

Racing Marbles Lab

P4-1370



KIT CONTENTS:

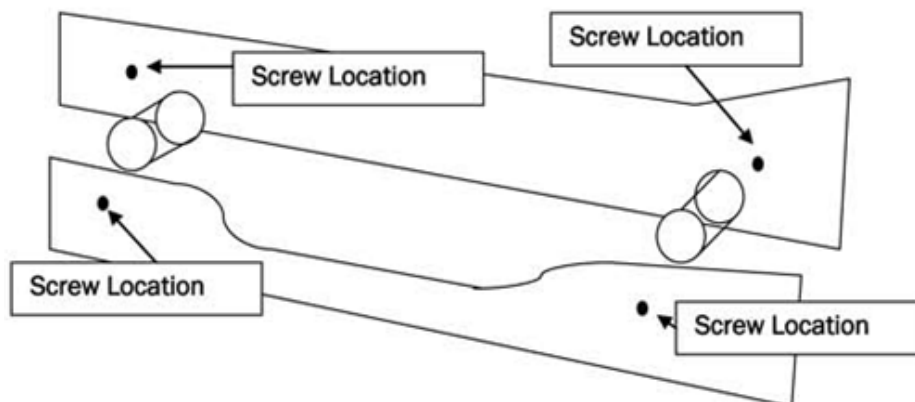
Ramp A	4 Ramp Connector Screws	4 Nylon Washers
Ramp B	2 Photogate Mounting Brackets "C" shaped	6 Nylon Wingnuts
2 Ramp center spacers		1.5cm Steel Marble

ALSO UTILIZES:

Timer and Photogates 2.0 (P4-1450)

ASSEMBLY:

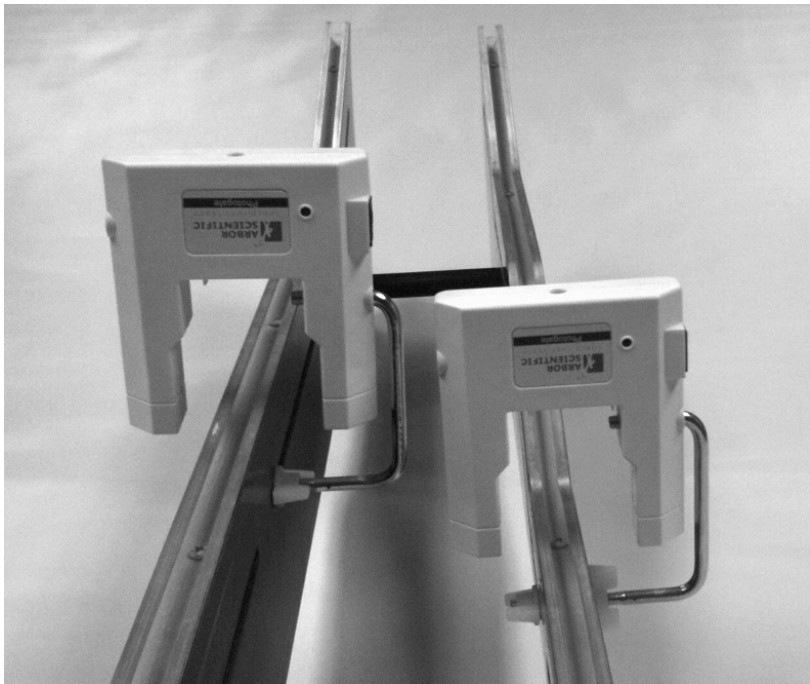
Your Racing Marbles Ramp comes disassembled for shipping. When assembling your ramp place both ramps side by side on a known flat surface. Match both starting ends of the ramps in a parallel fashion. Insert the provided screws with washers through both ramps before tightening. Rotate between the 4 screws as you tighten the ramps to the center spacers. This process will allow you to be sure that the ramps sit level on the table top during use. See figure below for an illustration.



PHOTOGATE INSTALLATION:

Once Racing Marbles Ramp is assembled you can attach your Photogates (P4-1450) as shown below.

1. Remove the standard screw clamp from each Photogate so you can replace it with the “C” shaped Photogate Mounting Brackets included with your Racing Marbles Lab.
2. Screw one Nylon Wingnut backwards onto the reveled threads on the portion of the “c” bracket so that the second wingnut will clamp the bracket to the ramp.



LABS:

Lab #1: The Race

Using two different styles of ramps, students will predict on which ramp will a simultaneously released marble reach the end first. These predictions will then be examined using Photogates to determine the velocity of the marble at different points along the ramp. **Grades 8-12**

