

RESOURCES

Prediction Sheets

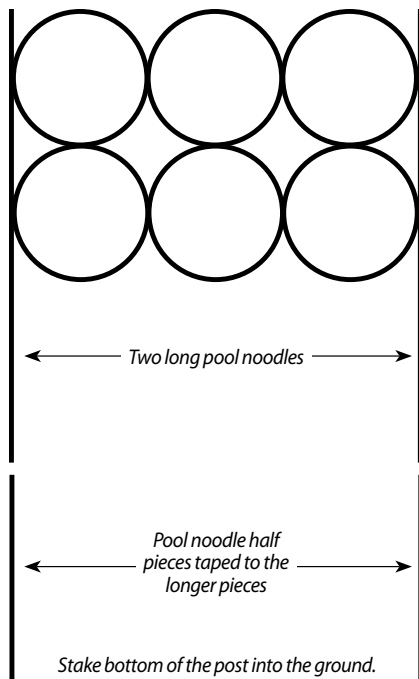
Air of the Wolf/Motor Away

Airplane design	
Distance prediction	Actual distance
Design adjustment made	
Second distance prediction	Actual distance
More accurate <input type="checkbox"/>	Less accurate <input type="checkbox"/>

Testing Static Electricity

Which of these objects will stick to a balloon or comb?
Write down your prediction, and then write down what actually happened.

Object	Prediction	Result of Investigation
Tissue paper		
Aluminum foil		
Cardboard scrap		
Paper scrap		
Yarn or string		
Pompom		
Chenille stem		
Ribbon		
Cloth		
Foam		
Coin		



Pool Noodle Launching Station for Paper Airplanes

Materials Needed

- Nine pool noodles (Any size can be used, however all nine should be the same size. Use different colored noodles for the rings and the posts, if you like.)
- Duct tape
- Wooden or garden stakes

Instructions

- Take six of the pool noodles and tape the ends of each one together to form six individual rings.
- Tape the rings together side by side and on top of one another as shown in the illustration. To provide stability, make sure to tape over the seams you created when making the individual rings.
- Tape two of the remaining noodles to the ring outsides.
- Cut the last noodle exactly in half, and use the two halves to make the posts.
- Drive the two stakes into the ground, and push the two posts onto the stakes to complete the launching station.

Homemade Musical Instruments

Bottle Organ

Materials: five matching plastic soft drink bottles, water

Instructions: Fill the bottles with different amounts of water. Blow across the top of each one to make sounds. You may have to practice a few times to learn how to produce a nice tone. Try to play a song on your bottle organ.

Shoe-Box Guitar

Materials: Sturdy shoe box, 8–10 rubber bands of varying widths, pencil

Instructions: Cut a circular hole in the lid of the shoe box. Wrap the rubber bands around the box, with thicker ones at one end and thinner ones at the other end. Insert the pencil underneath all the rubber bands, perpendicular to the box and similar to the bridge on a guitar. Pluck the rubber bands with your fingers to make sounds.

The Nova and Supernova Awards

There are seven Nova Awards for Cub Scouts. Each award covers one component of STEM—science, technology, engineering, or mathematics.

Cub Scout Nova Awards

- 1-2-3 Go!
- Down and Dirty
- Nova WILD
- Out of This World
- Science Everywhere
- Swing!
- Tech Talk

For their first Nova award, Scouts earn the distinctive Nova award patch.

After that, a Scout can earn three more Nova awards, each one recognized with a separate pi (π) pin-on device that attaches to the patch. The patch and the three devices represent each of the four STEM topics—science, technology, engineering, and mathematics.

The Supernova awards have more rigorous requirements than the Nova awards. The requirements and activities were designed to motivate youth and recognize more in-depth, advanced achievement in STEM-related activities.

Wolf and Bear Scouts may earn the Dr. Louis Alvarez Supernova Award.

Webelos Scouts may earn the Dr. Charles H. Townes Supernova Award.

For earning the Supernova Award, Scouts receive a medal and certificate.

All requirements may be found in the Nova Awards guidebooks available through local Scout shops—one for Cub Scouts, one for Boy Scouts, and one for Venturers. The requirements can be completed with a parent or an adult leader as the counselor (for the Nova awards) or mentor (for the Supernova awards). Each guidebook includes a section for the STEM Nova counselor and mentor.

