

### PHY107 Demo Calendar

Chapter	Topics	Demos
CH2	Motion along a straight line	Ramp with bowling ball, meter stick, colored masking tape, stop watch ( <a href="http://www.multistopwatch.com/">http://www.multistopwatch.com/</a> ) Vernier cart with motion detector Feather and coin drop
CH4	Motion in 2 and 3 dimensions	Pasco cart with vertical launching ball Monkey banana toss Skateboard and tennis ball Ball with string attached
CH5	Force and motion I	Vernier cart, weights and fan with motion detector Pasco fan cart with sail Weights and spring scales Newton's cradle
CH6	Force and motion II	Vernier friction cart and weights on incline track with force sensor Air track Wooden block with felt and slab School bus on incline with force sensor Loop the loop track
CH7	Kinetic energy and work	Vernier cart and fan with motion detector Vernier cart and spring with force sensor ( $F=-kx$ ) Stand with 2 springs and weights, meter stick
CH8	Potential energy and conservation of energy	Ball on V-track Pendulum of death Tracks that transition to horizontal with ping pong balls Pasco spring loaded vertical launch with ball
CH13	Gravitation	
CH9	Center of mass and linear momentum	Bolas (center of mass) Cylinder and double cone on triangular ramp Vernier carts and weights with motion sensors Two ball drop with basketball and tennis ball Ballistic pendulum
CH10	Rotation	Rotational inertia demo Vernier rotating accelerometer Lever balance demo with weights and spring scale (for torque)
CH11	Rolling, torque and angular momentum	Incline with different shapes Chair with dumbbells Chair with bike wheel Hoberman sphere Gyroscope Stainless steel spinning top Precession of bike wheel
CH15	Oscillations	Vernier mass on a spring with force sensor and motion detector Vernier mass on a spring with force sensor and beaker of water Wave motion demonstrator Simple pendulum Torsion pendulum Physical pendulum (meter stick) Damped simple harmonic motion demo Standing wave on string
CH12	Equilibrium and elasticity	Force table Lever balance demo Balancing blocks on edge of table Balancing bird, balancing pencils (center of gravity) Roman arch