

# Mini Rocket Launcher



## Cautionary and Warning Statement

- This kit is designed and intended for educational purposes only.
- Use only under the direct supervision of an adult who has read and understood the instructions provided in this user guide.
- Read warnings on packaging and in manual carefully.

## Materials Included

- Assembled launcher
- Launch Angle Tool

## Items Required (not included)

- Built straw rocket made with Precision Straws (product numbers 35782 and 35778-81)
- Safety glasses

## Operating the Launcher

**Caution:** Be sure anyone near the launcher while it is in use is wearing eye protection. Do not aim the launcher at anyone.

1. Place the launcher on a solid, flat surface such as the floor or a table. If you wish to measure launch angles, place the Launch Angle Tool over the launch tube at the base (Figure 1).



Figure 1

2. Adjust the angle of the launch tube as desired (Figure 2).



Figure 2

3. Place a straw rocket onto the launch tube (Figure 3).

4. Hold the launcher firmly with one hand; pull back the air pressure plunger to the desired distance (Figure 4). Let go of the plunger to launch the rocket.



Figure 3



Figure 4

## Activity Ideas

- Launch every rocket in class using the same angle and the same distance of plunger pull. Record the distance each rocket travels. Graph the class results.
- Create straws of different lengths, perhaps making them a half-inch shorter with each rocket. Launch each rocket and record and graph the results.
- Launch the same straw with the same plunger pull distance but at different angles. Record the result for each angle and graph it. Explain about trajectory and have students identify why each rocket performed as it did.
- To add another math step, you can launch each rocket a specified number of times and average the results of each rocket.



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