.

What hasn't changed is that, at our core, the education team at the Science Center gets to live the museum's mission every day by making meaningful connections to science. Sometimes all it takes to start a lifelong passion for science is just a touch.



Discovery Room is closed, but you can see our Early Childhood team at our Energy Stage for Science Storytime and experience pop-up early childhood stations on select days.



See you soon in your museum! Watch this video from Associate Director of Education and Galleries, Liz Senzee, to hear more about the use of touch in the galleries.

## There are only 4 letters in the language of life: A, T, C and G.

These letters represent four molecules – adenine, thymine, cytosine and guanine – which pair together to form the double helix structure we call deoxyribonucleic acid (DNA). DNA is the universal language for writing life's instruction manual. It tells every living thing on Earth how to look, how to function and how to make more of themselves – meaning all of life is related.

Before we knew about DNA, we categorized living things based on how similar or different they looked. Now, using a process called sequencing, scientists today can record every single base pair (A-T, C-G) in an organism's DNA. By comparing the genomes of different species, we can now draw a more accurate Genetic Family Tree. Using our shared DNA as a map, we can even find common ancestors in our Genetic Family Tree. It also helps scientists study human health, medicine and childhood development in new ways.



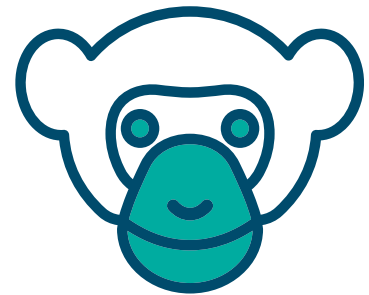
[1990–2003]

### The Human Genome Project revealed the following:

**99.9%**  
of DNA is identical  
in all humans

**.1%**

of our genome  
gives each  
human their  
differences



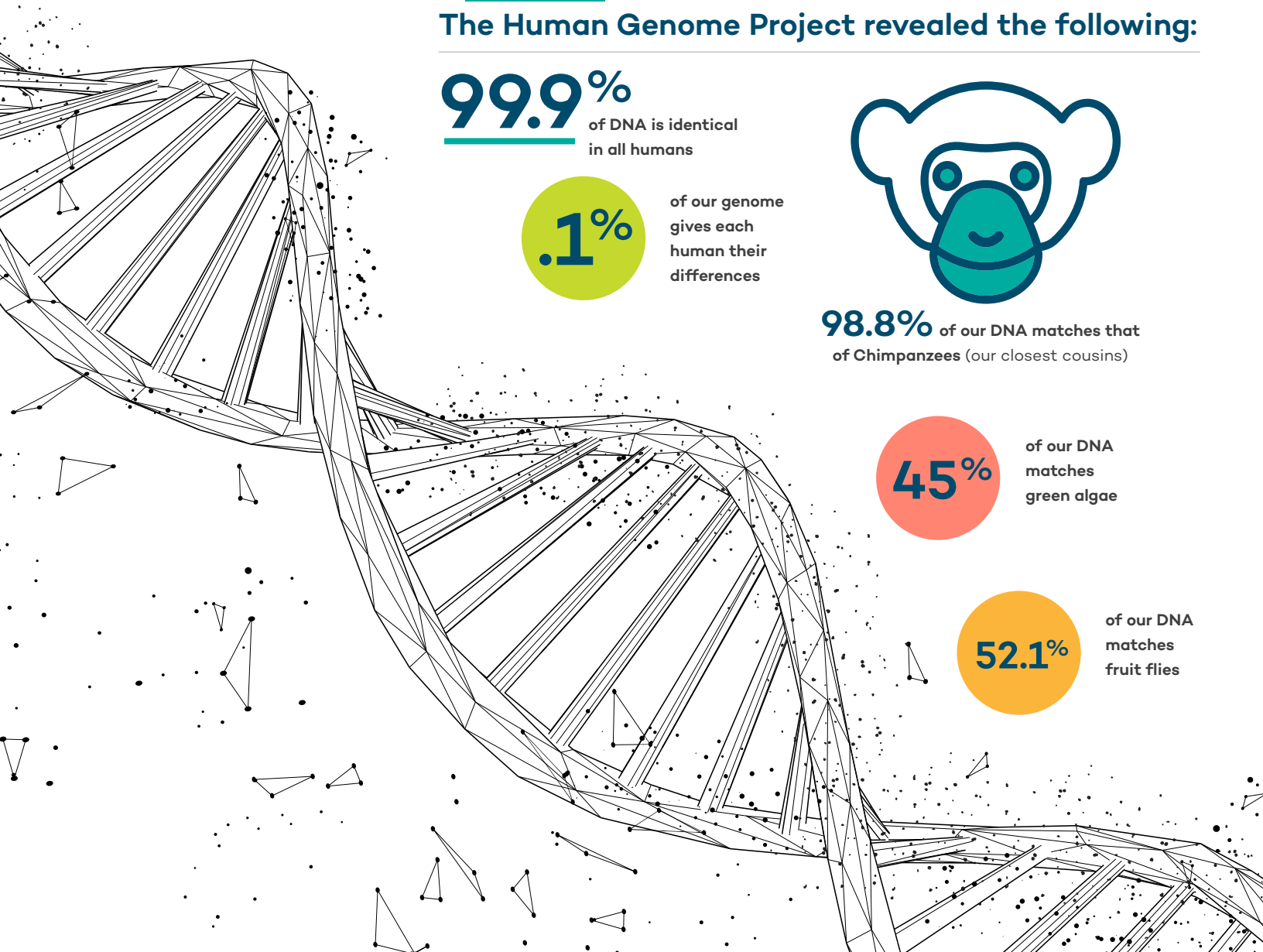
**98.8%** of our DNA matches that  
of Chimpanzees (our closest cousins)

