

GREENTIMES JR – TEACHER GUIDE

FEBRUARY 2005
EARTH IN THE SOLAR SYSTEM

DEAR TEACHER,

This guide is designed to assist you in using GREENTIMES JR with your young students. The activities and lessons are suggestions of ways to creatively use this newsletter in various areas of study. Please feel free to give us feedback about what would be most helpful for you in this guide in the future (e-mail habitat@greenscreen.org). Happy learning!

INTERACTIVE WEBSITES

Solar System Simulator – <http://space.jpl.nasa.gov/>

Made by NASA, this website allows students to create images of any planet or satellite in our solar system from almost any location. For example, students can look at Pluto from Jupiter on a specific date.

Your Weight on Other Worlds – <http://www.exploratorium.edu/ronh/weight/index.html>

For a fun activity, this website allows you to enter your weight and see what you would weigh on each planet, some moons, or the Sun.

Your Age on Other Worlds – <http://www.exploratorium.edu/ronh/age/index.html>

Students can enter their birthdays into this website and find out how old they would be living on another planet. This will help explain the definition of years and days on smaller and bigger planets depending upon their orbits.

READING SUGGESTIONS

Magic School Bus Lost in the Solar System *By Joanna Cole and Bruce Degen*

This hilarious and incredibly educational book follows Ms. Frizzle and her class taking a field trip into outer space. In addition to the zany cast of characters, each page has reports written by the students about different planets and things in space.

There's No Place Like Space: All About Our Solar System *By Tish Rabe and Arstides*

An even simpler read than the Magic School Bus, this book contains the basic information appropriate for young astronomers.

Our Solar System *By Seymour Simon*

Aimed at grades 3-6, this book offers full coverage on each planet as well as asteroids, comets, and meteors. This book lacks a cartoon guide, though the book has excellent illustrations and age-appropriate terms making it an easy read.

HANDS-ON SCIENCE

The Moon's Orbit

You Need: Flashlight, Tennis Ball, Basketball / Soccer Ball

Three students work in a group. One student holds the flashlight, symbolizing the Sun. Another student holds the larger ball, being Earth, and the third student holds the tennis ball as the Moon. Pointing the flashlight at the basketball, the tennis ball orbits around the basketball. Students should take note of where the light from the flashlight shines. In addition to seeing the phases of the moon, students can see eclipses. Ask the students if there are times when the Moon blocks the Sun or vice versa. This is easiest in at least partial darkness.

ART ACTIVITIES

Model Earth

Create a model of the Earth using a large styrofoam ball. Students can decorate their planets to look like they would be seen from space – clouds, oceans, continents, mountains.

Model Moon

Do your students see a man in the moon? Do they wish it were really made of cheese? Create models of the moon with styrofoam balls. Have your students use tissue paper or construction paper to develop hills and craters to form images, such as the man in the moon.

MATH

Rounding

Using the planet diameter numbers (see pages 2 and 3), have students round up or down to the nearest 10, 100 or 1,000.

Greater Than / Less Than

Using the planets distance from the Sun, have students practice comparing numbers using greater than and less than ($<$ $>$) signs.

Fractions

If Johnny weighs 100 pounds on Earth, and he weighs $\frac{1}{5}$ that on the moon, how many pounds would Johnny weigh on the Moon?

WRITING EXERCISES

Ask your students to compare and contrast the moon and the Earth in a paragraph or in lists of features.

Have your students make a list of ten words in *Greentimes JR* that are new to them and what they think the words mean. Then have them look up the accurate definitions.

BACKGROUND INFORMATION

<http://kids.mfsc.nasa.gov> - NASA's Kid Page!

http://www.kidsastronomy.com/teachers_corner.htm - a Teacher's Corner on Astronomy

<http://www.worldalmanacforkids.com/explore/space/moon.html> - All about our moon

<http://www.worldalmanacforkids.com/explore/space/sun.html> - All about our Sun