

Dear Beakman,
I can't find my plans for the Beakmobile. Would you print them again?

Jackie Heinze
Portage, Wisconsin

Beakman or Jax
P.O. Box 30177
Kansas City, MO 64112
Question, name & address

experiment #1

WHAT YOU NEED:
2 paper plates - cardboard toilet paper tube
- ice cream stick - chopstick or skewer - Life Saver (or similar) candy - lots of tape - scissors

WHAT TO DO:
Punch holes in the center of the 2 plates. Put your ice cream stick into the rubber band and thread its other end of the loop through the first plate. Next take it through the toilet paper tube,

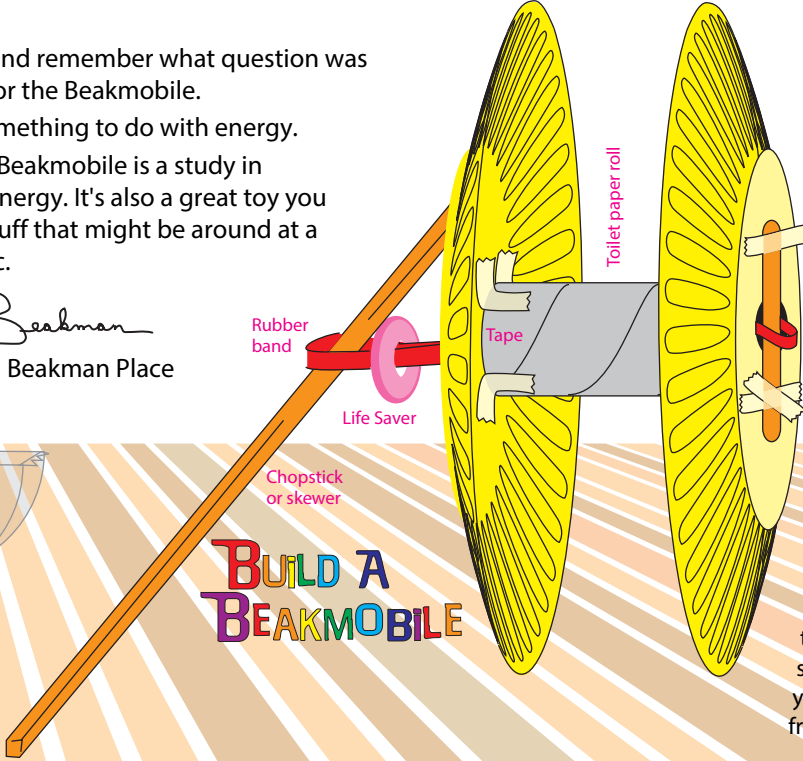
through the next plate, through the Life Saver candy, and finally, stick the chopstick through the loop. Don't tape down the chopstick. You want it to rotate freely.

Tape the toilet paper tube to the plates and also tape the ice cream stick in place.

Make sure that 1 end of the chopstick is sticking out ahead of the plate. Wind it up and keep winding until the rubber band gets really twisted up. Put it on a smooth floor, let go and get out of the way!

Dear Jackie,
I have to think back and remember what question was answered by plans for the Beakmobile. It must have had something to do with energy. That's because the Beakmobile is a study in different kinds of energy. It's also a great toy you can make out of stuff that might be around at a late summer picnic.

Beakman
Beakman Place



WHAT'S THE BIG IDEA?

There are a couple of big ideas. The first one is the difference between potential and kinetic energy (po-TEN-shul and kin-ET-ick). When you wind up the stick or skewer, you are storing your own energy in the rubber band. The twisted-up rubber band has stored, or potential, energy. When you put the Beakmobile on a smooth floor and let go, the rubber band releases that potential energy as kinetic energy. Kinetic energy moves stuff.

Another idea is friction (FRICK-shun). Friction is a force that resists motion between things. When you held the twisted-up stick, it was friction that kept it from slipping out and unwinding. The candy, meanwhile, helps reduce friction between the stick and the turning plate. If there is too much friction at that spot, your Beakmobile won't zoom. And when you put the Beakmobile on the floor, it was friction that helped it speed across the floor.