**45%**

of our DNA  
matches  
green algae

**52.1%**

of our DNA  
matches  
fruit flies





## Developing Fine & Gross Motor Skills

Good motor control enables children and babies to explore and interact with their environment, which helps to support many other areas of development throughout their lives. Developing these skills is important for a child's learning and independence.

Gross motor skills are those related to large muscle groups like those in the legs and arms and include movements such as sitting up, standing, walking, running and throwing. Fine motor skills are those that require the small muscles in the hand and wrist, such as zipping, buttoning and writing. Here are some different ways to strengthen gross and fine motor skills.



Watch this video from Emily, Manager of Early Childhood, on early childhood development.



### To strengthen gross motor skills, try these:

**Wheelbarrow walking:** Hold your child's feet and have them "walk" on their hands. This promotes upper body and core strength.

**Unstable surfaces:** Walking or crawling on unstable surfaces like pillows or cushions helps develop balance and body strength.

**Obstacle course:** Set up an obstacle course that includes things for your child to hop over, crawl under and climb upon. This combines different gross motor practices into one exciting activity.



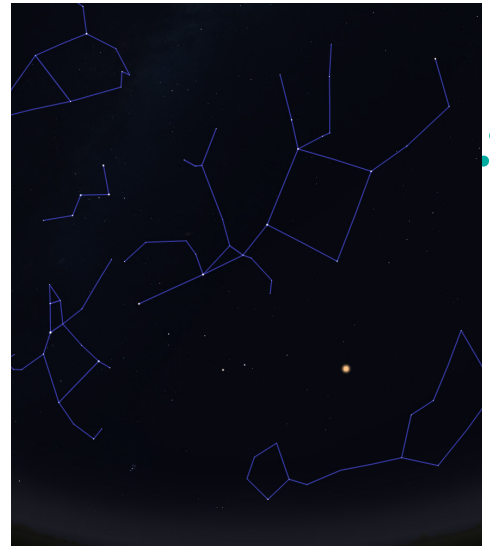
### To strengthen fine motor skills, try these:

**Put together puzzles:** This develops cognitive and problem-solving skills as well!

**Help around the house:** Setting the table, wiping surfaces with a sponge, stirring food and picking up toys all use fine motor muscles.

**Do finger plays:** Try the "Itsy Bitsy Spider" finger play. Plus, it's a great way to encourage language. For more ideas, visit [Let's Play Music](#).

## The Fall Night Sky



While our autumn constellations in St. Louis may not provide many easily recognizable patterns, a trained eye will be able to spot some of the most spectacular stories and objects that the year has to offer.

To see a star show in the McDonnell Planetarium, view our schedule at [slsc.org/planetarium](http://slsc.org/planetarium).



See what constellations and objects you will see this fall.



Find out about the disastrous mythological events that brought Andromeda and Perseus together.



