**Cautionary and Warning Statements**
- 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.
- Safety glasses are required.
- Straw rockets should never be launched at people.
- Before launching a straw rocket, make sure that all people are clear of the rocket’s anticipated flight path.
- Never attach sharp objects (needles, pins, and so forth) to a straw rocket.

**Materials Included**
- Assembled launcher

**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.
2. Adjust the angle of the launch tube as desired (Figure 1).
3. Place a straw rocket onto the launch tube (Figure 2).
4. Hold the launcher firmly with one hand; pull back the air pressure plunger to the desired distance (Figure 3). Let go of the plunger to launch the rocket.

*Activity ideas on back page.*
Mini Rocket Launcher

User Guide

To add another math step, you can launch each rocket a specified number of times and average the results of each rocket.

1. Experiment as if did.
   - Explain about trajectory and have students identify why each rocket travels at different angles.
   - Record the result for each angle and graph it.
   - Launch the same straw with the same plunger pull distance but...

   - The results:
     - Shorter with each rocket launch and record and graph
     - Create graphs of different lengths, perhaps making them a half-inch

   - Graph the class results:
     - Distance of plunger pull recorded the distance each rocket travels.
     - Launch every rocket in class using the same angle and the same