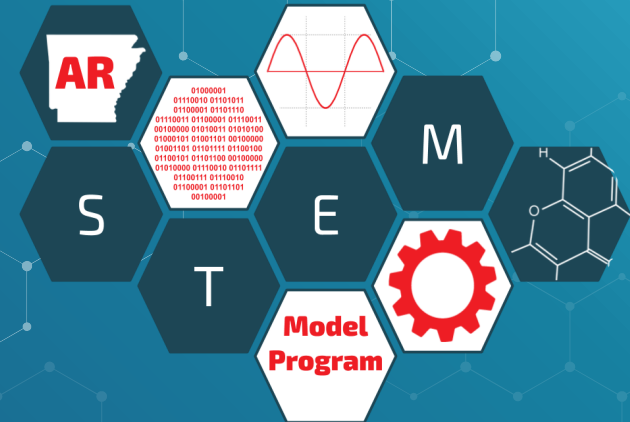


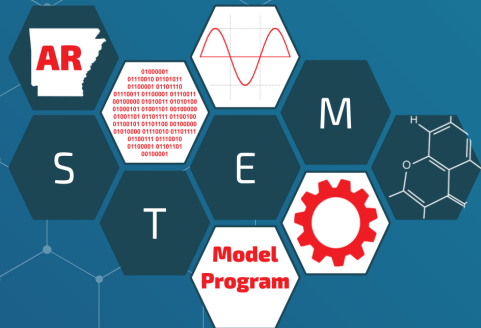
# AR STEM Model Program



Early Childhood Providers  
October 2024 Call

<https://tinyurl.com/2879zsmt>





# Presenter

Michele Snyder

State STEM Integration Specialist

National PAEMST Award

Coordinator for

STEM Teachers

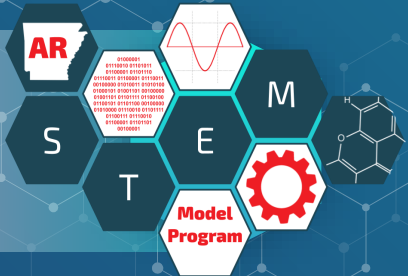
[Michele.Snyder@ade.arkansas.gov](mailto:Michele.Snyder@ade.arkansas.gov)

501-682-7942

# Stay Connected...

Submit form to receive ADE STEM information  
and a copy of the presentation.

<https://tinyurl.com/3a2xmrkm>





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# STEM in Arkansas



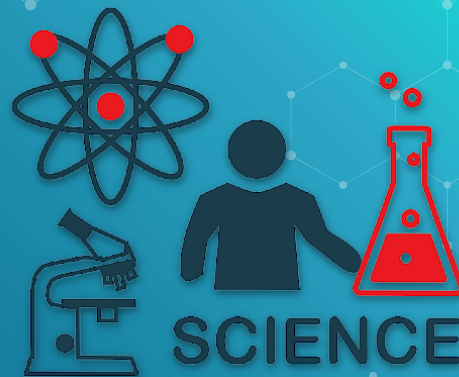
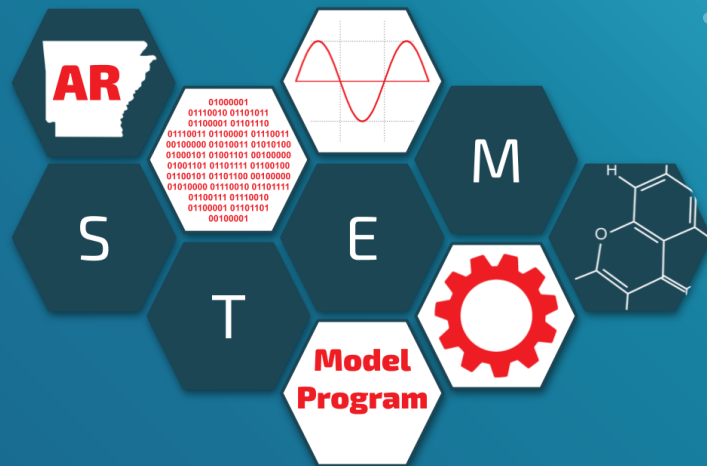
# LEARN

## READINESS

*STEM education programs are one way schools can help to ensure that all Arkansas students are meeting the demands of today's workforce.*



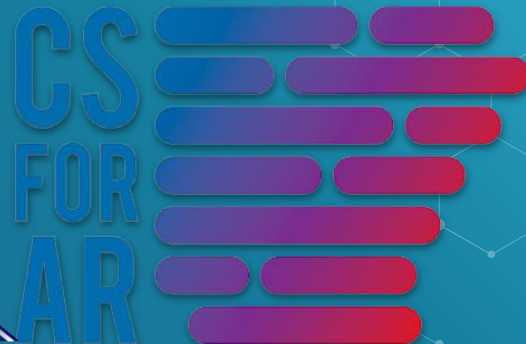
MATHEMATICS



SCIENCE

PLTW

PROJECT LEAD THE WAY



#CSFORAR - #ARKIDSCANCODE

**Develop a statewide system to connect Arkansas  
STEM Education to Arkansas careers and career  
training opportunities appropriate to the state's  
economy and students' needs.**

**ARKANSAS** READY  **FOR STEM**



# Our Working Definition of STEM



Science, technology, engineering, and math intentionally come together as STEM to present a rigorous integrated approach to understanding and interacting with the world in which we live.

