

EXPLORING THE SOLAR SYSTEM ACTIVITIES OUTLINE—HANDS-ON PLANETARY SCIENCE FOR FORMAL EDUCATION K-14 AND INFORMAL SETTINGS. J. S. Allen¹, K. W. Tobola, and M. L. Lindstrom³, ¹Lockheed Martin, 2400 NASA Rd. 1, Houston, TX 77058, Jaclyn.allen1@jsc.nasa.gov, ²Bastion Tech, 17625 El Camino Real, Suite 330, Houston, TX 77058, kay.w.toboal1@jsc.nasa.gov, ³SR/NASA JSC, Houston, TX 77058.

Introduction: Activities by NASA scientists and teachers focus on integrating Planetary Science activities with existing Earth science, math, and language arts curriculum. The wealth of activities that highlight missions and research pertaining to the exploring the solar system allows educators to choose activities that fit a particular concept or theme within their curriculum. Most of the activities use simple, inexpensive techniques that help students understand the how and why of what scientists are learning about comets, asteroids, meteorites, moons and planets. With these NASA developed activities students experience recent mission information about our solar system such as Mars geology and the search for life using Mars meteorites and robotic data.

The Johnson Space Center ARES Education team has compiled a variety of NASA solar system activities to produce an annotated thematic outline useful to classroom educators and informal educators as they teach space science. An important aspect of the outline annotation is that it highlights appropriate science content information and key science and math concepts so educators can easily identify activities that will enhance curriculum development. The outline contains URLs for the activities and NASA educator guides as well as links to NASA mission science and technology.

In the informal setting educators can use solar system exploration activities to reinforce learning in association with thematic displays, planetarium programs, youth group gatherings, or community events. Within formal education at the primary level some of the activities are appropriately designed to excite interest and arouse curiosity. Middle school educators will find activities that enhance thematic science and encourage students to think about the scientific process of investigation. Some of the activities offered are appropriate for the upper levels of high school and early college in that they require students to use and analyze data.

Outline: The Exploring the Solar System Outline of Activities starts with a variety of scale activities that fit different settings and equipment. The early solar system formation activities are mainly focused on asteroids, meteorites and planet formation. How and why we explore our solar system is a theme that allows for creative arts types of activities. Further activities

highlight the Sun and planetary geology. Activities that focus on processes in the gas giants will be added as they become available.

Conclusion: The Exploring the Solar System Outline of Activities is a concentrated resource of activities that allows educators to share the excitement and science of space science exploration with students and members of the public comfortably and inexpensively.

Additional Information: Some of the activities included in the Exploring the Solar System Outline are in the following NASA developed guides.

Exploring Meteorite Mysteries

<http://spacelink.nasa.gov/Instructional.Materials/Curriculum.Support/Life.Science/Educator.Guides.and.Activities/Exploring.Meteorite.Mysteries/index.html>

Exploring the Moon

<http://spacelink.nasa.gov/Instructional.Materials/Curriculum.Support/Physical.Science/Educator.Guides.and.Activities/Exploring.the.Moon/index.html>

Mars Activity Book: K-12 Classroom Activities

<http://mars.jpl.nasa.gov/classroom>

Destination: Mars

<http://ares.jsc.nasa.gov/Education/activities/destmars/destmars.htm>

Fingerprints of Life

<http://ares.jsc.nasa.gov/Education/Websites/AstrobiologyEducation/index.html>