



McWane Science Center

*Your Support*

**EXCITES, INSPIRES,  
CHANGES LIVES!**







# INTRODUCTION

Every year thousands of children throughout Alabama and the Southeast visit McWane Science Center with their families, teachers, and caregivers. McWane Science Center is one of the three most visited attractions in the state. But we are more than an attraction; McWane Science Center is a hands-on, experiential learning institution engaging visitors in the education of science, technology, engineering, and math (STEM). Experiential learning environments are critical to our communities. The National Science Foundation, in partnership with the Board on Science Education, created a task force to determine the impact of science museum participation on educational achievement. The determination was:

- Visitors experience excitement, interest, and motivation to learn about science and science-related concepts.
- Visitors are able to generate, understand, and remember science concepts, facts, and explanations.
- Visitors are able to manipulate, test, explore, predict, question, observe, and make sense of science and engineering-based concepts.
- Visitors are able to reflect on their science learning and apply their knowledge to areas and situations outside of their formal classroom.
- Visitors are able to participate in scientific activities and learning practices with others.
- Visitors are able to think about themselves and see themselves as potential STEM professionals.



# MISSION

McWane Science Center's mission is to spark wonder and curiosity about our world through hands-on science experiences.

# VISION

Our vision is to excite and inspire inquiry and innovation through science.

# Science Learning

McWane Science Center is as an indispensable contributor to science education and the development of a 21st Century Workforce. To accomplish this effort, McWane Science Center delivers the following programs and services in support of teachers, parents, and community educators:

- Student Field Trips to McWane Science Center
- *McWane on the Move* – educational outreaches in the community
- *Celebrate Science*
- Continuing Education/Workshops for Teachers
- Parent Engagement Workshops
- Science Camps & Home School Labs
- Teen Volunteer and Leadership Program



“To understand science, we need to experience it, to see it, feel it, play with it, realize how much it’s all around us all the time. That’s what places like the McWane Science Center excel at: giving people the opportunity to experience science.”

-Jonah Cohen  
Director of Science Education  
McWane Science Center

# Field Trips

There is no better way to excite young people about science than to let them experience it in a highly interactive and fun setting such as McWane Science Center. Teachers can prepare students for their visits with pre-visit activities that tie into what they are learning in the classroom. While at the museum, students experience exhibits and education programs that meet Alabama's College and Career Ready Standards for the appropriate grade level.



## 40,000 STUDENTS

total number of students who visited  
McWane in 2022

## 15,000 STUDENTS

total number of students who benefited from the  
Educational Scholarship Fund in 2022

# McWane on the Move

Using the Alabama College and Career Ready Standards and their annual lesson plans, educators and the community as a whole can choose activities from McWane Science Center's McWane on the Move program to support science education in their classrooms, libraries, after-school programs, parks, or other educational environments.

“I didn't know what to expect when they said that the McWane Center was going to come and teach us, and I really wanted to go to the drum class instead, but once I got in the class I did not want to leave.”

-Center for a New Generation,  
5th grade student



# 14,000 CHILDREN

in schools, libraries, after-school programs, parks, & other educational environments who receive hands-on science learning opportunities annually

# Celebrate Science

Celebrate Science is one of McWane Science Center's most successful illustrations of our mission and our goals. This is a statewide program created by McWane Science Center staff in 2006. Students and teachers enter the event in teams and compete against other class teams throughout Alabama. Their challenge is to design and build a prototype for a science center exhibit experience. This program is provided at no charge to participants and serves almost 500 students annually.



“

Celebrate Science is a practice way for us to engage our 3rd graders in the application of content knowledge in a purposeful and meaningful way that is truly authentic. Our goal is to inspire them and also to expose them to potential future careers.

”

-Adriane Sheffield  
Teacher, University Place  
Elementary School

“

Celebrate Science has been an invaluable instructional tool, as I am able to create project-based, interdisciplinary, and collaborative learning experiences for my students. Authentic learning experiences are few for elementary level students, and I am grateful for the opportunity to work with McWane Science Center to enhance student' lives.

”

-Michelle Pettis  
Teacher, Williams Avenue  
Elementary School

# Teacher Continuing Education

McWane Science Center provides continuing education workshops impacting teachers throughout the state. All training reflects Alabama's College and Career Ready Standards while providing examples of how to incorporate fun, hands-on science ideas to enhance curriculum requirements.