STEM education provides equitable opportunities for students to engage in authentic experiences in the classroom that are linked to community, occupations, and the global world so that all students become **STEM literate** in their K-12 journey towards college and career readiness.



**A STEM literate person is CURIOUS:**

Connects Academics to Everyday Experiences

Uses Computational Thinking

Recognizes Patterns in Data

Innovates Solutions

Operates Emerging Technologies

Unpacks Academic Language

Sharpens Employability Skills

# Arkansas STEM Practices

## Computer Science Practices

- Communication
- Collaboration
- Storytelling
- Professionalism
- Learn by failure
- Persevere
- Understand patterns
- Problem solve
- Research
- Use tools

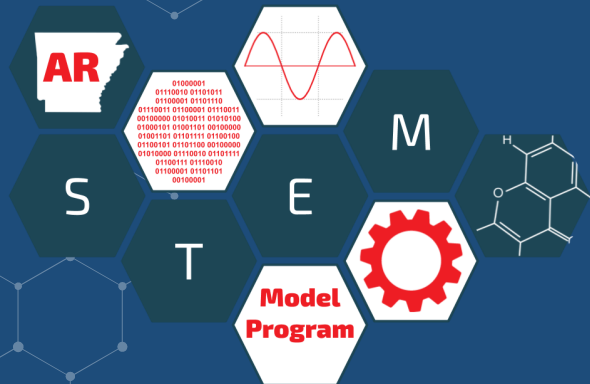


## Science & Engineering Practices

- Ask questions and define problems
- Develop and use models
- Plan and carry out investigations
- Analyze and interpret data
- Use mathematics and computational thinking
- Construct explanations and design solutions
- Engage in argument from evidence
- Obtain, evaluate, and communicate information

## Five R's for Mathematics

- Build Resilience in problem solving
- Apply Reasoning about quantities and relationships
- Reflect using discourse and precision
- Select and use Representations and tools
- Identify Relationships using structure and patterns




## AR STEM Model Program WEBPAGE



**ARKANSAS** READY FOR STEM

## AR Ready For STEM WEBPAGE





# AR STEM Model Program for Early Childhood Schools

Students are building a foundation in science and engineering in preschool through the elementary grades to prepare for later success.

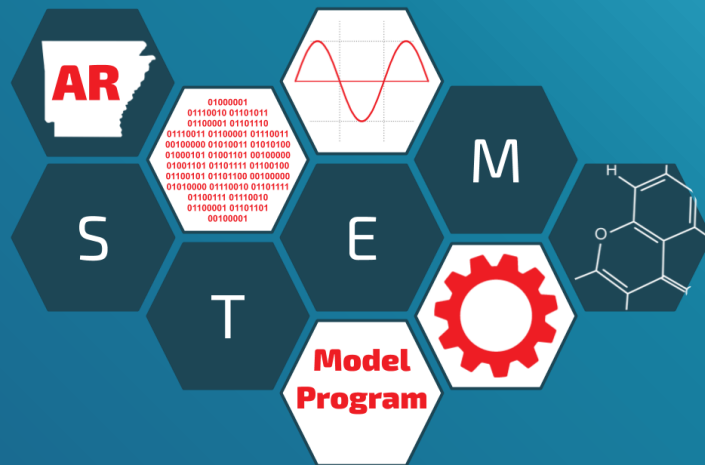
Classroom instruction is designed to sustain and enhance children's **curiosity** about the world around them and to form the knowledge and skills they need to approach the more challenging science and engineering topics introduced in later grades.

Science and Engineering in Preschool Through Elementary Grades: The Brilliance of Children and the Strengths of Educators (National Academies of Sciences, Engineering, and Medicine (NASEM) 2022.



K-12 RUBRIC

<https://tinyurl.com/2jkck5hs>



PreK Rubric

<https://tinyurl.com/4f2a5rh8>



## The PreK AR STEM Model Rubric is:

- Based on the state approved Early Childhood classroom quality assessment tool, and the Arkansas Child Development and Early Learning Standards (ACDELS).
- Designed to evaluate early STEM education programing.
- Details how STEM practices are part of free play, communication is in age-appropriate expressive forms, and the learning experiences are aligned to early childhood learning expectations.
- The Early Childhood classroom quality tool provides uses of simple tools listed on a materials checklist (e.g. blocks, connectors, ramps, tongs).



