

**Objective:**

Students will create their own rocket out of paper and a straw, then launch their rocket utilizing different angles and amounts of force to see which combination launches the rocket farthest.

**Arkansas State Standards Addressed:**

Math

**AR.Math.Content.2.MD.A.1** Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.

**AR.Math.Content.2.MD.A.4** Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.

Science

**NS.1.2.4** Estimate and measure length and temperature using International System of Units (SI)

**NS.1.2.5** Collect measureable empirical evidence in teams and as individuals.

**NS.1.2.6** Make predictions in teams and as individuals based upon empirical evidence.

**Activity:**

Students will create a straw rocket utilizing the template found here:

<http://buggyandbuddy.com/straw-rockets-with-free-rocket-template/>. Each student will also need:

- Scissors
- Crayons, markers, or colored pencils
- 2 straws, one with a larger diameter than the other
- Tape or glue dots

Using their completed rocket, students launch the rocket individually or in teams. A math lesson could be created in which students measure how far the rocket goes and different angles and levels of force in order to see how these impact how far the rocket travels.

**Additional Resources at Bentonville Public Library:**

The following resources are specifically about rockets and measurement. Accelerated Reading levels are included where available and call numbers for location purposes are included in brackets.

Online resources are available through BPL's Student Portal:

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

Books

- *Amelia Bedelia, Rocket Scientist?* by Herman Parish. Picture Book. AR Reading Level: 2.8. [EF Parish Herman]
- *Dinosaur Rocket!* by Penny Dale. Picture Book. AR Reading Level: 1.9. [PIC Dale Penny]
- *Measuring* by Marcia S. Gresko. Non-Fiction. [ENF 530.8 GRE]
- *Measuring Distance* by T.H. Baer. Non-Fiction. AR Reading Level: 3.1. [ENF 530.8 GRE]

- *How Long or How Wide?: A Measuring Guide* by Brian P. Cleary. Non-Fiction. AR Reading Level: 3.1. [ENF 530.8 CLE]
- *Rocket Rescue* by Nicola Baxter. Early Reader. AR Reading Level: 3.4. [EF Baxter Nicola]
- *Rockets and Spaceships* by Karen Wallace. Non-Fiction. AR Reading Level: 3.1. [ENF 629.47 WAL]
- *Romeo and Lou Blast Off* by Derek Anderson. Picture Book. AR Reading Level: 2.7. [PIC Anderson Derek]
- *Space Song Rocket Ride* by Sunny Scribens. Picture Book. [PIC Scribens Sunny]
- *Spaceships and Rockets* by Deborah Lock. Non-Fiction. AR Reading Level: 3.6. [ENF 629.47 LOC]
- *This Rocket* by Paul Collicutt. Picture Book. [PIC Collicutt Paul]

### Online Resources

- *PebbleGo*, a database specifically geared toward young learners, has a section on space science and spacecraft. This can be found under Science/Earth and Space Science/Space Science.
- *Rosen PowerKnowledge Earth and Space Science*, a database specifically geared toward young learners, includes an informational section on space exploration, including rockets and space shuttles. This can be found under Space/Space Exploration.

### **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.



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