## Teacher Training

- PreK – 2nd grade - Building Blocks: Finding STEM in Everyday Moments - In this interactive workshop, we'll take a close look at STEM learning in an early-childhood classroom. Join us as we uncover the foundations of STEM and explore budget-friendly enrichments that complement your existing classroom schedule without adding to it. From preschool themes to elementary curriculums, we'll show you how to find STEM in simple, everyday moments.
- 3rd grade – 8th grade - Design Challenge in the Classroom - The Engineering Design Process is an essential skill for creative problem-solving. In this workshop, we will discuss how to run successful and relatable Design Challenges in your classroom—activities that use the engineering process to guide students through how to critically approach solutions to real-world problems.



## Teacher's Night Out

One night a year, McWane presents Teacher's Night Out! To say thank you for being loyal friends to McWane Science Center, educators are invited to join us for a special complimentary evening at the museum. Explore the Adventure Halls, see a special screening of a film in the all-new, digital IMAX® Dome Theater, enjoy refreshments, and enter to win great door prizes, including a one-year family membership to McWane!



**500**  
**teachers served in 2022**



### **McWane Summer Science Institute**

Come learn with us at McWane Science Center during our multi-day professional development workshop, focused on turning science concepts into hands-on opportunities for 2nd–5th-grade students. Join the education team and our invited presenters for this engaging and interactive program.

“**This was the BEST training ever! I have never been to a teacher training workshop where I didn’t want to leave immediately. I actually couldn’t wait for the next day.**”

-Summer Science Institute  
Teacher Participant

### **STEM Kits for Teacher Check Out**

- **Chemistry and Conservation of Mass** - This kit includes enough chemicals, laboratory equipment, and other materials to accommodate one class of 32. There are 3 activities in total. One demonstrating the Law of Conservation of Mass for physical changes (takes up to 30 minutes to complete) and two demonstrating the Law of Conservation of Mass for chemical changes (each takes up to 45 minutes to complete).
- **Light and Sound** - This kit includes prisms, lenses, color filters, turning forks, and other materials for 6 lessons, each taking between 30 and 60 minutes to complete.
- **Water Testing** - This kit includes laboratory plasticware, refractometers, pH/nitrate testing strips, dissolved oxygen testing kits, household chemicals, and working to accommodate 30 students. There are materials for 5 activities, each taking approximately 60 minutes to complete.
- **Natural Selection** - This kit provides enough materials for a class containing 32 students. This will include seeds, worksheets, forceps, and artificial fur. There are four different activities, covering the heredity of traits and natural selection, which will take approximately three hours to complete.

# Parent Engagement Workshops

Parent engagement workshops focus on building connections between parents and their children and help children to develop STEM skills beginning at birth – through everyday play, exploration and interactions. McWane Science Center partners with organizations and institutions to help deliver parent engagement workshops that:

- Support children's self-concept and positive attitudes towards learning, specifically in the areas of science, technology, engineering, and mathematics (STEM).
- Promote and engage parents in non-traditional learning environments; giving them the confidence and skills to deliver impactful learning experiences - thus enhancing their children's educational development.
- Support parents as they strive to excite young children about learning during this challenging time.



**240**  
parents & caregivers in 2022



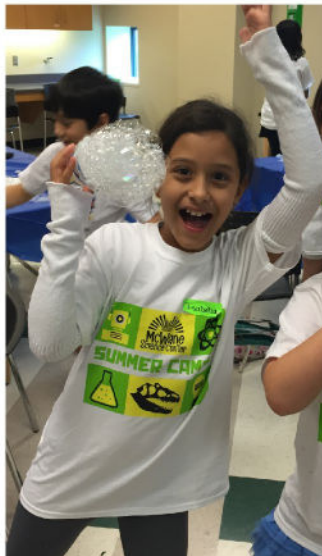
# Home School Labs

McWane Science Center Home School Labs are designed to supplement what children are learning in the home. Students are able to use equipment and take part in experiments not easily executed in the home classroom. All of the labs are aligned with the Alabama College and Career Ready Standards.



**335 STUDENTS**  
who benefit from Home School Labs

# Science Camps



McWane Science Center STEM Camps make learning an unforgettable adventure for children. In one week of camp, budding scientists can unearth dinosaurs, travel into outer space, explore the ocean floor, design and build their own robots, and create innovative engineering masterpieces. McWane offers eight weeks of summer camp, a week of winter break, and during the week of Spring Break.

**OVER 500 STUDENTS**  
in STEM camps annually

# Teen Volunteers

There are three main components to our Teen Volunteer Program:

- **Junior Teen Volunteer**

This program is for 7th and 8th grade youth who have an interest in STEM subjects as well as a desire for community service. Junior volunteers serve as summer assistants for education programs, exhibit interpretation, and summer camps.

- **Teen Volunteer**

Teen Volunteers provide invaluable service during the summer. They support exhibit interpretation, science demonstrations, and summer camp education.