# Benefits to being a STEM Model School

- Three year state designation
- Student interest, curiosity, and creativity is systemic and part of everyday life
- 21st Century skills known as the 4C's are common in teaching and learning objectives
- STEM practices make authentic learning experiences rigorous and integrated
- Exposure to STEM careers
- Strong school partnerships with local business, industry, and community stakeholders mutually support student learning



Level of implementation is based on  
STEM attributes related to three  
categories:

**Classroom**  
**School**  
**Community**

**Exploratory (1)**

**Minimal STEM implementation is evident.**

**Developing (2)**

**Some components of STEM implementation and integration are demonstrated but need further development.**

**Accomplishing (3)**

**STEM implementation and integration is a regular part of daily learning and school practices.**

**Model (4)**

**School has demonstrated the highest level of STEM implementation and integration.**

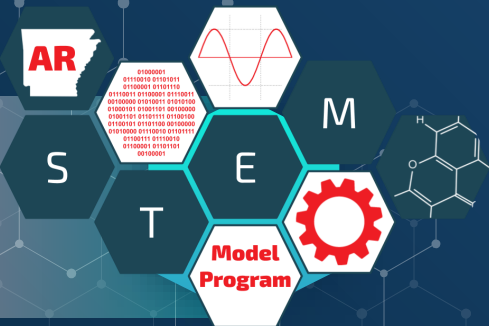
**Page 3 includes information about the attribute scores**

**Page 4 includes information about the minimum requirements**



## MINIMUM REQUIREMENTS for Schools to Participate

- A letter of agreement to participate in the program is signed by a district leader and the school principal.
- Facility must be a Better Beginnings Level 3 or higher on the Early Childhood Tiered Quality Rating System.
- The school STEM Leadership Team attends AR STEM Model Program professional development prior to participation



FY 25

# AR STEM Model Program

**2022-2025:**

Forest Heights STEM Academy - Little Rock  
Nettleton STEAM Intermediate - Nettleton

**2023-2026:**

Izard County Consolidated Elementary School -  
ICC

Izard County Consolidated Preschool - ICC  
Vaughn Elementary School - Bentonville

Bearkatz PreK Academy - Melbourne

**2024-2027:**

Willis D. Shaw Elementary School - Springdale  
Stagecoach Elementary School - Cabot  
Oaklawn STEM Magnet - Hot Springs

## AR STEM Model Schools



### **North Central Region:**

Izard County Consolidated Middle School - ICC

Izard County Consolidated High School - ICC

Melbourne Elementary - Melbourne

### **North West Region:**

Bernice Young Elementary School - Springdale

LISA Academy Elementary Rogers-Bentonville

LISA Academy Elementary Fayetteville

### **Central Region:**

LISA Academy North High School

### **Redesignating Schools**

Forest Heights STEM Academy - Little Rock

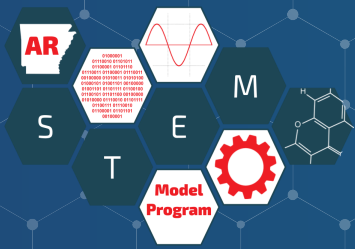
Nettleton STEAM Intermediate - Nettleton

## **AR STEM Model Schools in the program this year**





# Fall 2024 AR STEM Community of Practice Schedule

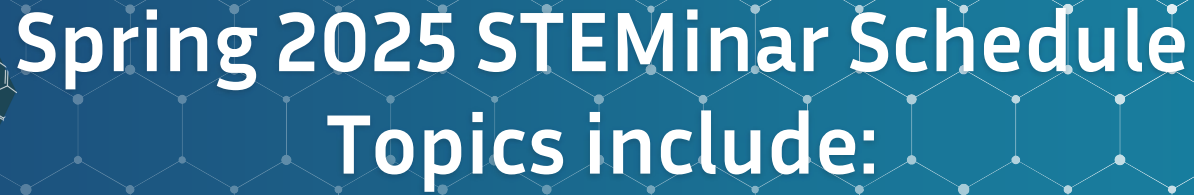


**Targeting Science Foundational Skills in STEM Instruction: Key Levers for Instructional Leaders** September 19, 2024 3:00-4:15 [escWorks Session # 539547](#)

**Youth Engineering Solutions: High Quality Engineering Curriculum for K-8 STEM Schools** October 16, 2024 3:00-4:15 [escWorks Session # 539578](#)

**Fostering Career Readiness through STEM School Partnerships with Businesses and Community Members** November 21, 2024 3:00-4:15 [escWorks Session # 539578](#)

**STEM School Strategic Planning, Telling your Schools' STEM Story, STEM Curriculum Integration professional learning support are available upon request**



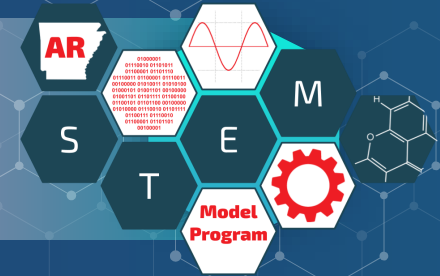
- Will be posted in November or December Learning Services  
Commissioner's Memo**

# Questions & Announcements

# Stay Connected...

Submit form to receive ADE STEM information and a copy of the presentation.

<https://tinyurl.com/3a2xmrkm>



Join the AR STEM Listserv to stay connected

**AR STEM Listserv**

<https://bit.ly/2FGMOv3>