

7.7 investigation: Balloon Rockets

Aim

Investigate factors that affect the size of rocket propulsion.

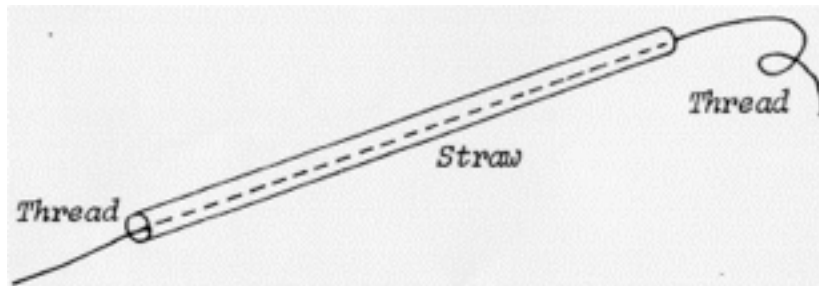
Method

5 metres of string or strong cotton
a drinking straw
a long balloon
adhesive or Scotch tape

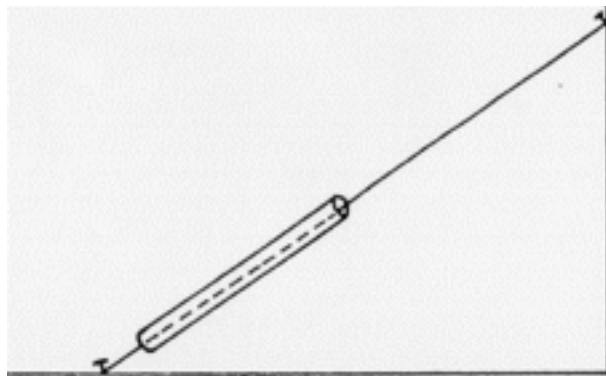
Method:

Part A Exploring the Balloon Rocket

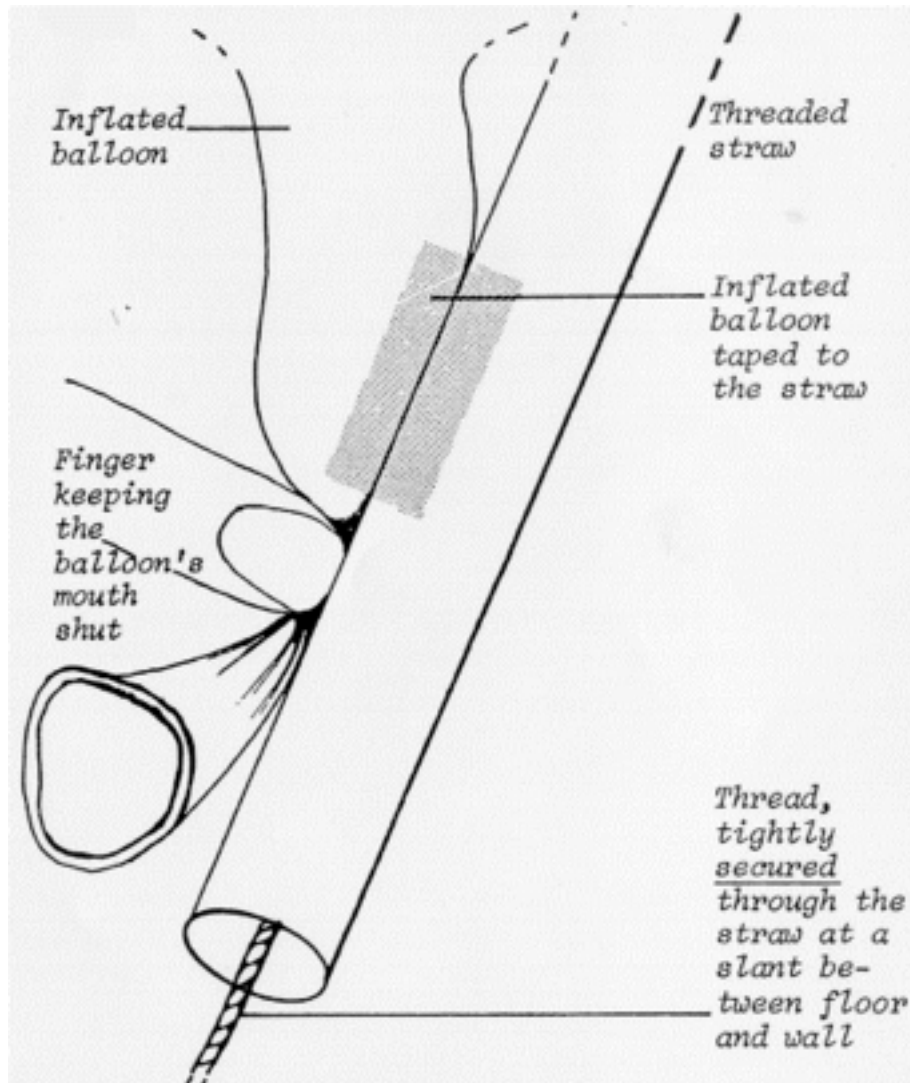
1. Run the thread/string/cotton through a drinking straw:



2. Attach one end of the thread to the floor, or to a table; tie the other end to a point high above the floor or table so that the thread (i) is tight, (ii) slants:



3. Blow up the long balloon and, without letting the air out, attach the SIDE of the inflated balloon to the threaded straw using adhesive or Scotch tape.



The above will take patience – and practice. You may need an assistant! Take care to avoid piercing the balloon with your fingernail.

4. Now release your finger. Observe what happens. Repeat the experiment several times.

Explain the following:

- In which direction did the air escape?
- In which direction did the balloon move?

Part B

Testing one factor that affects the motion of the balloon

Choose one physical factor about the balloon, air, straw, string or tape that you can change to determine whether it affects the speed of the balloon.

Complete the table:

Change	Measure	Keep the Same

How will you change this factor?

How will you measure the result?

Predict the results?

Decide what extra equipment you need:

Decide on the steps involved make a note below;

Step 1.

Step 2.

Step 3.

Results

	What I changed	What I measured
Test 1		
Test 2		
Test 3		

Report on your results below: