GEMS
Gravity and Extreme Magnetism SMEX

Expanding Astronomy Knowledge among Teachers

Education & Curriculum Development for High School Physics Teachers

Teachers' Academy

Modeled after Beyond Einstein Teachers Academy

- Summer Workshop - on GEMS science
  - with presentations by GEMS scientists
- Follow-up
  - Development of related lessons under supervision of curriculum developer
  - Lessons tested by other BETA teachers
- Lessons disseminated via teacher meetings & networks

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Promote STEM Skills Among Students

Students Solve GEMS-Inspired Engineering and Science Challenges

NASA Quest Student Challenge

Use established Ames infrastructure and audience

Use GSFC Digital Learning Network to bring GEMS scientists & engineers to students

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Implementing a Student Challenge

- NASA Quest, GEMS E/PO, & GEMS scientists/ engineers define challenges
  - Detecting high energy radiation from cosmic sources
  - Studying the nature of magnetic field in pulsars
- Geared for students in grades 5-14, working in teams within their schools
- Students interact with scientists/engineers via webcasts and web chat

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Enhance Science for Elementary Aged Children

Create Elementary School Version of a Nationwide Afterschool Program

Foster marriage of two successful programs:

- **Afterschool Universe** - astronomy beyond the solar system for middle school
- **Fort Hayes State University** - trains pre-service teachers on development and presentation of NASA material through an elementary afterschool program.