

# Hands On, Minds On

*This project is effective and has value because it involves the students in space activities that bring the concepts to their level. They may interact with the full size, one-dimensional model of the shuttle mid-deck and with the to scale model of the planets in the solar system that has been painted on the school playground. This project enables the students to visually and interactively engage with concepts that are usually too big to imagine.*

## Curriculum/State Standard

Illinois science and math

## Overview

Students will tape the actual dimensions of the mid-deck of the space shuttle, from a floor plan I received from NASA, on the playground. Art teacher and students will use white paint to then make a permanent outline on the playground. Students will find color pictures of the planets with the help of the media specialist. With the help of the art teacher, planets will then be painted on the playground at a scale ratio from the sun.

## Objectives

- The student will solve problems using comparisons of quantities, ratios, proportions, and percents of the sizes of the nine planets and distance from the sun.
- The students will know and apply concepts that explain the composition and structure of the universe and earth's place in it.
- The students will be actively engaged in the activity and space science in a real world situation.

## Materials

Paint - white, yellow, blue-specially manufactured for applying to asphalt available from Menards, for example (indoor/outdoor); brushes; masking tape; visuals of the planets-print or electronic access; mid-deck outline-made to a full-size replica

*Continued on the back...*

# 2-5

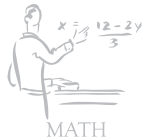
GRADE LEVEL



ARTS



LANGUAGE



MATH

# Misc

MISCELLANEOUS



SCIENCE



HISTORY



SOCIAL STUDIES

# 2

WEEKS

# \$500

TOTAL BUDGET



THIS WINNING LESSON PLAN WAS SUBMITTED BY:

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# “Hands On, Minds On” project continued...

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## **Readiness Activity**

Throughout the school year, students in grades 2-5 were involved in activities about space and aeronautics from my NASA Educator's Workshop.

## **Strategies/Activities**

The 4th and 5th graders will use a scale drawing of the shuttle mid-deck.

Using proportion and ratios, students will use math skills to determine the real size of the mid-deck.

Students will then mark the model on the playground using masking tape.

With the assistance of the art teacher, the students will paint the outline of the mid-deck of the space shuttle and label the parts.

Grades 2-5 will locate pictures of the nine planets from print/electronic sources.

A consensus will be made on the picture or pictures to use for each planet.

The pictures will then be painted onto the playground on a scale ratio from the sun and in size comparison to each other.

*Note: If the paint is going on to cement, more variety of colors may be used than what is indicated here.*

## **Culminating Activity**

During Information skills/computer time with me in the Media Center (I see the entire school in one week, so no one will be missed), the students will go outside and see the accomplishment from the information that they researched. They will always be able to play through the solar system or in the mid-deck during their recesses.

## **Evaluation**

The evaluation instrument will be the actual representative pictures on the playground of the mid-deck and the solar system.