

# Santa STEM

## Balloon Rocket Challenge



### Objective

To build a balloon-powered rocket and test its speed and distance.

### Materials

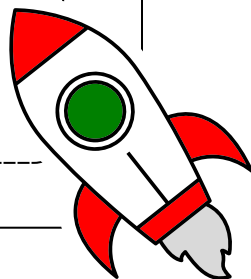
- Drinking straw
- Balloon
- Tape
- String or fishing line
- Stopwatch or timer

### Instructions

- Attach one end of the string or fishing line between two fixed points, creating a "track."
- Thread the drinking straw onto the string to move freely along the track.
- Inflate the balloon and pinch the end to prevent air from escaping.
- Tape the balloon to the straw, ensuring it points toward the track. Optional: tape the paper sleigh image to the balloon.
- Release the balloon, and time how long it takes for the rocket to travel from one end of the track to the other.

### Challenge Questions

- How did the size of the balloon affect the rocket's speed and distance?
- What happens to the rocket as the air escapes from the balloon?
- How could you change the design to make the rocket go faster or farther?
- Can you calculate the average speed of the rocket based on the recorded times?



## My STEM Challenge:

### ? ASK

What is the problem?



### Collect Information

What information & resources will I need?

### Imagine

How can I solve the problem?



### Plan



What materials  
do I have?



### Create

I will test my solution  
and take or draw notes.



### Improve

What changes can I make  
to improve my plan?

# SANTA'S SLEIGH

PRINT | CUT | ATTACH | FLY

