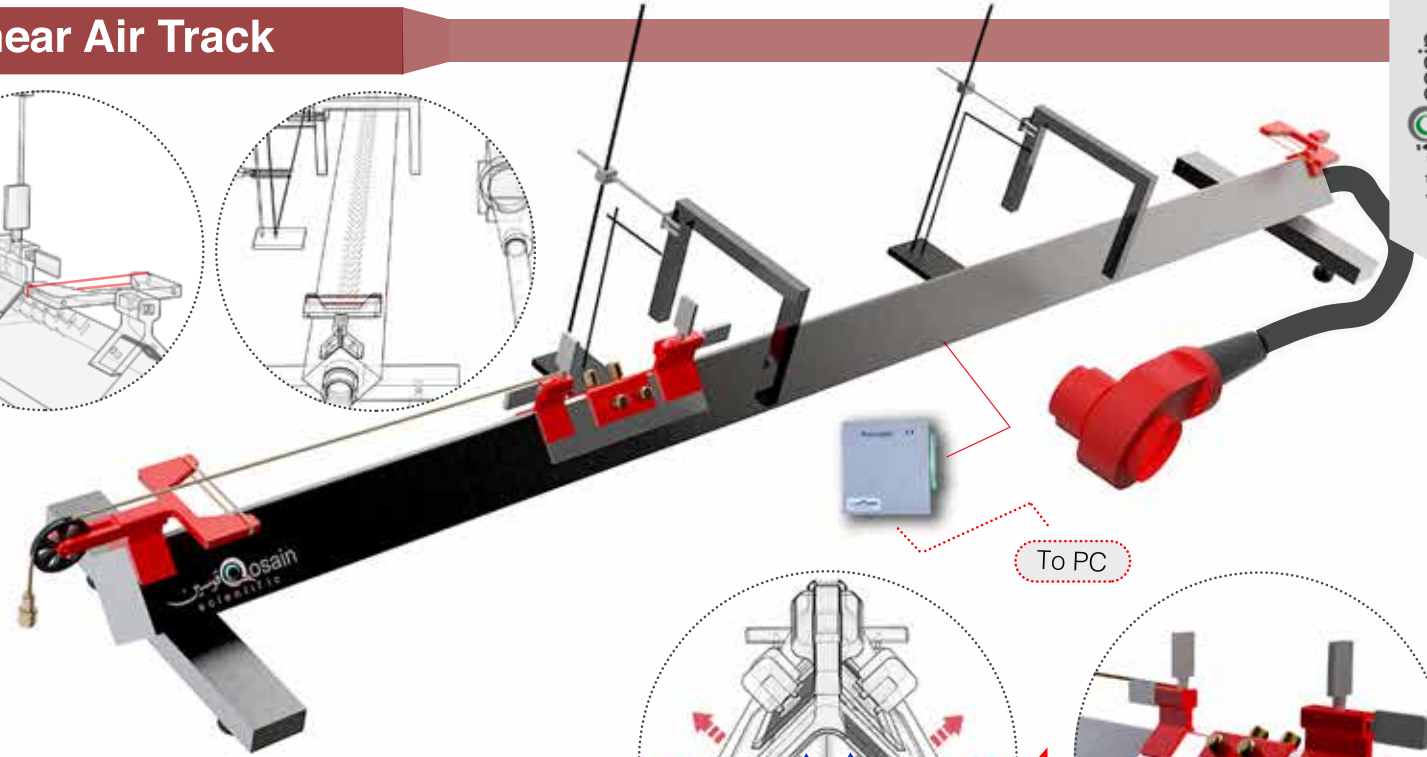
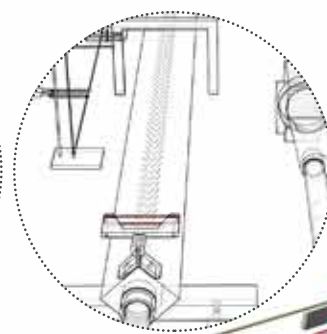
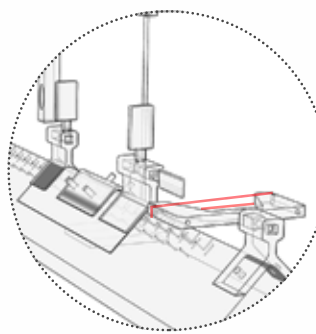
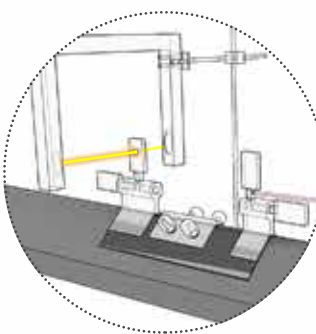
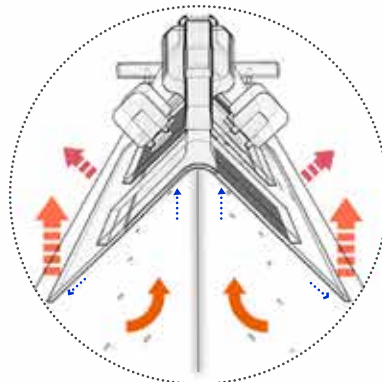


Experimenting with a Linear Air Track



To PC



The experiment

- Frictionless track with an air cushion.
- Simple setup to study and investigate kinematics.
- The concepts of velocity, acceleration, and momentum.
- Newton's second law of motion.
- Determining the value of gravitational acceleration g .
- Calculating uncertainties.

How does it work?

Objects can glide over the air track, levitating in the air with minimal friction. The AirTrack setup comprises different shaped objects, some affixed to the setup while others can glide on it. The motion of all of the moving objects is recorded via photogates attached to a PhysLogger device which makes it possible to record the motion in run-time and analyze it on a computer. In a typical measurement, two flags attached on the glider's edges obstruct the path of a stationary photo-gate which enables the PhysLogger to measure the time between the two events. This information is sufficient to determine:

- the instantaneous speed of the glider and the uncertainty involved.
- the average speed of the glider.
- the energy and momentum loss when glider make multiple round trips on the air track.
- the acceleration of the glider when a mass M is attached to it using a thread that goes over a pulley.
- the uncertainties involved with each of the above quantities.

Parts included

- Foundation the main air track
- Gliders
- Pulley and Pulley Holder
- Rubber Foot
- Bumper and Bumper Holder
- Flag Posts
- Glider Flag
- Weight Holder
- Physlogger
- Photogate & Retort Stands

