**UNIT 1: MOTION: An Accelerated Topic**

 **Giant slide – Physics 500**

 **Graphical Analysis – Air rocket**

 **Terminal Velocity**

**UNIT 2: FORCE: May the Net Force Be With You**

 **Force – Hooke’s Law – Push Truck**

 **Coefficient of friction lab – Hovercraft**

 **Spoons – Bungee jump**

**UNIT 3: MOTION: Getting Out of Line**

 **Where am I – Addition of Force Vectors**

 **Balloon Rockets – Resolution of Forces**

 **Parking on a hill – Weight of World – Vector Bowling**

 **Etch-a-Sketch**

**UNIT 4: MOTION in Two Dimensions**

 **Forces on a ball – Ramp jump**

 **Centripetal force labs – Measuring # of g’s**

 **Tops, spinners – Universal Gravitation**

**UNIT 5: Momentum and Energy: Starting & Stopping**

 **Collisions on Air Table, Egg Drop**

 **Super ball, center of mass, cantilever**

 **Bag of Nails – elastic/inelastic – non-inertial frame**

**UNIT 6: ENERGY: The Final View of Motion**

 **Pile Driver – Mechanical Equiv. of Heat**

 **How Fast can You Work – Loop to Loop**

 **Ballistics Pendulum – Dart Gun Lab**

 **Alka-bomb – efficiency – Bullet-resistant vest**

**UNIT 7: ELECTRICITY AND MAGNETISM**

**UNIT 8: WAVES: Useful Disturbances**

 **Powers of Ten – Wave machine**

 **Waves on a string – Hot sounds**

 **Polarization – Diffraction - Holography**

**UNIT 9: LIGHT: The Stuff We See With**

 **Stereoscope – 3-D red-blue glasses**

 **Reflection – Images, images, images**

 **Draw your face – Ripple Tank – Curved Mirror**

 **Magic Cylinders - kALEIDOSCOPE**

**UNIT 10: LIGHT: Getting Bent into Shape**

 **Snell’s Law – Refraction**

 **Lens lab – Fiber Optics**

 **Retro-reflector – Flickercard**

 **Did Dick Hide Mary’s Pen – Eye dissection**