# Dear Gourd, It's a Pumpkin?



In our GROW Gallery, Hannah Reinhart, GROW plant and animal Manager, introduced a new fruit to the Science Center grounds – Dickinson pumpkins. It does not look like your traditional orange pumpkin, which often leads people to question whether it's a squash or a pumpkin. To "squash" this debate, just know that a pumpkin has no botanical meaning and, in fact, all pumpkins are actually squash.

Why is this specific pumpkin so important? Well, it's what makes pumpkin pies so good. 100% of Dickinson pumpkins go into Libby's

canned pumpkin and 80% of those Dickinson pumpkins are grown right next door in Illinois. This is not a surprise as Illinois is the largest producer of pumpkins in the United States. Farmers in Illinois also grow many of the ornamental pumpkins you see during fall.



Watch a time lapse video of the giant pumpkin growing at the Science Center.



# IT ALL BEGINS WITH A MAKER MINDSET

## Creating a New Makerspace Experience

Our Makerspace Gallery recently had a makeover and may look a little different than you are used to. The changes came about to comply with social distancing requirements and to give our guests a new way to interact with the space. We interviewed Trent Smith, manager of the Makerspace gallery, to get his perspective on the Makerspace updates.

### In one sentence, describe what Makerspace is.

In Makerspace, we challenge people to think outside of the box and pull them out of their comfort zone. I know you asked for one sentence, but we really practice what we preach. We did a DIY abacus and sums project a few years ago, and I am so bad at math, but approaching it with the Maker philosophy made it a better experience.

### Why is a Makerspace important, and how does it help guests get interested in science?

In its simplest form, Makerspace challenges guests to create something that does not typically have a specific set of directions. We go as broad as stop motion animation to building with cardboard. These programs are scalable and very accessible. This adaptability put us in the position to provide a gateway into STEAM education.

### How is Makerspace adapting to the COVID-19 pandemic?

We designed programming that fit the Science Center's new operations. We want to do more than keep a safe space; we want to make sure we are still engaging the public.

### How is this new version of Makerspace different?

We are simply encouraging guests to look and draw from our collection, so we can have a safe and tactile experience. Lyn, one of our educators in Makerspace, is one of the most talented educators and makers I have ever worked with. She makes switching and adapting very easy. Furthermore, she did a lot of extra work to get the space organized while I was working from home with my nine-month-old son. She and our mutual supervisor did the heavy lifting.

### Support from members and donors plays an important part in helping galleries like Makerspace continue to evolve. What are some things you'd like (or need) to do with Makerspace down the road?

We would love to broaden our program offerings and really revamp the interactives. Currently, they all center on aeronautics. We have a bank of ideas that we would like to see implemented on a larger scale. Also, we would enjoy doing a community sourced project and installation. But that would be a bit further down the road.



Try to watch and observe on your own. Show us what you come up with.

If you'd like to give additional support for continued development and updates to galleries like Makerspace, consider **becoming a Supporting Member** or **making a one-time gift to the Annual Fund**.

Learn more about our Makerspace Gallery. Visit [slsc.org/makerspace](https://slsc.org/makerspace).

# Inventions and Accomplishments from Leonardo da Vinci

Leonardo da Vinci was born in 1452 as Leonardo di ser Piero in an Italian countryside region called Vinci. During his travels he started to identify himself as Leonardo da Vinci and became the famous scientist, inventor, astronomer and painter we know today. In fact,

his ideas and research sparked several advancements in science and technology. Let's explore some of those inventions and influences that led to a new way of thinking and new progressions in society.



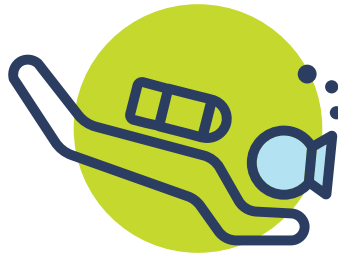
## The Hang Glider

Da Vinci studied friction and resistance as well as the movement of birds. He thought that we could one day fly like them and defy gravity. In his drawings, the glider concept is one of his most original and showcased how humans could interact with machines to take flight. Da Vinci's vision of flying in the clouds eventually came true when paraglider Robbie Whitehall successfully flew a glider based on Leonardo da Vinci's design.

