



# **Making Space Science More Accessible**

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## NASA Needed Help...

- ALL students to share in the excitement of NASA space science missions
- NASA product developers meet 508 accessibility standards
- 6.5 million students with disabilities
- Students with disabilities held to same education standards



## SERCH to the Rescue...

- SouthEast Regional Clearinghouse
  - NASA Science Mission Directorate Broker/Facilitator
  - Facilitated relationships with developers and users
    - Special Needs Initiative
    - Exceptional Needs Workshops (ENWS)



## Exceptional Needs Workshops...

- Universal Design of Learning
  - Provides a “framework for integrating flexible, usable, and accessible teaching and learning technologies with inquiry- and standards-based...” STEM curricula
  - Supports multiple methods of accessing and evaluating information



# Exceptional Needs Workshops...

- 7 Workshops (2001-2007)
  - SMD Education Forums, educators, and persons with disabilities
  - Product developers learn what modifications need to be made to accommodate
  - Educators learn what NASA products are available to them
  - Cross-fertilization of knowledge



**ACCESSIBLE**



Space Science Is for Everyone:  
Creating and Using Accessible Resources in Educational Settings

## LESSONS FROM THE FIELD



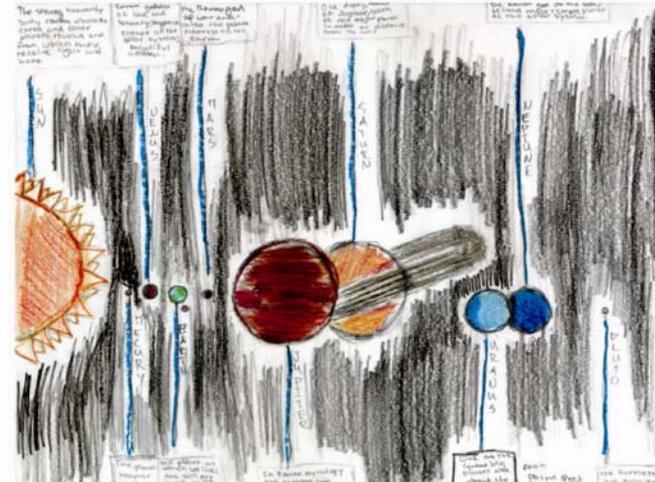
# The Finale...

An educator and NASA approved resource for anyone working with persons with disabilities

Online at NASA at:

[http://nasa.gov/audience/foreducators/topnav/materials/listbytype/Space\\_Science\\_Is\\_for\\_Everyone.html](http://nasa.gov/audience/foreducators/topnav/materials/listbytype/Space_Science_Is_for_Everyone.html)

Your journey awaits.



# Lessons Learned: Informal Learning Environments



It is important to ensure that science centers, museums, and/or planetariums are accessible and useable by all audiences.



*Photos taken at ENWS in 2002 and 2003*

# Exhibit Design

- Consider (early) designs that involve Universal Design Learning strategies (e.g. exhibit height)
- Use descriptive, picture-based explanations in conjunction with written explanations
- Provide multi-sensory, interactive exhibits to explain concepts
- Offer assistive devices at no charge



Increasing the accessibility of exhibits increases admissions to learning environments. Furthermore, visitors who are immersed in interactive exhibits tend to retain information acquired during their experience.

# Visitor's Experience

The screenshot shows the American Museum of Natural History website. The main navigation bar includes links for 'ON EXHIBIT', 'PUBLIC PROGRAMS', 'PLAN YOUR VISIT', 'SCIENCE', 'EDUCATION', 'SUPPORT AMNH', 'KIDS & FAMILIES', 'TICKETS', and 'SHOP'. The 'PLAN YOUR VISIT' section is highlighted in orange and contains links for 'PLAN YOUR VISIT', 'AT THE MUSEUM', 'PUBLIC TOURS', 'GROUP TOURS', 'DISABLED ACCESSIBILITY', 'BUY TICKETS NOW', 'DOWNLOAD MUSEUM MAP', and 'INTERACTIVE FLOORPLAN'. The 'MUSEUM INFO' section provides details on opening hours, address, and contact information. The 'MOBILITY IMPAIRMENTS' section is the focus, listing accessible entrances (Rose Center, Parking garage, 77th Street), restrooms, and theaters. It also includes a list of wheelchair-accessible restrooms and a note about wheelchair availability for visitors.

- Provide training to staff (education and administrative) and docents on the needs of persons with disabilities
- Have museum materials (maps, guides) in various formats and provide visitors with a detailed orientation upon arrival
- Develop an accessibility plan (that includes visitor services and education) for your venue and post to web

Quality resources that offer ways to welcome, accommodate, and interact with visitors with various disabilities may be found at the Association of Science-Technology Center's (ASTC) website (<http://astc.org>).

# Educational Programs



- Provide pre/post activities to teachers and identify needs of group in advance of visit.
- Ensure programs and activities are grade/ability appropriate by creating flexible programs that can be adapted by educators and docents.
- Incorporate hands-on activities, demonstrations and audience participation into programs.

Visitors arrive with various expectations, learning styles and abilities. The challenge for educators lies in developing educational tools that will stimulate and engage all visitors in the informal environment.





**“Our challenge from the President is to emphasize STEM education and reinvigorate inspiration”**

***- Charles F. Bolden, Jr., NASA Administrator***

**“Inspire students and help them believe in themselves”**