

AUGUST

August 3-4: NSTA Picture-Perfect Science STEMposium

ESC# and Workshop Details: TBA

The 2017 STEMposium will be a two-day workshop with the authors of Picture-Perfect Science and focus on Picture-Perfect Science STEMlessons. There will be a follow-up option to sign up for an online train the trainer part if the participant would like to become a trainer for their school district.

Other CMASE Specialists' Workshops hosted at NWAESC

Register through escWorks

- June 7: Using Google Apps in the K-6 Mathematics Classroom
- June 19-20: Grasping Phenomenal Science (GPS) for Grades 9-12 (Biology): Navigating from Standards to Instruction
- June 22-23: Grasping Phenomenal Science (GPS) for Grades 9-12 (Physical Science and Chemistry): Navigating from Standards to Instruction
- June 27-29: Grasping Phenomenal Science (GPS) for Grades 5-8: Navigating from Standards to Instruction
- July 10-12: Mathematics Design Collaborative (MDC) for Grades 6-12



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Summer 2017

Professional Development:

To register, access escWorks: CMASE

JUNE

June 8-9: K-4 Grasping Phenomenal Science (GPS): Navigating from Standards to Instruction

ESC#318653; Fee \$50; 12 hours PD; 8:30-3:30pm
Experience the vision for K-4 science! During this two-day opportunity, educators will explore the Arkansas K-4 science standards by engaging in grade-specific investigations. Student-focused learning through the integration of science, math and literacy skills will be highlighted. Two follow-up PD days will be offered along with opportunities for classroom-level support. Connections to TESS: 1a, 1d, 1e, 3a-e, 4a, 4e

June 12: Building Integer Concepts-Addition & Subtraction

ESC#318675; Fee \$35; 6 hours PD; 8:30-3:30pm
This course will focus on building conceptual understanding of integers using the operations of addition and subtraction. How can integers be viewed from four different perspectives? Course participants will examine how students build rules for integer operations through patterning and number line movement with the understanding that our end goal is to build procedural fluency. Topics of this course include: * The use of inductive reasoning through patterns; * How can sequencing of problem types reveal patterns of mathematics; and * How can properties be used to arrive at deductive proofs to justify traditional rules?

June 13: Multiplication & Division of Integers Not Your Normal Set of Rules

ESC# 318662; Fee \$35; 6 hours PD; 8:30-3:30pm
This 5th-8th grade course will focus on building conceptual understanding of integers using the operations of multiplication and division. How can integers be viewed from different perspectives? Course participants will examine how students build on previous understanding of multiplication and division to construct new understanding of integer operations to the level of procedural fluency. Topics of this course include using inductive reasoning through patterns, the meaning of division both partitive/measurement, and the utilization of properties to arrive at deductive proofs to justify traditional rules?

June 15: Algebra Tiles (6-9)

ESC#318663; Fee \$10; 3 hours PD; 12:00-3:00pm
Solving multi-step equations and factoring are two topics that students tend to struggle with in math. Students are in need of a concrete model that introduces these concepts. This PD will utilize Algebra Tiles to solve multistep Equations, to multiply binomials, and to factor trinomials.

JULY

July 17-19: SREB Math Ready Training

ESC# 318666; Fee \$0; 18 hours PD; 8:30-3:30pm
Held at Springdale Professional Development Center
This course is designed for high school seniors who have completed Algebra I, Geometry, Algebra II, and need a transition course to get them college-ready, thereby avoiding remediation when entering college. This course emphasizes understanding of mathematics concepts rather than just memorizing procedures. By engaging students in real-world applications, Math Ready develops critical thinking skills that students will use in college and their career. For more information about Math Ready, visit

July 20-21: Building Connections: From Algebra to Calculus

(ESC# 318622; Fee \$50; 12 hours PD; 8:30-3:30pm
There are big ideas in the 9th-12th grade study of mathematics that connect Algebra I through Calculus. Student understanding of these ideas can be supported by the following progression: 1)Analyze functions of different types using multiple representations. 2)Determine and justify the selection of a function type to model a situation. 3) Compare and interpret functions in terms of the situation they model. 4)Construct models to represent situations and make predictions. In this session we will present FALs, tasks, and problems for use in Algebra 2 and beyond to foster this progression. A few of the topics will be: Arithmetic and geometric sequences and their relation to linear and exponential functions; Exponential, logarithmic, and logistic relationships; Conic Sections; Rational Functions. All topics will be addressed from a conceptual point of view with a major emphasis placed on vertical alignment.

July 24-25: Analyzing High School Functions with Real World Mathematics

ESC# 318615; Fee \$70; 12 hours PD; 8:30-3:30pm
This course uses a required text, Putting Essential Understanding of Functions into Practice, 9-12 from NCTM. Developing Essential Understanding of Functions, Grades 9-12 from NCTM is recommended, but not required. The sessions will explore the following four big ideas from Putting Essential Understanding of Functions into Practice: function concepts; co-variation and rate of change; transformation of functions; and graphs and representations of functions.