### Try this:

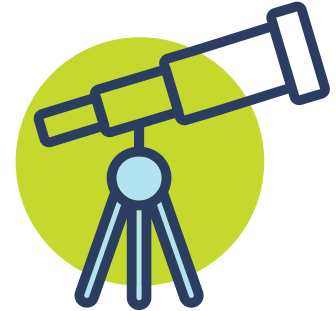
Da Vinci's research and experiments with flight helped make way for the future of humans in the sky. Create your own paper airplanes at home and see how different shapes, folds and paper weights change the distance of airplanes.

*Educator Guide content courtesy of Imagination Exhibitions.*



## The Diving Suit

Many drawings from da Vinci included water as he studied the properties and laws of motion. As part of his many experiments and inventions, da Vinci developed several devices that allowed a person to breathe under water. The diving suit he created was a bomber jacket, pants and a mask with glasses and a breathing tube. This all helped pave the way for SCUBA suits we know today.



## The Telescope

Da Vinci also explored elements of light and time. To advance his theories on optics, da Vinci often experimented using methods like mirror rooms to observe subjects from every angle. Da Vinci may have influenced the invention of the first telescope, as he stated that using lenses and mirrors might be the key to observing the night sky. A century later, Hans Lippershey introduced his telescope, which used some of the principles da Vinci conceived.



**CLOSES SEPTEMBER 27**

**Members Receive Discounted Tickets**

**\$6.50 per member**

Explore more at our special exhibition, *Da Vinci The Exhibition*. Tickets are required. To make reservations or learn more about the exhibition, visit [slsc.org/davinci](http://slsc.org/davinci).



## Use Photographs to Observe Landscapes

*National Geographic's 50 Greatest Landscapes* exhibition features photos of breathtaking landscapes from around the world, but you don't have to travel the globe to make observations about the wonders of the natural world. You can observe, document and share the nature you encounter in your own backyard with the iNaturalist app.

iNaturalist is a joint project between California Academy of Sciences and National

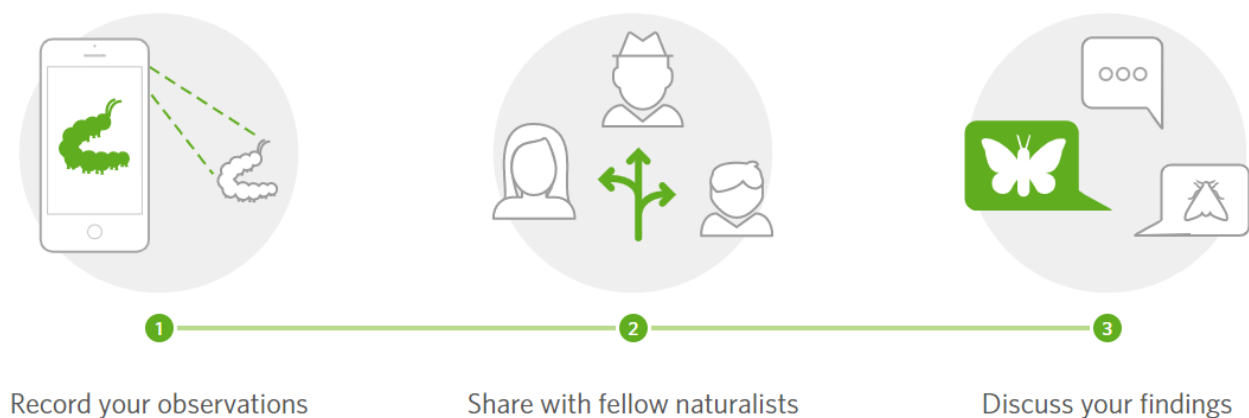
Geographic that allows you to contribute to biodiversity science by sharing your observations "from the rarest butterfly to the most common backyard weed." With iNaturalist, your findings are added to scientific data repositories like the **Global Biodiversity Information Facility**. You can also contribute to special projects such as the **St. Louis Forest Park: Urban Biodiversity Inventory** right here in St. Louis.

### Looking to learn more?

Try out the iNaturalist companion app **Seek** which uses image recognition technology to identify plants and animals around you.



## ▶ How it works.



**NATIONAL GEOGRAPHIC**

**「50」**

***Greatest***

**LANDSCAPES**

**L**



Our planetarium tunnel exhibition, *National Geographic: 50 Greatest Landscapes*, is currently on display until early next year. Visit today to view these beautiful landscapes from around the world and get inspired to capture the beauty of nature that is all around you, every day. This traveling exhibition is free for all and will take you through four different seasons of awe and wonder.

