

## How Can You Make A Difference?

Business leaders know technological innovation will bring the greatest investments and economic opportunities to the Ozarks. In fact, technological innovation currently accounts for half of all growth in the U.S. gross domestic product, according to statistics published in the data book, "Making Missouri a National Leader in Math, Engineering Technology and Science." To foster that innovation, the Ozarks needs more workers skilled in the fields of science, technology, engineering and mathematics.

We recognize that for innovations to spread, educators and parents, as well as business and community leaders, must first see and understand the changes and opportunities of a progressive and strong STEAM educated community.

The goal of the Ozarks SySTEMic Coalition is to showcase the Ozarks as a national leader in STEAM businesses and education by documenting, disseminating, and advocating innovative, replicable, and evidence-based strategies that prepare students to thrive in their future education, careers, and adult lives. These efforts could lead to a thriving economy in the Ozarks, an increase in high-paying jobs and a skilled workforce to fill them.



We encourage you to become involved in the Ozarks SySTEMic Coalition to make this a reality in our Ozark region.

An Investment can be made to *The Community*

Foundation of the Ozarks at [www.cfozarks.org](http://www.cfozarks.org) and click on *Give Online* (specify-The Ozarks SySTEMic Coalition)

**THANK YOU FOR YOUR SUPPORT!**

## What is O-STEAM?

**SERVICE Organization which strives to...**

- Engage the public through a news and informational website with a regional Science, Technology, Engineering, the Arts, and Math focus.
- Engage the public through events and speaking engagements on Science, Technology, Engineering, the Arts, and Math.
- Provide information ranging from regional cutting-edge businesses, PreK-20 education, after-school/informal education, internships, and workforce opportunities with an entrepreneur fortitude and focus.
- Facilitate a collaborative effort in the community to inter-weave the benefits of Science, Technology, Engineering, the Arts, and Math along with a strong focus of entrepreneurship in the Ozarks region.

In today's technology driven environment, that mission facilitates the necessary learning opportunities our public needs to meet the challenges of STEAM education with an entrepreneur focus and the need to encourage young people and transitioning adults into science careers to meet the demands of global competition and skills needed for 21st century careers.

# The Ozarks SySTEMic Coalition

# O-STEAM



**Mission-** promoting *Science, Technology, Engineering, the Arts, and Math* throughout the Ozark region.

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## Why Does STEM Matter

Studies indicate that American fourth-grade students score high in math and science when compared to their global peers, but by twelfth-grade our students score at the bottom. Southwest Missouri (The Ozarks) students mirror this statistic which leaves many of our students losing interest in these subjects and less prepared to enter the global workforce.



## Why add the ARTs to STEM?

Art, Music, and design tie STEM together and helps weave together "the whole package". The Arts fosters creativity along with new ways of thinking that open up STEM innovation. **Steven Ross Pomeroy notes**, Nobel laureates in the sciences are seventeen times likelier than the average scientist to be a painter, twelve times as likely to be a poet, and four times as likely to be a musician. The arts set a platform where risk takers think around corners of a box. Creativity and innovation has always been America's secret ingredient.

- ◆ Camouflage for soldiers in the United States armed forces was invented by American painter Abbot Thayer.
- ◆ Earl Bakken based his pacemaker on a musical metronome.
- ◆ Japanese origami inspired medical stents and improvements to vehicle airbag technology.
- ◆ Albert Einstein was an accomplished violinist.

Artists and designers, Pomeroy said, are "risk takers, they can think around corners."

**STEAM**  
Science Technology Engineering Art Math

## STEAM addresses the Ozarks crisis situation.

A majority of the Ozarks students do not possess a basic knowledge of math and science.

Missouri fourth-grade students' math skills rank in the bottom third nationally (Source: National Center for Educational Statistics).

Math scores of eighth-grade students have declined in national assessments, ranking Missouri below 34 other states (Source: National Center for Educational Statistics).

In 2005, only 17 percent of Missouri's tenth-grade students scored at proficient or advanced in math. Only eight percent tested at proficient or advanced in science (Source: DESE School Accountability Report Card 2005).

As a result, the need for post-secondary remediation in math has increased significantly in recent years. In 2004, more than 30 percent of first-time college freshman were enrolled in remedial math classes at Missouri's public institutions (Source: MERIC analysis of DHE, EMAS data).

## STEAM creates opportunity for the Ozarks.

The current advancement in technology and modernity has come, in large part, from the creation and discovery of new knowledge. The Ozark institutions have a huge role to play in this respect. The creation and discovery of new knowledge requires a workforce prepared and skilled in STEAM at all levels.