# **Toilette Paper Roll Puzzles**

Martin Gardner proposed that with the correct technique an empty toilet paper roll could be dropped and have it land on its end. Select a person and ask them if they can hold the tube about 8 inches inches above a table and drop it so it lands upright and remains standing on one end. When they try it the roll will land it's side. It seems is almost impossible to have it land on an end.



#### How can it be one?

Make sure you are using a good roll that has not been bent or squished on the ends. Hold the tube horizontally about 8 inches to a foot above the table and lower one end just slightly before you drop it. You may have to do this more than once, but after a few tries the tube will balance upright after landing.



#### Is a toilet paper roll longer than the circumference of the circular at the end of the roll.?

Believe it or not, the tube's circumference is longer than its length. Cut the cylinder apart lengthwise, then open it into a rectangle. One side of this rectangle is the tube's circumference. The other side is the tube's length. A ruler will prove the fact that the circumference is almost a full inch longer than the length!



## **Hole in Your Hand**

Hold up your left hand, palm toward you. With your other hand, place the tube alongside your palm. Peek through the tube with your right eye, keeping both eyes open, and stare at a distant spot. You'll be looking through a large hole in your left hand.

## **Unbreakable Tissue**

With a rubber band, attach a piece of tissue paper over one end of the tube. With the tube vertical, fill it to the top with uncooked rice. Using a thumb or finger, press as hard as you can on top of the rice. Amazingly, you'll find it impossible to break the tissue.

Martin Gardner, "Physics Trick of the Month - The Unbroken Tissue", TPT, Vol. 39, # 7, p. 435, Oct. 2001.

### A Kazoo

Attach a piece of wax paper over one end of the tube, using a rubber band. Near the other end make a small hole in the tube's side. With your lips around the hole, hum a tune. You've made a kazoo!