- **Teen Leadership**

Teens from our community who demonstrate outstanding leadership potential, hard work, and dedication to STEM subjects are invited to participate in our Teen Leadership Program. This is a structured, year-long program helping participants explore their own talents, current/potential skill sets, and leadership abilities.



152

teen volunteers in 2022

“

McWane Science Center's mission is to change lives through science and wonder. As someone who has been deeply influenced by this facility, I believe McWane has sparked my interest for science. Even as a teenager working at the museum as a teen volunteer, the Bed of Nails and the Dinosaur fossils never ceased to excite the seven year old me.

”

-Henry  
Teen Volunteer

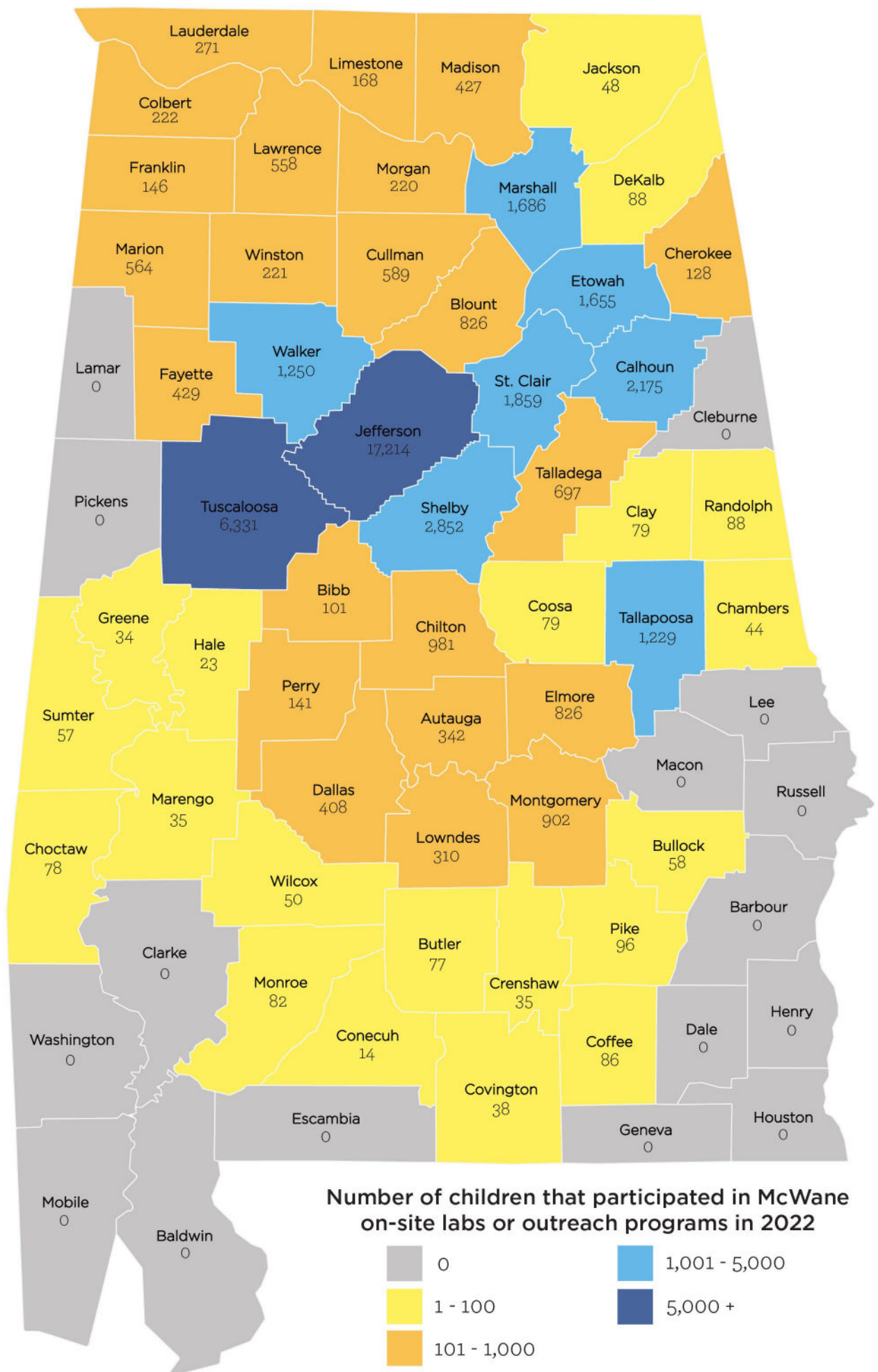
# Science Engagement

Science learning can be intimidating. When parents and caregivers think of science, they think of technical language, complex formulas, and formal laboratories. McWane Science Center wants our community to embrace science and understand science education can occur even when you are having fun. McWane Science Center's Education Department has created science engagement programs, exhibit interpretation, and museum floor experiences to excite and inspire our visitors while also helping them understand and apply real science learning concepts. Science engagement program and demonstrations include activities about electricity, combustion, engineering design, chemistry, biology, zoology, robotics, and physics.

