

Girls Go To Mars

Additional Resources



Directions

Each activity is accompanied by a list of resources linked to the internet. Sources are evaluated for appropriate science content and grade level. Note: website addresses (URLs) change over time and the original resource link can often be located by entering the exact title of the resource in the search box on your internet browser.

Overview

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
Programs & Missions <i>NASA Mars Exploration</i>	Overview, science, people — including women in STEM and their personal reflections	All	http://tinyurl.com/2eaaz3v	Images; article; career
MAVEN Science <i>Mars Atmosphere and Volatile Evolution Mission</i>	Three primary science questions, how scientist will use the data from the spacecraft, related links	All	http://tinyurl.com/n22ksob	Images; article
The Outer Planets: Lessons & Activities <i>Laboratory for Atmospheric and Space Physics (LASP)</i>	Lessons for grades 6–8: Comparing Planets — Looking Inside Planets: Enrichment activity comparing physical properties of planets in our Solar System	Cadettes	http://tinyurl.com/ka3ccmv	Images; article
Mars: Mysteries & Marvels of the Red Planet <i>Sky & Telescope</i>	Special Edition of <i>Sky and Telescope</i> magazine contains articles, maps, photos, and art	Adults	http://tinyurl.com/k5xnfr	Images; article (cost: \$10)
Making a Comet Model <i>Pacific Science Center</i>	Demonstrate the composition of a comet using dry ice and common ingredients to make a nucleus that will release jets of gas and sublimate over time. Excellent introduction to solid carbon dioxide.	Adults	http://tinyurl.com/pf2kkmm	Activity (print as pdf)

Activity 1: The Goldilocks Question: Just Right, Too Cold, or Too Hot?

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
A Solar System Model Builder's Guide <i>Windows to the Universe</i>	General information about the Solar System and its formation. Scroll and click on various options such as: "The Solar System" and "What is a Planet?"	All	http://tinyurl.com/l7oaw97	Images; article
A Simulated Voyage through the Solar System <i>Exploring Earth</i>	Animation shows each planet's average distance from the Sun and conveys a sense of how much time it would take to reach Pluto	All	http://tinyurl.com/2psfmz	Animation
Build a Solar System <i>Exploratorium</i>	Make a scale model of the Solar System and learn the real definition of "space." Be sure to scroll down to the links at the bottom of the page. Go to: TheNinePlanets.org and the ProportionalPlanets.org links.	Adults	http://tinyurl.com/22bug	Activity
The Dynamic Earth <i>National Museum of Natural History</i>	Explore the dynamic forces that formed and are continually reforming the Earth and our Solar System. Select: The Solar System: take the tour of "The Big Picture."	All	http://tinyurl.com/yxymyf	Activity (print as pdf) or multimedia

Activity 2: It's All About the Atmosphere

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
Mars Climate, Now and In the Past <i>Windows to the Universe</i>	Tour that explores the history of Mars' climate in text and images	All	http://tinyurl.com/mkux8o6	Images; article
How Rocky Planets Get Their Atmospheres <i>Astrobiology Magazine</i>	Available in Spanish and English, a brief article with images that offers clues about the sources of early atmospheres on Mars and other rocky planets	Adult	http://tinyurl.com/kztyt58	Article
Mars, Earth & Venus <i>Terrestrial Planet Atmospheres</i>	General principles of planetary atmospheres covering characteristics, greenhouse effect, sources, and losses of gases	Adult	http://tinyurl.com/l7jk2d6	Images; article

Activity #2 Extension: Women STEM

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
Women @ NASA NASA	Women in STEM — their stories, jobs, and career paths	Cadettes	http://women.nasa.gov/	Image; article; career
Dream of a Green Career <i>NASA Climate Kids</i>	Descriptions of careers for people interested in working in the environment, including suggested interview questions	Cadettes	http://tinyurl.com/mp7qhqi	Careers
Making the Grade: A Focus on Helping Women Excel in STEM Majors <i>California Polytechnic State University, San Luis Obispo</i>	12-minute video with believable female role models, containing wisdom and rich insights from successful STEM students and grads who offer concrete advice about dealing with confidence issues, peers, social support, and more	All	http://tinyurl.com/ks8l8h8	Video; review of research

