

# 15-Minute Family STEAM: Balloon Rockets

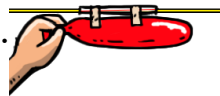
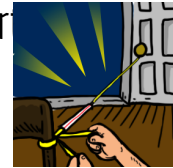
## Supplies Provided

Long piece of string or yarn  
Straw  
Balloon

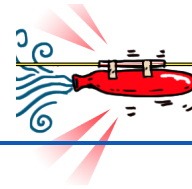
## Supplies From Home

Open Area  
Something to tie the string to on both ends

1. Tie one end of the string to a chair, door knob, or other support.
2. Put the other end of the string through the straw.
3. Pull the string tight and tie it to another support in the room.
4. Blow up the balloon (but don't tie it.) Pinch the end of the balloon and tape the balloon to the straw as shown.



5. You're ready for launch. Let go and watch the rocket fly!



## The Science

It's all about the air...and thrust. As the air rushes out of the balloon, it creates a forward motion called THRUST. Thrust is a pushing force created by energy. In the balloon experiment, our thrust comes from the energy of the balloon forcing the air out. Different sizes and shapes of balloon will create more or less thrust. In a real rocket, thrust is created by the force of burning rocket fuel as it blasts from the rockets engine - as the engines blast down, the rocket goes up!

The project above is a DEMONSTRATION. To make it a true experiment, you can try to answer these questions

1. Does the shape of the balloon affect how far (or fast) the rocket travels?
2. Does the length of the straw affect how far (or fast) the rocket travels?
3. Does the type of string affect how far (or fast) the rocket travels? (try fishing line, nylon string, cotton string, etc.)
4. Does the angle of the string affect how far (or fast) the rocket travels?

taken in part from <https://sciencebob.com/make-a-balloon-rocket>