Through our Science Engagement efforts in the museum, McWane Science Center is able to accomplish the following:

- Engage youth in science learning experiences that prepare them to become the next general science leaders and innovative thinkers.
- Make science and science learning a regular and recognizable component in the lives of our community's children – supporting children of all races, genders, religions, and socio-economic levels.
- Promote family learning through targeted engagement of children and their adults in science application.





# Why Give?

Students, through regular use of museum programs and partnerships between schools and experiential learning environments are more likely to develop and expand mastery of the 21st century skills important for long-term success in school and in the workforce. These 21st Century skills include critical thinking, creative problem-solving, personal accountability, communication, and the ability to work within a team.

McWane Science Center serves this role for our community, our state, and our region, and we do so because of the support of our friends and our donors. At McWane, the fundamental change we want to be part of is creating a world where: **Everyone can use science to improve and enrich their lives and communities.** We recognize that not everyone who walks through our doors or attends one of our programs will become a scientist or engineer. That said, we do want everyone to think “science is for me.” We believe that everyone benefits from understanding and feeling comfortable using science to appreciate their world and make informed decisions in their lives. Together, we will change lives through science and wonder.

## McWane Theory of Change



### Science education that is:

**S**ocial  
**C**onected  
**I**nclusive  
**E**ngaging  
**N**eeded  
**C**onversational  
**E**vidence-based

### Leads to:

Knowledge (Science Literacy)  
Trust  
Interest  
Confidence

### Which builds:

**Science capital**  
Who you know + What you know

**Science identity**  
Who you are

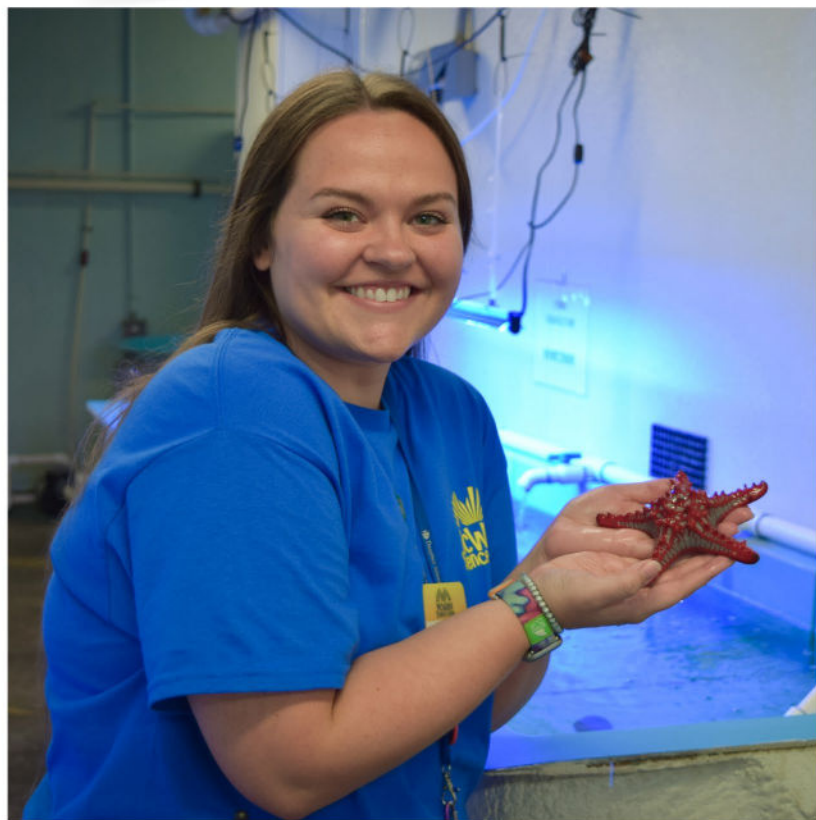
### Fostering: Science participation

So everyone can use science to improve and enrich their lives & community



“Charitable giving is the source of over one-third of our operating revenue and nearly all of our capital funds to care for our exhibits and facilities. Your support will help us continue to offer programs and exhibits that spark wonder and curiosity about our world.”

-Amy Templeton  
CEO of McWane Science Center



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