

COMPILATION: Unit 3 - inclined plane options

Date: Wed, 9 Apr 2003
From: David Wirth <Dwirth6@AOL.COM>
Subject: Inclined Plane

I've been away from physics for a few years and find myself buying equipment again for a physics lab. For inclined planes and carts, does anybody have a cheaper solution than buying the Pasco tracks for close to \$400 each?

Date: Wed, 9 Apr 2003
From: John Clement <clement@HAL-PC.ORG>

The shorter Pasco ramps are available with the plastic carts at a much lower price. There is also the possibility of using an aluminum threshold which has grooves in about the same place as the Pasco ramps. I had the number of such a threshold, but it didn't actually match the carts. However I have heard that other teachers have successfully done this. [Jane's note: try Home Depot or Lowes. However, Pasco's low-cost track is a better buy - much easier to use.]

Incidentally if you get the shorter Pasco ramps, they are quite usable if you also have the newer Pasco sonic rangers which can measure up to about 15 cm from the sensor. The newer rangers also fit onto the tracks and have plastic flanges that protect the sensor from collisions.

Date: Thu, 10 Apr 2003
From: Sean McKeever <mckeever@PASCO.COM>

The lowest cost solution for inclined plane experiments from us now costs \$48. This includes our low friction GOcar (\$28) with the Force and Motion Track (\$20). Our Motion Sensor still clips onto the end of the Force and Motion Track, but it does not have any grooves for the photogates.

Date: Thu, 10 Apr 2003
From: David Hill <dwmhill@EARTHLINK.NET>

I have had good luck with a really simple, inexpensive setup for the Inclined Plane lab. I do use LabPros and photogates for data collection, but the test equipment is simple. My students set up about 2 meters of Hot Wheels track on top of wooden boards. We run Hot Wheels cars down the plane on the tracks. They put little note card flags on top of the cars (about 1 cm width) to block the photogates to start and stop the time collection. My students test the cars and pick out ones that fit on the tracks (not too wide) and have smooth running wheels. The data and graphs come out very, very nice and kids have fun playing with Hot Wheels cars again! The tracks, joiners, boards and cars all cost about \$25 total for setups for eight lab groups!

Date: Tue, 15 Apr 2003
From: DoYost@AOL.COM

Tim Cook designed some ramps in 1990 which were made from a sheet of particle board. I suggested white plastic coated particle board and forwarded the old plans to Modeling central. Granted, they took some effort to build, but they were very stable and actually had less friction than the Pasco aluminum ramps. I'm not sure if those plans are still available. [Jane's note: yes, I have them and will gladly fax them. However, Pasco's new track actually costs less, especially when you consider labor.]