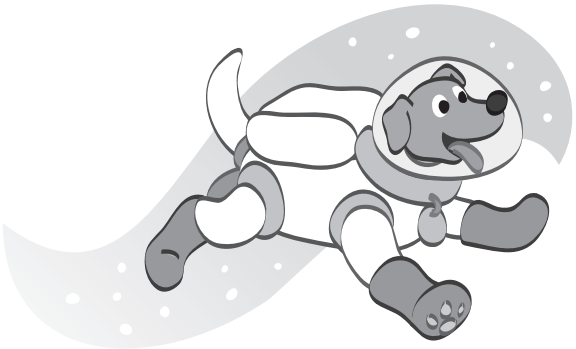
Solar System Trading Cards Jr. Edition Teaching Tips

Grades K–3



About the Cards

The Solar System Trading Cards, Junior Edition provides teachers with science content reading material for early readers. The cards are designed for grades K-3 but can be adapted for use with other students. The images on the cards motivate students to read for a purpose; specifically, to learn about objects in the solar system. The deck contains 13 "Solar System Card Game" cards, a "How to Play" card, a "Did You Know?" card, a "Hubble Space Telescope Trivia" card, and a title card.

The Solar System Card Game is a round-robin game that uses the 13 "Solar System Card Game" cards. The "How to Play" card and the "Did You Know" cards contain the basic instructions for the game. Only the cards with a Game Question at the bottom of the card are used in the game. Color-coding makes it easy to separate the cards needed for the game from the other cards: all game cards have a purple border.

Game cards include the Sun; the Moon; Mercury; Venus; Earth; Mars; Jupiter; Saturn; Uranus; Neptune; Pluto; asteroids, represented by Gaspra; and comets, represented by Hale-Bopp. The answer to each Game Question is an object featured on another card. No answer key is provided because the cards supply the answers. For example, one question is: "Which planet is red?" The Mars card contains the answer in the text on the card: "Mars is red. It is a rocky planet covered with dust. Mars has two small moons."

The "Did You Know?" card contains information about the solar system as a whole and points out similarities and differences between the objects pictured on the 13 game cards. This card also addresses some common misconceptions, and can be used to establish a basic understanding of the solar system prior to reading the individual cards and playing the card game. Children may harbor other misconceptions about the solar system and space in general. Teachers should be aware of their students' misconceptions and try to remedy them. Additional student misconceptions can be found in the "Myths vs. realities" section of the Amazing Space Web site. The URL listed below will take you to an overview page for the solar system's "Myths vs. realities." The overview explains how to use this resource in the classroom. From there, you can click on the link: "Myths vs. realities: Solar system" or on the "Go to resource" box to read the misconceptions.

http://amazing-space.stsci.edu/eds/overviews/myths/solar_system.php

The "Hubble Space Telescope Trivia" card contains interesting facts about the telescope. The Hubble Space Telescope produced the images of Mars, Jupiter, Saturn, Uranus, Neptune and Pluto on the cards.

The title card contains links to additional solar system resources.

Set-up for playing the game with classes of more or less than 13 students:

For classes containing more than 13 students, use more than one deck of cards and group students accordingly.

If a group of less than 13 uses the cards, some students will need to hold more than one card.

Other ways to use the cards

1. Practice the process skills of sorting and classifying:

The Solar System Trading Cards, Junior Edition contains information that can be used to sort or classify the cards. Students can arrange the cards in alphabetical order, or in order based on the objects' position from the Sun. They can sort the cards according to the composition of the object and/or by the number of moons. If there is no moon mentioned on the card, the planet does not have a moon. (Mercury and Venus have no moons.) The giant planets (Jupiter, Saturn, Uranus and Neptune) have many moons, Mars has two, and Earth has one moon. Other ways of sorting the cards include planets vs. non-planets and groupings of similarly colored objects.

2. Practice the process skills of pattern and property recognition:

Use two decks of cards to play a memory game. This activity helps students develop pattern and property recognition skills. The object of the game is to make as many pairs as possible. Lay each card image-side down on a floor or table. You can arrange the cards in rows of five or six. One student turns over two cards. If the cards do not match, the student must put them back, face–down, and his or her turn ends. If the cards do match, the student gets to keep the pair, and turns over two more cards. The game continues until all of the cards are matched, and the player with the most pairs wins.

3. Create more questions

Students think of other questions to ask about a particular solar system object. The teacher or student records the questions.

4. Draw pictures

Students draw the entire solar system or just one solar system object.

5. Choose a favorite

Ask students to identify their favorite solar system object and explain why it is their favorite.

National Education Standards

American Association for the Advancement of Science/Project 2061 Benchmarks for Science Literacy

http://www.project2061.org/publications/bsl/online/bolintro.htm

4. The Physical Setting
A. The Universe

By the end of the 5th grade, students should know that:

The Earth is one of several planets that orbit the Sun, and the Moon orbits around the Earth.

Next Generation Science Standards: Practices

http://www.nextgenscience.org/next-generation-science-standards

Obtaining, evaluating, and communicating information in K–2 builds on prior experiences and uses observations and texts to communicate new information.

•Read grade-appropriate texts and use media to obtain scientific information to determine patterns in the natural world.

Common Core: College and Career Readiness Anchor Standards for Reading

http://www.corestandards.org/ELA-Literacy/CCRA/R

CCSS.ELA-Literacy.CCRA.R.10 Read and comprehend complex literary and informational texts independently and proficiently.

Solar System Trading Cards, Jr. Edition was developed in 2005 and updated in 2014 by the Space Telescope Science Institute, operated by AURA for NASA

Educational Product	
Educators & Students	Grades K–3