

BALLOON ROCKETS

Materials:

- [Balloons](#)
- [Yarn](#) (cut to about 6 feet)
- [Straw](#)
- [Tape](#)
- [Scissors](#)
- 2 chairs

After gathering the necessary materials, we began by tying one end of the yarn to the back of a chair.

Next, we threaded a drinking straw onto the other end of the yarn, and then tied it to the second chair.

After attaching two pieces of tape (about 2 inches in length each) to the center of the straw, it was time for the real fun to begin.

We inflated the balloon (leaving the end untied), held onto the opening so the air wouldn't escape, and carefully attached it to the straw using the tape.

Finally, we pulled the balloon to one end of the yarn (touching a chair), and let go of it. The balloon shot across the yarn, delighting us all!



These Balloon Rockets provide a meaningful example of action and reaction. It's a fairly simple concept – to make an object move one way, a force has to work in the opposite direction. In this case, the balloon is full of air. When you let go of the balloon, causing the air to rush out of the opening, it creates a pushing force in the opposite direction. This results in the balloon moving rapidly across the yarn.

Real rockets work in a similar way. A rocket engine is powered by exploding fuel inside of a chamber that is open at the bottom. The force of the explosion creates an opposite force that pushes the rocket up and into space.