July 24: Science Fair 101: 1A, 1B, 1C, Oh My!

ESC# 318651; Fee \$10; 3 hrs PD; 8:30-11:30am
Want to have a 5th-12th grade Science and Engineering Fair at your school/district but are completely befuddled by all the forms? Join this session for a form by form review that will take the stress out of paperwork! A non-required, follow-up day will be held in late September for those with students wanting to enter the 2018 NWArkansas Regional Science and Engineering Fair.

July 24: Science Fair 101: Abstract Writing (Grades 5-12)

ESC# 318684; Fee \$10; 3 hrs PD; 12:00-3:00pm
Writing an abstract to explain a science project can be daunting. Learn how to help your students write clear and concise statements within a 250 word limit! A non-required, follow-up day will be held in late September for those with students wanting to enter the 2018 NWArkansas Regional Science and Engineering Fair.

July 25: Science Fair 101: Data Collection and Analysis (ESC

ESC# 318654; Fee \$10; 3 hrs PD; 12:00-3:00pm
Finding a topic for a 5th—12th grade science fair project is tough! Join this session to learn how to guide students into research of their own interest and how to collect/analyze data. A non-required, follow-up day will be held in late September for those with students wanting to enter the 2018 NWArkansas Regional Science and Engineering Fair.

July 25: Science Fair 101: Displays (and Safety) (Grades 5-12)

ESC# 318656; Fee \$10; 3 hrs PD; 12:00-3:00pm
The display's the thing! Review examples of display boards, learn how best to exhibit data and explore science safety and display regulations. A non-required, follow-up day will be held in late September for those with students wanting to enter the 2018 NWArkansas Regional Science and Engineering Fair.

July 26-28: Thinking Mathematically

ESC# 318646; Fee \$350; 42 hrs PD; 8:30-3:30pm
Participants will engage in a comprehensive research-based approach to mathematics instruction based on how students think about math. Story problems and number sentences will be analyzed to determine the mathematical demands and recognize student responses in terms of cognitive development. Participants will assess students' thinking and design problems that will develop students' understanding of the important concepts and skills. Discussions about student work will provide a window into students' thinking, strengthen students' computational fluency and build their capacity for algebraic reasoning. Must have administration approval before registration. Contact Teresa Ellis-Stevenson at tellisst@uark.edu or 575-3875 for registration information.

July 26-27: GLOBE Atmosphere

ESC# 318658; Fee \$50; 6 hrs PD; 8:30-2:30pm
Need real-world lab, field, and research-based earth and environmental science content and resource materials to study the dynamics of the Earth atmosphere? Attend this 2 day workshop led by GLOBE program <http://globe.gov> master trainers on the Earth's atmosphere to become a GLOBE certified teacher and part of more than 50,000 teachers from 117 countries participating in the GLOBE program. Explore the possibilities of working in close partnership with NASA and NSF Earth System Science Projects studying and researching the dynamics of Earth's environment as you learn how to take measurements, collect data, and record data through the GLOBE interactive web pages. Lunch, GLOBE Certification, and Atmosphere TG will be provided.

July 28: K-4 GLOBE

ESC# 318659; Fee \$75; 6 hrs PD; 8:30-2:30pm
Explore water, soil, clouds, seasons and Earth systems – NASA GLOBE's 5 investigation areas – with fun, low cost observation and hands-on engagement. Tied to classroom learning activities complementing the science content covered in five storybooks, K-4 GLOBE is designed to engage teachers and students through literacy and science. The five science-based storybooks – All About Earth: Our World on Stage, Do You Know Clouds Have Names?, The Scoop on Soils, Discoveries at Willow Creek, and The Mystery of the Missing Hummingbirds are all designed to introduce key Earth Science concepts by students 'doing' real science. Lunch, GLOBE certification, TG and storybooks provided.

July 31: What I Wish I Knew My First Years: Classroom Management through Engagement for K-12 Science and Math Teachers

ESC# 318627; Fee \$35; 6 hours PD; 8:30-2:30pm
With the implementation of TESS, CCSS Math and new Arkansas K-12 Science Standards, it is ever so more important that math & science teachers are effective at managing their classroom and fostering a positive environment. We are expected to lead by facilitation instead of lecture, use technology for assessment, keep students engaged at all times and still teach our content. How can you manage this and still have time to sleep? This one day engaging workshop will explore and practice what some of the greats in classroom management have been writing about for years while practicing content. Strategies used will include those by Kagan, Harry Wong, Fred Jones, Danielson, and Jim Knight.