

**Arkansas State Standards Addressed:**

Geometry B

**HSG.C.A.3** Understand and apply theorems about circles.

Express Geometric Properties with Equations: Use coordinates to prove simple geometric theorems algebraically

**Learning Goals:**

**Students will...**

<b>Understand</b> that using real world math scientists can determine the positions of Earth and Mars to launch a spacecraft	
<b>Know</b> how to calculate this real world problem by using algebra and geometry concepts	<b>Do</b> a calculation to determine a launch opportunity for a space shuttle to go to Mars

**Materials and Procedures Needed:**

The 'Let's Go to Mars!' lesson plan can be found at NASA's Jet Propulsion Laboratory website:  
<http://www.jpl.nasa.gov/edu/teach/activity/lets-go-to-mars-calculating-launch-windows/>

The lesson recommends that the instructor review 'When Computers Were Human' to connect it to a real world event. Article found here:  
<http://www.jpl.nasa.gov/edu/news/2016/10/31/when-computers-were-human/>

**Additional Resources at Bentonville Public Library:**

*BPL has a variety of books and other resources available about space and mathematics. Here are a few of our suggested resources.*

**Books:**

- Geometry Success in 20 Minutes a Day* [YANF 516 LEA]
- Mathematics Explained* by Mark Frary [YANF 510 FRA]
- Earth and Space* by Mike Goldsmith [YANF 500 GOL]
- Careers for Tech Girls in Space* by Rebecca T. Klein [YANF 502.3 KLE]

**BPL's Student Portal:**

- eLibrary Science*
- Ferguson's Career Guidance Center*
- Rosen PowerKnowledge Earth & Space Science*

**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.

