SMART Use of NASA Space Grants: Recent Examples of West Virginia NASA Space Grants

by

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SMART-Center & SMART Centre Market,
Near Earth Object Foundation &
West Virginia-Handle On Science

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Who We Are & What We Do

- **Near Earth Object Foundation**
  - 501(c)(3) scientific research
  - and 509 (a)(2) public education
  - Astronomical research and educational outreach programs
  - Main field of research:
    - asteroid/comet threats,
    - mitigation,
    - and utilization
  - NEO Foundation serves as the fiscal agent for WV Space Grants
  - NEO Foundation was started in Wheeling, WV in 1996

- **SMART-Center**
  - 501(c)(3) organization
  - SMART:
    - Science,
    - Mathematics,
    - Art,
    - Research, and
    - Technology
  - Educational outreach programs
  - School groups, educator workshops, summer science camps, and public science education regionally since 1994
The Rest of the Partners

• Brooke Hills Park
  – First “Dark Park” in West Virginia
  – Location of “Rural” StarWatch events, 3rd Friday of each month

• SMART Centre Market
  – Wheeling’s interactive science store
  – Location of “Urban” StarWatch events, 1st Friday of each month

• Radio Science News
  – Live, local, science based call-in radio program

• West Virginia-Handle On Science
  – RESA 6, K-6 grade, hands-on science kit-based curriculum program
  – Serving 11,000 students and 450 teachers

• ASTROLABE Astronomy Club
Recent Examples of WV Space Grants

- Using Science Notebooks in Elementary Science Inquiry
- NanoScale PlanetWalk
- Macro to Micro Tools of Science Work Shop
- Urban & Rural Sky Project
- Science Activity Enrichment Workshop
- GEMS: Girls Enjoying Math & Science
Using Science Notebooks in Elementary Science Inquiry

- K-12 Outreach / 2009 - 2010
- Teacher workshop
- Coupled with “READ Science” workshop
- Integration techniques focus on literacy and use of science note books in the Elementary Classroom
- Educators teaching K-2, 3-5, and 6-8
NanoScale PlanetWalk

- Community Outreach / 2009 - 2010 (through the present)
  - Change in trail location has extended the expected timelines for the NanoScale PlanetWalk project

- 1 to 1 billionth scale PlanetWalk
  - NanoScale of Solar System objects - distance / size

- Along a local walking trail just south of Wheeling
Macro to Micro
Tools of Science Work Shop

• K-12 Outreach / 2010
• Educator workshop focusing on use of science tools
  – Telescopes
    • each teacher makes and uses a “Galileoscope”
  – Microscopes
  – Spring scales
  – Balances
  – Specialized tools and techniques of Paleontology
Urban & Rural Sky Project

- Community Outreach / 2011 - 2012
- Total of 30 “Sky” events
- Astronomy events in
  - “Urban” setting (downtown Wheeling, WV) in conjunction with monthly First Friday events
  - “Rural” setting (Brooke Hills Park - West Virginia’s first “Dark Park”) on 3rd Friday
- 7th WV Kite Festival
Science Activity Enrichment Workshop

• K-12 Outreach / 2011
• 3 day summer teacher workshop and 2 follow up days involving PreK through 6th grade teachers in:
  – Project Need
  – Project Wild
  – Astronomy Enrichment
• Tied to WV state Science Standards and regional WV-HOS kit based curriculum
GEMS: Girls Enjoying Math & Science

- Summer of Innovation/2011
- 2 day specialized Summer Science Camp for girls in grades 5 to 8
- Incorporated NASA educational curriculum materials
- 2 overarching themes:
  - Exobiology
  - Comparative Planetology
Advertising for NASA Space Grant Events

- **Wheeling Newspapers**
  - Occasional news articles
  - Monthly calendar of events
  - Weekly / daily reminders

- **Ohio Valley Parent Mag.**
  - Monthly “SMART Science”
  - 40,000 issues given out

- **Radio Science News**
  - Wide local audience WVLY 1370 AM and Internet
  - Saturday mornings 11:05-11:58

- **West Virginia-Handle On Science (WV-HOS) Listserv**
  - notifies 450 K-8 grade educators in 5 counties of WV’s Northern Panhandle and their 11,000 students of science enrichment events

- **SMART-Center**
  - Webpages and FaceBook

- **SMART Centre Market**
  - Store fliers to customers, signs, and word of mouth

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