Activity #3: How Do Atmospheres Change Over Time? The Role of Magnetosphere and Solar Wind

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
Earth's Magnetosphere <i>LASP</i>	Brief introduction to properties of Earth's magnetosphere	All	http://tinyurl.com/m9wpth8	Images; article
The Solar Wind Tunnel <i>LASP</i>	Uses a computer simulation to demonstrate how solar wind interacts with planetary magnetospheres	All	http://tinyurl.com/mckebo7	Multimedia — interactive
Measuring Mars: The MAVEN Magnetometer NASA	Video with accompanying text discussing global magnetic fields on Earth compared to Mars	All	http://tinyurl.com/kwkoxnn	Multimedia; article

Activity #4: Evidence for an Atmosphere on Mars Over Time: Water Surface Features

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
Water on Mars <i>Phoenix Mars Mission</i>	Overview of evidence for water on Mars, past and present, including historical perspective; current images with helpful text; links to habitability and biology	All	http://tinyurl.com/moohfqe	Multimedia; article
Planets and Moons: Water on Mars <i>ESA Kids Our Universe</i>	European Space Agency's website covering a wide range of topics from the story of the Universe; includes short current topics such as water on Mars with links to other Martian surface features	All	http://tinyurl.com/koqp9zk	Images; article
Study: Water Could Be Flowing on Mars Now <i>CNN</i>	Current review of evidence for past and present	All	http://tinyurl.com/pf4f67q	Images; article
Is There Really Water on Mars? <i>How Stuff Works</i>	Historical review up to 2008 findings related to scientific evidence for water on Mars; includes Phoenix Mars Lander, a look at geological evidence, and an introduction to MAVEN mission questions	All	http://tinyurl.com/m57gr9o	Images; article

Activity 5: How Do Atmospheres Change Over Time? The Greenhouse Effect

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
Climate Kids <i>NASA</i>	Engaging up-to-date presentation of the big questions about weather and climate, the greenhouse effect, and recycling	All	http://climatekids.nasa.gov/	Multimedia
Climate Change Compendium <i>LASP</i>	A standards-based compendium of activities regarding climate change, many with links to relevant websites	Adult; Cadettes	http://tinyurl.com/km4auk4	Activities
Causes of Climate Change <i>Environmental Protection Agency</i>	Extensive review of the causes of climate change	Adult	http://tinyurl.com/9xb7d9o	Images; article
Exploring Invisible Light, Science Behind the Scenes <i>SETI Institute</i>	Detailed instructions for IR Film activity and explanation of IR film	Adult	http://seti.org/ggtm	Activity and background science

Activity #6: Steps Along the Journey: Global Warming

Resource Title/Source	Summary	Group	Link	Notes/Type of Resource
Climate Kids NASA	Engaging up-to-date presentation of the big questions about weather & climate, the greenhouse effect and recycling	All	http://climatekids.nasa.gov/	Multimedia
Make Stuff NASA Climate Kids	Simple project suggestions for your Breathe Journey and help with the science behind the community action plans	Cadettes	http://tinyurl.com/14p3fbv	Multimedia
Global Greenhouse Gas Reference Network National Oceanic & Atmospheric Administration	Trends in Atmospheric Carbon Dioxide: Animation of time history of atmospheric carbon dioxide from 800,000 years ago until January 2012	All	http://tinyurl.com/4c7fxoz	Animation
Dream of a Green Career NASA Climate Kids	Descriptions of careers for people interested in the environment, including suggested interview questions	Cadettes	http://tinyurl.com/mp7qhqi	Careers
Bottle Column Investigations Bottle Biology	Use 2-liter plastic soda bottles to study decomposition and fermentation as recycling projects; learn how nature recycles garbage all the time in a landfill	Cadettes	http://tinyurl.com/m25swz3	Activities; images