Visit [slsc.org/National-Geographic-50-Greatest-Landscapes](http://slsc.org/National-Geographic-50-Greatest-Landscapes) for more information.



FROM HOME

# FIRST FRIDAY

Enjoy some of the best parts of First Friday without leaving the comfort of your home! First Friday from Home is the Science Center's way of bringing First Friday to you virtually. Each event begins at 6pm on the first Friday of the month on our website and Facebook page. Every fifteen minutes throughout each event we post new content, including trivia, polls, presentations and other interactive elements for you to enjoy wherever you are.

**Check out these upcoming First Friday from Home virtual events:**



## September 4: Studio Ghibli Night

From *Howl's Moving Castle* and *Ponyo* to *Spirited Away*, share your love of Studio Ghibli films with other fans without leaving your house! We'll be diving into the wonder, and science, of these films with trivia, opportunities to interact and more.



## October 2: Solve a Mystery!

We all love a good whodunnit and this is your chance to follow along with the clues to help us solve a mystery. Learn about the history and future of forensic science, test your knowledge of mystery authors and so much more.



## November 6: Harry Potter

Return to Hogwarts once more and explore the science of our favorite wizarding world. Shop from local artists and crafters, complete a special mission and learn how chemistry connects to Harry Potter with our special guest, Dr. Rebecca Lai.



View the recording of our Wonder Woman First Friday from Home feature presentation.







**Experience our new theater**

**featuring IMAX® with Laser**

Come join us at the OMNIMAX® Theater to see a film in our 360-degree dome. Your safety is important and we have implemented reduced capacity for each film. We highly recommend reserving tickets before your visit to ensure your spot is secured. For more information on tickets and showtimes, please visit [slsc.org/omnimax](http://slsc.org/omnimax).

## Documentary Films at the OMNIMAX Theater



**NOW PLAYING**  
DOCUMENTARY FILM



Join Neil Armstrong, Buzz Aldrin and Michael Collins during the momentous Moon landing mission in 1969.



**NOW PLAYING**  
DOCUMENTARY FILM



Discover the beauty and mystery that can be found in your own backyard.



**NOW PLAYING**  
DOCUMENTARY FILM



Journey to a land of grizzlies, sea otters and the rare all-white spirit bear in a magical environment unchanged for 10,000 years.

Did you know that the Science Center's OMNIMAX Theater plays select feature-length films? You haven't seen a movie until you've seen it in the OMNIMAX.

Watch for updates on upcoming feature-length films in your email inbox or at [slsc.org](http://slsc.org).

## YES Goes Virtual For The Summer

Curiosity never stops. When COVID-19 jeopardized future plans for summer programs, the Saint Louis Science Center's Youth Exploring Science (YES) Program decided to go virtual for the summer. YES offers seven components for participants, from Aerospace to Media Production. Online sessions were created for the teens to complete in their own homes, where they could continue to focus on their area of STEAM. YES educators, like many others across the world, adapted to off-site learning and online demonstrations, webinars and activities.

Sessions included using iMovie to shoot videos on their own phone, analyzing how COVID-19 affected our food supply and public health lessons about social distancing. Teens were able to choose sessions outside of their own component topic, so they could explore Cybersecurity one day and Entrepreneurship the next.

In addition, the Science Center's YES Program was a supporting community partner of Girls, Inc. of St. Louis' summer virtual camp. Virtual lessons and activities were prepared for Girls, Inc.'s instructors to facilitate for more than 400 registered participants, including students in the Jennings School District.

For more information on our YES Program, visit [slsc.org/yes](http://slsc.org/yes).

***"Be the change you wish to see in the world."***



When asked about what the approach to learning this summer should be for the program, YES Teen Michael Bolstic said, *"Be the change you wish to see in the world."*

## YES Teens Win 2nd & 3rd Place in NFTE Regional Competition

At the Network for Teaching Entrepreneurship (NFTE) Regional Competition on May 21, YES Teens Lailah Hall and Anthony McDonald advanced to the final round of the competition. Lailah and Anthony serve as founders and co-CEOs of their business – Quick Farm, a program that developed an app to sell subsidized local, fresh and healthy produce to families living in food deserts.

In addition, YES Teen Michael Bolstic's business, I Am Not A Statistic, moved to the final round. Michael's company is a nonprofit organization that helps pair high school mentors with elementary school students to help increase literacy, academic achievement, character education and self-efficacy. His program has already trained 20 mentors and is approved to begin in two school districts during the 2020–2021 school year.

