



## Family Fun Activities and Investigations

Visit the following places to experience hands-on science:

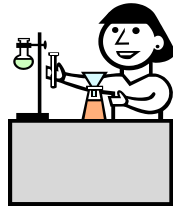
Maryland Science Center  
601 Light Street  
Baltimore, MD 21230  
410-685-5225

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Baltimore Museum of Industry  
1415 Key Highway  
Baltimore, MD 21230  
410-727-4808

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National Air and Space Museum  
6th St. & Independence Ave., S.W.  
Washington, District of Columbia  
20560  
202-357-2700



## Career Connections

Take a few minutes to discuss, with your child, these different career opportunities for people interested in careers related to space.

### **Astronaut**

A scientist who is trained to travel in a spacecraft

### **Astronomer**

A scientist who studies the planets, and other objects and matter outside Earth's atmosphere

### **Astrophotographer**

A person who takes photographs

### **Engineer**

A person who uses science and math to design, build or operate equipment, structures and systems

### **Museum Curator**

A person in charge of a museum of objects in space

### **Technician: Space Shuttle**

Any person who performs maintenance, service, or repair on space shuttles

Prepared by

Office Of Science, Pre K-12

## A Parent's Informational Guide to the Science Unit:

# Taking a Closer Look at Space



## Grade 4



# Space

This is a fourth grade unit designed to help students learn about astronomy, specifically repeating patterns on Earth (day/night, phases of the moon, the seasons, seasonal constellations), celestial objects in the sky (sun, stars, planets, moons, dwarf planets, asteroids, comets, meteors), and properties of planets necessary for survival or organisms. The students will explore concepts using hands on methods and explain those concepts orally, in diagrams, and in written format. Students will learn about the telescopes and star finders. The Maryland Voluntary State Curriculum Indicators addressed in the unit are listed below:

## Skills and Processes: Applying Evidence and Reasoning

Seek better reasons for believing something than "Everybody knows that..." or "I just know" and discount such reasons when given by others.

## Communicating Scientific Information

Recognize that clear communication is an essential part of doing science because it enables scientists to inform others about their work, expose their ideas to criticism by other scientists, and stay informed about scientific discoveries around the world.

## Technology

Examine and modify models and discuss their limitations.

## Earth/Space Science: Astronomy

Identify and describe the variety of objects in the universe through first-hand observations using the unaided eye, binoculars or telescopes or videos and/or pictures from reliable sources.

Recognize and describe the causes of the repeating patterns of celestial events.

## Technology Indicators

Students will demonstrate the ability to communicate online to collaborate, publish, and interact with peers, experts, and other audiences.

Students will use a technology to locate, select, evaluate, and process information from a variety of sources.

## Earth/Space Science: Astronomy

Recognize and describe the causes of the repeating patterns of celestial events.

## Math Connection

Students will algebraically represent, model, analyze, or solve mathematical or real-world problems involving patterns or functional relationships.



# Unit Vocabulary

Encourage your children to use the vocabulary listed below when telling you about what they are learning during this science unit.

constellations- a group of stars seen in one part of the night sky

moon - Earth's only natural satellite and our nearest neighbor in space

orbit - the path of one heavenly body around another

phases of the moon - a change in the apparent shape of the moon; new moon, first quarter, full moon, third quarter

revolution - movement in a circle or curve path around a central point or axis; one revolution of Earth around the sun takes  $365\frac{1}{4}$  days or one year

rotation - the act of spinning or turning around a central point or axis; one rotation of Earth on its axis takes about 24 hours or one day

solar system - the sun and the planets, moons, asteroids, and dust particles that are in orbit around the sun

star - a huge ball of glowing gas that appears as a bright point in the night sky

sun - a huge ball of gases around which Earth and other planets of the solar system revolve



# Books to Read

Take some time to read books about space with your child. Books on this topic can be found in the non-fiction section of the library in the 520 call numbers. You can also find books on this topic in the children's section of your school and public library.

*Scholastic's The Magic School Bus Lost in the Solar System*

by Joanna Cole

*Our Solar System Amazing Award Winning Science*

by Seymour Simon

*Close Encounter: Exploring the Universe with the Hubble Space Telescope*

by Elaine Scott

# Internet Sites



Go to online Web site at [www.bcps.org/offices/lis](http://www.bcps.org/offices/lis). Select "Databases" link to open the Database Portal. Use the following login protocols for databases you wish to use.

SIRS Discoverer/ SIRSDiscoverer WebFind

User Name: bcps

Password: sirs

BrainPop

User Name: bcps

Password: brainpop