

Rollercoaster

Assembly Instructions

The Rollercoaster is an excellent way to introduce and explore the concepts of energy and conservation of energy. A steel or plastic marble rolls along a specially designed track. The timer and photogate allow for precise measurement of the speed of the marble anywhere along the Rollercoaster. The Rollercoaster's scale represents the distance of travel from the start position, based on the marble's center point. This scale also ensures precise placement of the photogate.

Parts Checklist

The following items are provided with the Rollercoaster:

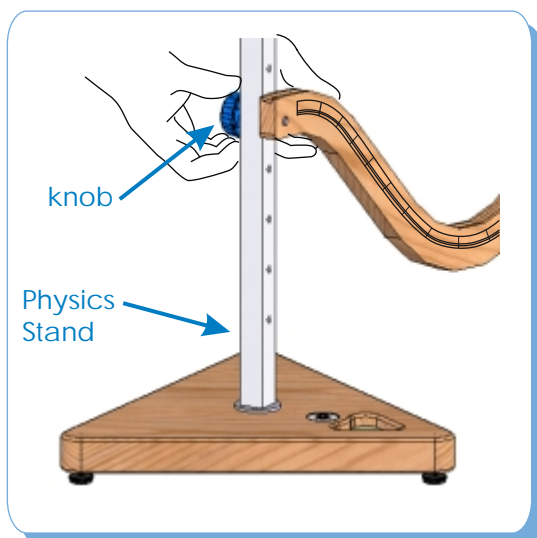
- Rollercoaster
- steel balls (2)
- plastic balls (2)
- blue knob with attached threaded rod

In addition, you will need these items:

- Physics Stand, assembled
- timer console with power transformer
- photogate with red or blue cord

Attaching the Physics Stand

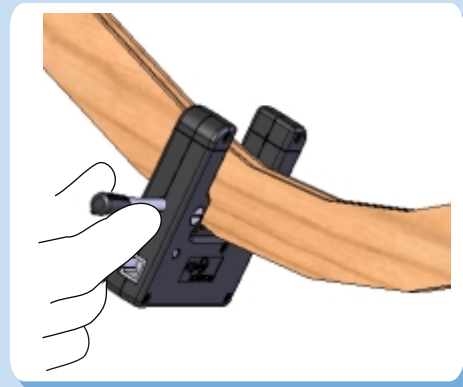
Locate the fifth hole counting up from the bottom of the Physics Stand. The Rollercoaster will not work properly if it is not positioned in the fifth hole. Insert the threaded rod attached to the blue knob through the hole. Thread the rod into the Rollercoaster from side without the scale. Secure by tightening the blue knob.



Note: The scale side faces away from the pole.

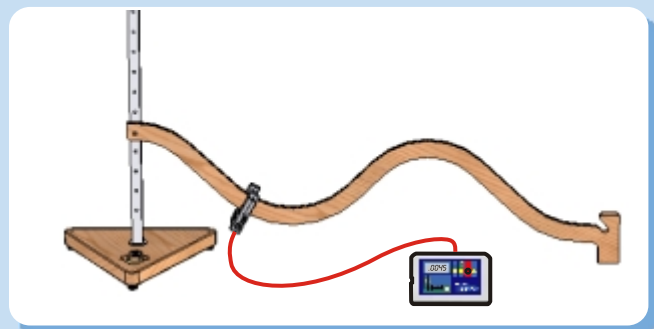
Attaching the Photogate

Attach the photogate at the desired position on the Rollercoaster by turning the black knob counterclockwise and sliding the gate onto the Rollercoaster from the bottom. Now tighten the thumbscrew by turning clockwise. The photogate should be flush with the bottom of the edge of the coaster at the chosen position. This is necessary for the timer to provide consistent and accurate measurements.



Connecting the Photogate

Connect the photogate to the timer console using a red or blue wire. Plug the wire into slot A and be sure the A button light on the timer is turned on. The timer should be set to interval mode.



Note: For detailed instructions on using the CPO Timer, please refer to the manual that is supplied with the CPO Timer.

For technical assistance, please call 866.588.6951.