Quick Farm and I Am Not A Statistic were two of three businesses that made it to the final round at NFTE. Quick Farm's hard work earned 3rd place in the region and a \$500 prize. I Am Not A Statistic won 2nd place in the region and a \$1,000 prize. Michael and his business will advance to Nationals to compete on October 16.





## Community Science Department Creates Online Coding Course

In the face of COVID-19 and in an effort to keep his students connected and informed about coding, Bill Stanard, manager of technology for the Community Science department, decided to create an online course called Python Games. While the course may seem to be focused on building games, the heart of it is to build survival skills.

*"The first thing that I try to do is make sure that it's something that is going to help [students] either survive, or get a leg up, or in some way impact them in their lives," Bill says. "We need to give them survival skills. And the survival skills in this day and age are – at least part of them are – STEM-based, science-based."*

Read more about Bill's Python Games coding course on the [Science Center blog](#).



Learn more about the importance of coding and robots directly from Bill Stanard. Listen to this interview on [Educate.Today](#).



## Give the Gift of Membership

**Spark a passion for science. Ignite a lifetime of discoveries.**

A Science Center membership doesn't have to be for yourself. In fact, the incredible perks of membership make for an out-of-this-world gift for just about any occasion—from a birthday, a holiday or simply a thank you. Gifting a membership to the Science Center unlocks a full year of benefits for someone you care about, whether they're a budding scientist or a lifelong learner.

Gifting a membership also allows you and the recipient to know that you're both supporting STEAM learning in St. Louis. Plus, the Science Center is part of the Association of Science and Technology Centers (ASTC), meaning a membership has benefits not just across the U.S. but around the world. [Visit our Memberships page](#) to see how you can give the gift of membership.

# #Giving Tuesday



## Spark Science Opportunities for Everyone.

Mark your calendar for  
**#GivingTuesday**  
**December 1, 2020**

Gifts for Giving Tuesday support science connections in the St. Louis region. Donations help support the Science Center's Annual Fund, which powers everything from our community programs and partnerships, outreach and education efforts like Youth Exploring Science (YES) and the mission-driven educators and STEAM professionals bringing open, accessible science education to our community every day.

If you'd like to support the Science Center today, visit [slsc.org/support](https://slsc.org/support) to learn about Supporting Memberships, planned giving and corporate giving. To make a gift to the Annual Fund, visit [slsc.org/donate](https://slsc.org/donate).

# MISSOURI BEEF<sup>®</sup> INDUSTRY COUNCIL

**For almost 35 years, Missouri Beef Industry Council (MBIC) has been the leader in bringing the story of Missouri beef from pasture to plate. In 2016, MBIC joined the Saint Louis Science Center as a founding GROW partner and has continued to provide support and guidance for the gallery.**

"We are passionate about ensuring the thousands of visitors to GROW have ongoing access to exhibits, educational programming and events that showcase the critical role Missouri's 46,000 hard-working cattle farmers and ranchers play in providing a high-quality, protein-rich healthy food supply," says Mark Russell, executive director of Missouri Beef Industry Council.

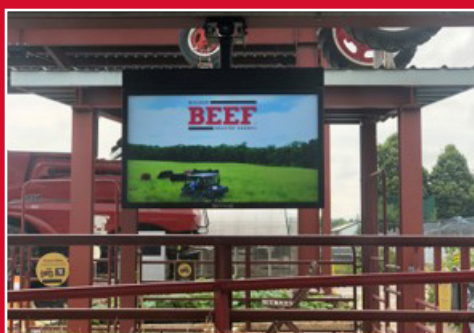
Through the years, GROW visitors have discovered more about Missouri's three million head of cattle through educator-led activity carts, the Bi-State Ag Map exhibit and events throughout the year, including BEEF Day and SciFest:

The Great Outdoors. GROW events often feature a personal appearance by a cattle farmer and cows in the Animal Corral.

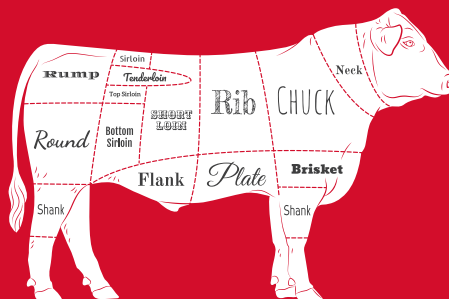
"Missouri Beef Council has been a vital sustaining partner from the beginning of GROW," says Maddie Earnest, manager of GROW.

