

**Objective:**

Students will understand that different planets in our solar system have different landscapes, atmospheres, and weather than Earth, and engage in role play as space meteorologists.

**Arkansas State Standards Addressed:**English Language Arts:

**W.2.7** Participate in shared research and writing projects (e.g., read a variety of print and/or digital sources on a single topic to produce a report; record science observations).

**W.2.8** Recall information from experiences or gather information from provided sources to answer a question.

Science:

**3-LS4-3** Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

**3-ESS2-2** Obtain and combine information to describe climates in different regions of the world.

Theater:

**P.6.K.1** Imitate, with guidance, people, creatures, or things using voice and sound through dramatic play, an adaptation of classroom literature, or a guided drama experience

**CN.11.1.1** Use knowledge from other content areas in a guided drama experience

**R.9.2.1** Demonstrate the appropriate listening, observing, and behavior skills of an audience member

**CR.3.2.1** Develop with guidance improvised scenes with a defined beginning, middle, and end

**Activity**

In this activity, students will explore the differences in weather, landscapes, and atmospheres on different planets in our solar system. Using the *Explore Space* exhibit and library resources like National Geographic's *Little Kids' First Big Book of Space* and *The Magic School Bus: Lost in the Solar System*, Jill McDonald's *Solar System* board book, and the pocket guide, *Space: Facts at your Fingertips* to research weather conditions on other planets, students will complete a weather report template and deliver a space weather report with props.

You will need:

- A green screen or space backdrop
- A microphone and other meteorological props
- A weather report template or script (Example: <https://www.teacherspayteachers.com/Product/Daily-Weather-Report-1324193>)
- Space/planet reference books and resources

As an extension for this activity, students can design their own planet by naming and drawing it and writing a brief description of what it looks like and what the weather conditions are like in its atmosphere and on its surface. See details under the *Explore Space* Design a Planet activity sheet.

### **Additional Resources at Bentonville Public Library:**

The following are a selection of books and other resources about space and planets in our solar system. All items are available for checkout at the Bentonville Public Library; call numbers are included in brackets. Online resources are available through BPL's Student Portal:

<http://www.bentonvillelibrary.org/student-portal/>

- *Astronaut Academy* by Steve Martin. [JNF 629.4 MAR]
- *Beyond the Solar System: Exploring Galaxies, Black Holes, Alien Planets, and More—A History with 21 Activities* by Mary Kay Carson. [JNF 520.9 CAR]
- *Exploring Comets, Asteroids, and Other Objects in Space* by Nancy Dickmann. [JNF 523 DIC]
- *How to Make a Planet: A Step-By-Step Guide to Building the Earth* by Scott Forbes. [JNF 550 FOR]
- *Little Kids First Big Book of Space* by Catherine D. Hughes. [JNF 520 HUG]
- *The Magic School Bus: Lost in the Solar System* by Joanna Cole and Bruce Degen. [JNF 523.3 COL]
- *Our Solar System* by Simon Seymour. [JNF 523.2 SIM]
- *Pluto's Secret: An Icy World's Tale of Discovery* by Margaret A. Weitekamp and David DeVorkin. [JNF 523.49 WEI]
- *Space Exploration: Primary Sources* by Peggy Saari. [JNF 629.4 SAA]
- *The Space Race* by Peter Benoit. [JNF 629.4 BEN]
- *Totally Wacky Facts About Exploring Space* by Emma Carson Berne. [JNF 629.13 BER]
- *Welcome to Mars: Making a Home on the Red Planet* by Buzz Aldrin. [JNF 523.43 ALD]

### Online Resources

#### **(K-4) PebbleGo**

"The Planets" PebbleGo. [www.pebblego.com](http://www.pebblego.com) January 13, 2017

"What Is The Solar System" PebbleGo. [www.pebblego.com](http://www.pebblego.com) January 13, 2017

#### **(K-4) PowerKnowledge Earth Space Science**

"All About Gravity." *PowerKnowledge Earth & Space Science*, Rosen Publishing,

<http://www.pkearthandspace.com/article/594/all-about-gravity>. Accessed 12 January 2017.

### **Learn More:**

NASA International Space Station: [https://www.nasa.gov/mission\\_pages/station/main/index.html](https://www.nasa.gov/mission_pages/station/main/index.html)

NASA Jet Propulsion Laboratory: <http://www.jpl.nasa.gov/>

NASA Kennedy Space Center: <https://www.nasa.gov/centers/kennedy/home/index.html>

NASA Space Weather Action Center: <http://www.spaceweathercenter.org/index.html>

Smithsonian Institution: National Air and Space Museum, *Exploring the Planets*:

<https://airandspace.si.edu/exhibitions/exploring-the-planets/online/solar-system/>

### **Explore Space Exhibit Information:**

Explore Space: A Cosmic Journey, a traveling exhibition for libraries, is part of the STAR Library Education Network (STAR\_Net) led by the National Center for Interactive Learning at the Space Science Institute. Exhibit partners include the American Library Association, the Lunar and Planetary Institute, and Afterschool Alliance. Explore Space is supported through a grant from the National Science Foundation.

