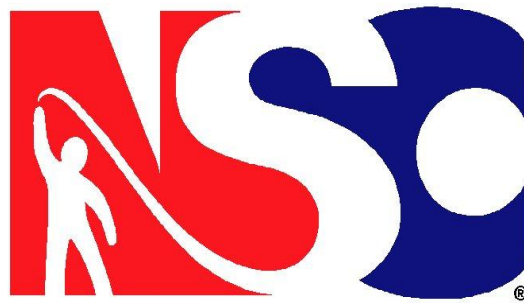


The Advance Book for the **Mobile Discovery Center**



Sponsored by the
National Science Center
and the U.S. Army



National Science Center
ATTN: Mobile Discovery Center Manager
TNG-02 Chamberlain Ave.
Fort Gordon, GA 30905

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(706) 791-9435 • FAX (706) 791-9491
mdc@nscdiscovery.org
www.NationalScienceCenter.org

The National Science Center (NSC), located in Augusta, Georgia, takes science on the road with its Mobile Discovery Centers (MDCs). Education outreach is the mission of the NSC, and the MDCs play a key role in the accomplishment of this mission by taking our programs to schools across the nation. Housed in 18-wheelers, the mobile centers travel across the country, presenting programs designed to show young people that studying science and math is fun as well as essential to their future. The program consists of fun, hands-on, interactive science demonstrations.

Designed by the NSC and staffed by U.S. Army soldiers and Department of Army civilian personnel, the MDCs are mobile classrooms focusing on physical science concepts for students in grades 4-9. The science demonstrations are fun and exciting for both students and teachers.



Coordination Responsibilities

NSC Program Manager: At least two weeks prior to a scheduled Mobile Discovery Center visit, the program manager will contact each site to finalize the details of the visit and address any issues or questions.

Host Site Point of Contact: The school coordinator can help determine the best route for the van to travel to your site. Ensure that tractor-trailers are authorized and make sure that the route is free of overhangs/overpasses (trees, rails, power lines, bridges, tunnels, etc.). Side clearances should ensure passage of a 9-foot wide vehicle. This information can be obtained from local police and city planners. Please provide any helpful information to the MDC Demonstrator when he calls (see next section).

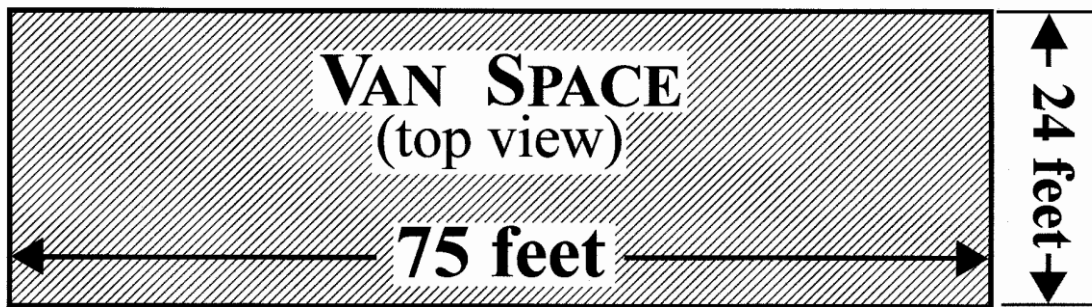
MDC Demonstrator: About one week prior to arrival at the site, a member of the Mobile Discovery Center exhibit team will contact the site coordinator to finalize the arrival time and setup requirements.

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If for any reason the Mobile Discovery Center is unable to reach a scheduled destination, a member of the Mobile Discovery Center team will contact the site coordinator to explain the reason for the delay and coordinate an alternate arrival time.

Set-up Information

- 1. Van Placement:** The Mobile Discovery Center should be placed on level, solid ground (paved or concrete).
- 2. Space Requirements for Parking:** 24 feet wide by 75 feet long by 14 feet high. (This equals two adjacent rows of seven parking spaces - a total of 14 spaces). Space should be located away from inbound and outbound traffic and away from student and bus pick-up zones.



- 3. Power Requirements: none** - The Mobile Discovery Center is totally self-contained.
- 4. Size:** The Mobile Discovery Center Van is 8 feet wide by 65 feet long and 14 feet high. The Van's sides expand to 16 feet wide.
- 5. Seats:** The Mobile Discovery Center will seat 35-40 students depending on age level.

Current Mobile Discovery Center Program

This 45-minute program uses numerous physical science demonstrations to actively engage the student in the learning process. Demonstrations of Van De Graff generators, plasma ball, and Tesla coils are used to create “hair raising” experiences during the demonstrations. Frequency, sound, and resonance are all covered during the exciting Acoustic Glass Breaker demonstrations. Persistence of Vision is demonstrated with the “I thought I saw something” Light Stick. Last but not least is the “Seeing in the Dark” demonstration where the principles of night vision are demonstrated. Throughout the demonstration program, numerous students (and occasionally, a brave teacher) will be asked to assist the demonstrators.

The complete program consists of fun, interactive science demonstrations. The entire program is approximately 50 minutes in length. Routinely, 6 presentations can be scheduled during a traditional school day. Each session will seat approximately 35 - 40 students, depending on age.

Current demonstration topics are listed on the following page.

MDC Demonstration Topics

1. Electricity* and Magnetism

- a. Van De Graff Generator (Static Electricity)
- b. Tesla Coil (AC/DC)
- c. Plasma Ball
- d. Magnetism

2. Light & Vision *

- a. Light Stick (Multiple preprogrammed images)
- b. Night Vision (Thermal Tricks)
- c. Persistence of Vision

3. Sound *

- a. Acoustics
- b. Singing Rods
- c. Singing Straws
- d. Pencil/Slinky
- e. Train Whistle
- f. Tuning Fork/ Drinking Glasses
- g. Whoopi Cushions/Balloons

4. Table-Top Demos

- a. Center of Mass (Balancing Nails)
- b. Hoop Swoop (Newton's Law)
- c. Needle in a Balloon (Surface Tension)

5. Best of the Best

- a. Electromagnetic Spectrum
- b. Acoustical Glass Breaker
- c. Van de Graff Generator
- d. Plasma Ball
- e. Persistence of Vision

* Electromagnetic Spectrum

About the National Science Center

About the Organization

The National Science Center (NSC) is a unique partnership between the United States Army and National Science Center, Inc., a non-profit organization. The mission of the NSC is to stimulate interest and increase math and science proficiency of our nation's students using the resources of the partnership.

History

The NSC began operation on Fort Gordon, GA, in 1981 with the establishment of An NSC Army Task Force. The partnership between the Army and the non-profit partner was established by Public Law in 1985. The initial effort of the NSC was the establishment and very successful operation of the Preview Discovery Center, a prototype hands-on exhibit facility located on Fort Gordon. Additionally, in 1993 the NSC-Army staff initiated national educational outreach programs focused on science, technology, engineering, and mathematics (STEM).

In 1997 the group moved just 13 miles to downtown Augusta, GA, to their new home, Fort Discovery. This 128,000-square-foot facility housed a spectacular hands-on exhibit facility as well as served as the headquarters for the STEM national educational outreach programs and NSC staff.

At the end of 2010, the governing body of the NSC decided to focus NSC's efforts on STEM national education outreach, which had been a recognized and vital part of the organization since 1993. Therefore, the Fort Discovery facility that had been enjoyed by thousands of visitors over the years closed its doors on 31 December. Moving forward, the NSC will continue to support the youth of the nation with engaging, exciting, and educational STEM outreach programs and activities.

For additional information on
National Science Center programs,
visit our web site...

www.nationalsciencecenter.org