"Through representation on the GROW advisory board and regular visits with the staff, Missouri Beef helps to provide current information about beef production in the U.S. They also introduce our visitors to the farmers and ranchers who raise cattle around the state. This is so important because it teaches where our food comes from and what it takes to produce food in the United States."

## Recent MBIC support has brought new and unique opportunities for visitor engagement to the GROW gallery



NEW Animal Corral Video Monitor features real cattle farmers and ranchers from across Missouri.



NEW Beef Cattle Puzzle coming to the GROW Pavilion in Fall 2020



NEW Outdoor Cattle Photo Op installation coming to GROW in Fall 2020

**MBIC has once again renewed its support of the GROW Gallery through 2021 at its board meeting in July.** The renewed support will feature enhanced partnership opportunities for MBIC and GROW through events and joint marketing efforts. Janelle from Team Beef Missouri will be on hand at Science Center events to share nutrition and training tips.

MBIC will also connect with local educators at the Science Center's Teacher Development Network Event, Ag Awareness Day, Teacher Training and Listening Sessions and more. MBIC's educational partnership will extend to the Science Center's Youth Exploring Science (YES) Program and the YES Community Partners. Through this new collaboration, MBIC and YES staff will create educational content for YES teens that will be shared with YES Community Partner organizations and at the free YES Summertime Science Camps for children from underserved communities.



Science Center's Institutional Advancement team and MBIC members at July board meeting.





## Missouri Rice Research and Merchandising Council Renews GROW Support

The Missouri Rice Research and Merchandising Council (MRRMC) renewed its support of the GROW Gallery. Missouri Rice is a founding GROW partner and continues to have a significant role in supporting innovative rice farming practices, as well as extensive research and ongoing farm conservation efforts that have led Missouri to become the fourth largest producer of rice in the United States.

*"It is a great opportunity for us to once again partner with the Science Center and share how rice grown right in Missouri is enjoyed around the world,"* says Mitch Thomas, executive director of the Missouri Rice Research

and Merchandising Council.

MRRMC funding will provide support for GROW educational programming and events with rice farmers that show visitors how rice is grown and processed. Missouri Rice also supports the GROW rice demonstration bed.

### Eat MO Rice



Missouri Rice Research  
& Merchandising Council

## Saint Louis Science Center's 7th Annual Golf Tournament



### Science Center's 7th Annual Golf Tournament Benefiting Aviation & Aerospace STEAM Education Programs

Thursday, October 1, 2020

Norman K. Probstein Golf Course in Forest Park

9:30am Shotgun Start

[Click here for more information or to sponsor or play!](#)

The tournament will feature COVID-19 social distancing and health protocols to ensure the safety of all golfers.

