

NASA Aerospace Education Services Project

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PROGRAM DESCRIPTION

The Aerospace Education Services Project is a comprehensive project designed to reach out to the formal and informal education communities in all fifty states and the U.S. territories. The AESP staff consists of education specialists who are professional educators assigned to NASA centers. The AESP education specialists share NASA's use of emerging instructional technologies and the motivating outcomes of NASA's research, exploration and discovery with education communities and the public. The AESP primary focus is a professional development effort that serves the elementary and secondary education community by providing classroom demonstrations, distance learning events, in-service training for educators, pre-service training for university students, and identification of appropriate NASA education resources. The project also motivates students to continue their study of science and mathematics throughout their school career and encourages them to pursue the NASA workforce pipeline.

PROGRAM RELEVANCE TO NASA

NASA believes that the “key” to future exploration is the ability to provide educators and students with tools, experiences, and opportunities to increase interest in and knowledge of STEM. NASA's unique resources, including people, facilities, and content, can stimulate students to pursue higher levels of study in Science, Technology, Engineering, and Mathematics (STEM) related fields, which can ensure NASA's future workforce.

PROGRAM BENEFITS TO SOCIETY

AESP addresses the critical shortage in STEM fields our Nation is facing by providing tools, experiences, and opportunities to elementary and secondary educators and students to further their education and participation in unique NASA learning experiences enhancing their interest in STEM.

PROGRAM GOALS

All AESP activities are designed to support the NASA Education Strategic Framework. AESP works to attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty.

AESP focuses its efforts to meet the following goals:

- Motivate students through student projects, classroom visits, and lecture-demonstration presentations.
- Support K-12 educators through classroom demonstrations, distance learning events, and faculty workshops.
- Support family mathematics and science events, and other formal and informal education community events.

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PROGRAM ACCOMPLISHMENTS

AESP's primary focus is as a professional development program serving the elementary and secondary education community by providing classroom demonstrations, distance learning events, faculty workshops, in-service training for teachers, pre-service training for university students, and identification of appropriate classroom resources. AESP engages and educates teachers through customized professional development in the STEM areas.

AESP provided engaging professional development increasing educators' knowledge and competencies in STEM disciplines through national, regional, state, and local education conferences and on-site school workshops. These workshops partnered with NASA Education Resource Centers; NASA Field Center educator workshops; and broadcast sessions utilizing NASA's Digital Learning Network. These opportunities effectively enable educators to engage and retain students in STEM disciplines. AESP utilized best practices in pedagogical techniques. AESP provided customized professional development opportunities aligned with the educator's state standards resulting in rigorous and relevant content, understandability, and how it relates to NASA research and development.

Educator Programs

	Grades K-4	Grades 5-8	Grades 9-12	College	Pre-Service	Total
Number of Workshops	436	748	280	18	77	1,559
Audience	6,050	10,372	3,889	217	1,080	21,608

AESP played a major role in supporting the NASA Explorer Schools (NES). The majority of the AESP Education Specialists' time was devoted to actively promoting and supporting NES schools throughout the United States. AESP worked with NES to integrate NASA content into the curriculum through problem-solving activities and provided student awareness of career opportunities with NASA. AESP also supported the NES student symposium, NASA content workshops at the NASA Field Centers, and assisted with the NES sustainability workshop.

STUDENT ACCOMPLISHMENTS

AESP provided engaging NASA instruction and enrichment activities for students through assembly programs and classroom visits on STEM. During classroom visits, AESP utilized inquiry-based-instruction, which inspired student interest in STEM disciplines and careers. AESP encouraged and provided family and student participation in NASA-sponsored learning opportunities and NASA design challenges as they related to the NASA missions. AESP educated students with NASA curriculum support resources increasing student's abilities and competencies in STEM career

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opportunities. AESP provided face-to-face lecture demonstrations communicating past, present, and future NASA missions. These NASA missions allowed students to explore and experience unique space and aeronautics content and interact with innovative engineers and scientists.

Student Programs

<i>Programs</i>	Grades K-4	Grades 5-8	Grades 9-12	College	Total
Student Assembly					
Number of Assemblies	463	669	47	8	1,187
Audience	58,294	85,200	5,925	55	149,474
Classroom Visits					
Number of Visits	980	2,769	4,168	43	4,260
Audience	22,766	64,339	10,888	990	98,983