The Spies in the Sky

The project was very effective and has had a positive impact. The students have become active participates in the hands-on process of investigating their real world. The students have become motivated in their own learning experiences. I believe these activities have been meaningful, relevant, and very interesting to my students. The students in my school come from single female headed households that are economically deprived. The opportunity presented by this project is something they will never forget.

Curriculum/State Standard

D. C. Public School Content Standard Space Science. The students learned the complexities of space through the use of technology, and the students constructed models based on observation and measurements. The students learned to develop mapping skills and interpret satellite data through hands-on-labs and demonstrations, using a global positioning system instrument. Students comparing results of an investigation of how to observe astronomical satellite, collect optical data, transmitting that data to earth and reassembling it into images. Students learned how to determine and identify the longitude and latitude coordinates of international global ground stations using a global positioning system instruments. Students collected data about the weather and observed weather patterns/cloud coverage when they developed a weather station in the Hine Junior foyer. The information was recorded daily.

Overview

The project taught the students about earth satellites and weather patterns/cloud coverage that affect our planet. The project gave students a rare opportunity to work on the implementation of the project in a classroom setting and on the Hine's playground and Hine's foyer.

Continued on the back...

7
GRADE LEVEL

ARTS

LANGUAGE

MATH

MISCELLANEOUS

SCIENCE

HISTORY

SOCIAL STUDIES

4
MONTHS

$1000
TOTAL BUDGET

SHOPA
Foundation for Educational Excellence

Kids In Need

THIS WINNING LESSON PLAN WAS SUBMITTED BY:

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"Spies in the Sky" project continued...

Objectives

- The student will locate longitude and latitude and elevation coordinates.
- The student will read maps.
- The student will record longitude, latitude and elevation coordinates.
- The student will stimulate a satellite image of Washington, D. C., using a decimal equivalent scanner map.
- The student will construct a three dimensional Landsat-7 earth satellite model.
- The student will collect data about weather and observe weather pattern/cloud coverage by developing a weather station.

Materials

GPS receivers, cloud charts, rain gauge, pH meter, alkalinity kit, Xeroxing materials of the Landsat-7 model, crayons, tape, and snow depth pole

Readiness Activity

Students had to understand map coordinates of latitude and longitudes. The students practiced collecting data about the weather. The students learned how to use the decimal equivalent scanner map of the Washington, D. C. area.

Strategies/Activities

The students used mini globes and maps of the world to locate the longitude and the latitude coordinates. They located the global ground stations by longitude and latitude coordinates on the world map. The world map was Xeroxed. The students recorded the longitude and latitude coordinates on a data chart.

The students stimulated a satellite image from space to earth using a scanner map to plot and color code decimal equivalences using the image of Washington, D.C.

The students worked on binary connections of computers.

The students wrote reports on earth satellites.

The students used Global Positioning Systems to locate longitude and latitudes, coordinates of earth satellites all over the world.

The students recorded the longitude, latitude, and elevations on the data sheet.

The students constructed a three dimensional Landsat-7 earth satellite model designed by Paul Guy.

The students collected data about the weather and observed weather patterns/cloud coverage using cloud charts. They collected data daily from the weather station. They recorded the data on weather data charts.

The students used rain gauge, cloud charts, tested the pH of the rain, using alkalinity kits.

The students used the snow pole to measure the snow levels.

Culminating Activity

The construction of the Landsat-7 model and demonstration on how to use the GPS receivers; the construction of the weather station in the foyer

Evaluation

Pre- and post-test, weather observation data sheet, global positioning data sheet of the earth satellites, a rubric was developed for completion of the Landsat-7 model, and graphs of precipitation