

WILDERNESS OF ROCKS ASTEROID PROJECT – THE WEB SITE. S. K. Croft¹ and S. M. Pompea¹,
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Introduction: We continue to develop our pilot educational outreach program on asteroid characterization designed to get student research and cutting-edge astronomical data into the Middle School classroom. The project involves students in research using visible imagery and near infrared color photometry to characterize Near Earth Objects, newly discovered asteroids, and other interesting known asteroids (e.g., Vesta and Ceres). The science content fits easily into the Earth Science curriculum, utilizing the exciting research and data of astronomy and asteroids to teach topics including the nature, development, and relations between asteroids, meteorites, and terrestrial rocks; earth processes and origins of rock types, formation of the Earth, Moon, and solar system, the nature and possible use of near earth resources, and, of course, the connection between asteroid impacts and life on earth.

We have recently placed all of our developed materials online to make them available for additional testing and development.

Website Materials: On the web site you will find the following sections:

All About Asteroids. This section provides the scientific content, organized in short articles for students entitled: What are Asteroids? An Introduction. Where in the Solar System. Sizes and Shapes. Some Cool Pictures. How are Asteroids Discovered? Determining Asteroid Sizes and Shapes. What are Asteroids made of? The Meteorite Connection - Asteroid Colors. Asteroid Spectra. Asteroids, Meteorites, and Geologic Processes.

For Students. Three student activities are available. The activities are modular, and can be done individually or together to create teaching units lasting about two days (i.e., two classroom periods), two weeks, or up to an entire semester if the research project option is desired.

1. Adopt an Asteroid. This is the basic introduction to asteroids, taking about one hour of class time and a one-hour asteroid-discovery observing experience.

2. Asteroid Spectra: this is one version of a more complete introduction to asteroids, tying them to meteorites and Earth geologic processes. This version takes about one week of classroom time. This activity is paper/computer-based and does not require an observational component. This activity introduces characterization of asteroids using spectra, one of the most important areas of asteroid research today.

3. Asteroid Colors. This is another version of a more complete introduction to asteroids, again tying them to meteorites and Earth geologic processes. This version takes about one week of classroom time, but

can be expanded into an extended observational project. The activity includes observation and analysis of asteroid colors. It is more challenging than simple asteroid discovery, and involves mathematics (data reduction) and graphing. This activity introduces asteroid characterization using color photometry, another of the most important tools in asteroid research today: primarily in large automated systems such as the Sloan Digital Sky Survey, PanSTARRS, and the Large Synoptic Survey Telescope, that (will) produce large, searchable digital libraries.

Students are also provided with observing information, including a regularly updated list of easily observable asteroids and a list of standard stars to calibrate photometric measurements.

For Teachers. This section contains Teacher's Notes for each of the three student activities, and Science Standards relevant to asteroids in the Earth Science curriculum.

Asteroid Resources. This section includes links to asteroid-related Educational Projects, Professional Search projects, and Spacecraft Missions

Data Archive. This section, currently under construction, will contain a collection of asteroid images and data that will be gathered by students participating in the project.

Additional Information: If you would like more information or would like to try out some of our activities, please visit our web site at:

<http://www.noao.edu/education/asteroids>.