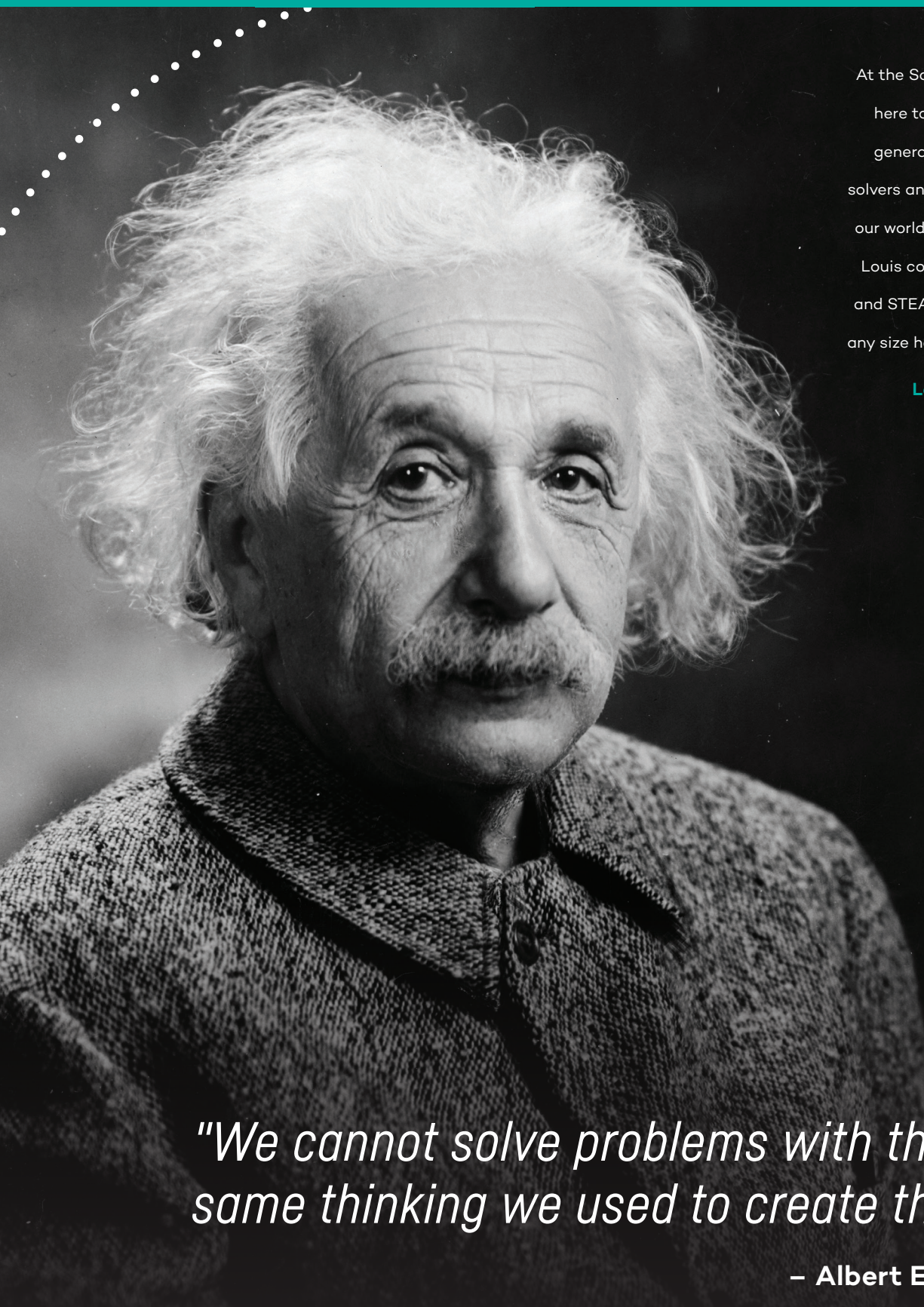
[Learn more here.](#)

Starting in 2014, the Science Center has hosted an annual golf tournament benefiting aviation and aerospace STEAM education programs. The tournament has been held each year at the Norman K. Probstein Golf Course in Forest Park and has seen more than 600 golfers and raised over half a million dollars. During the past six years, the tournament has been supported by more than 200 unique sponsors from local aerospace and electrical companies like Electrical Connection/IBEW Local 1 to the Missouri Beef Industry Council, the St. Louis Blues and the St. Louis Cardinals. KMOV-TV, Miller Coors and Heartland Coca-Cola have been the leading sponsors of the tournament's popular raffle prizes and silent auction. *"Heartland Coca-Cola is proud to support the Saint Louis Science Center. Since becoming St. Louis' local bottler, our top priorities are giving back to the communities we serve and providing Best in Class service to our customers. There is no better way to show our appreciation to the*

*St. Louis community than by being a business partner of the Saint Louis Science Center,"* says Matt Bynum, general manager, St. Louis at Coca-Cola. The tournament also features skills competitions and on-course STEAM demonstrations with Science Center educators.

The Science Center has been honored to have Daniel Ladenberger, President of Kemco Aerospace Manufacturing, chair the tournament each year. *"I've been honored to chair and be a part of the Saint Louis Science Center golf tournament for 7 years. The Science Center is providing critical education in science, technology, engineering and math to the community and to our future generation of employees and entrepreneurs. We view this work as an important talent pipeline for companies like Kemco Aerospace Manufacturing that rely on these skills to deliver the increasingly technology driven services our customers demand."*





At the Saint Louis Science Center, we're here to help light the way for the next generation of innovators and problem solvers and the future Albert Einsteins of our world. Help us continue to build a St. Louis community connected to science and STEAM professionals. A donation of any size helps make our mission possible.

[Learn the ways you can give.](#)

*"We cannot solve problems with the same thinking we used to create them."*

– Albert Einstein



Smithsonian Affiliate  
Membership Program