

## iBall science:

iBall demonstrates Newton's three laws of motion plus Kepler's three laws of planetary motion.

For more info on these, we suggest visiting:

[www.grc.nasa.gov/WWW/K-12/airplane/newton.html](http://www.grc.nasa.gov/WWW/K-12/airplane/newton.html)

and

[www.grc.nasa.gov/WWW/K-12/Aero2000/studweb/glossary/kepler.html](http://www.grc.nasa.gov/WWW/K-12/Aero2000/studweb/glossary/kepler.html)



Control the motion of the whirling balls with slight movements of your hand.

Make them orbit at fantastic speeds.

iBall® is an eye-catching object, even when at rest on its base.

### Challenge 1: Into Orbit

Try to launch one ball at a time into orbit (first one, then two, then three, etc.) until all of the balls are whirling.

### Challenge 2: Re-entry

Try to bring one ball at a time to rest on the bottom of the sphere while the others continue whirling.

### Challenge 3: Multi-Orbit

Try to make the balls orbit in 3 different directions at once. It can be done!

### Challenge 4: Super Spin

Take turns timing how long you can keep at least one ball in orbit. Stop the timer when the final ball comes to rest.