

Names: _____ Date: _____



Trajectory Deflection Worksheet

Conduct the following experiments to find out which factors affects the path of the spacecraft during a planetary flyby.

1. Use different-sized spacecraft (ball bearings) to fly past the planet (magnet). Does this change the path of the spacecraft? _____
2. Change the initial speed of the spacecraft by raising the launch ramp. Does this change the path of the spacecraft? _____
3. Try using a different-sized planet (magnet). Does this change the path of the spacecraft? _____
4. Try moving the launch ramp away from the planet. Does this change the trajectory of the spacecraft? _____

Which items from above would your engineering team use to design a launch for a spacecraft trying to get to the outer planets? (Example: Spacecraft size, spacecraft initial velocity, planet size, distance of launch from the planet.)
