**Ping Pong Ball Engineering Challenge**

**Potential Connections to Physical Science (PS) Disciplinary Core Ideas (DCI)**

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| **MS - PS1.A: Structure and Properties of Matter**   1. Each pure substance has characteristic physical and chemical properties (for any bulk quantity under given conditions) that can be used to identify it. |
| **MS - PS1.A: Structure and Properties of Matter**   1. Gases and liquids are made of molecules or inert atoms that are moving about relative to each other. |
| **MS - PS1.A: Structure and Properties of Matter**   1. The changes of state that occur with variations in temperature or pressure can be described and predicted using these models of matter. |
| **MS – PS2.A: Force and Motion**   1. The motion of an object is determined by the sum of the forces acting on it; if the total force on the object is not zero, its motion will change. The greater the mass of the object, the greater the force needed to achieve the same change in motion. For any given object, a larger force causes a larger change in motion. |
| **MS – PS2.B: Types of Interactions**   1. Gravitational forces are always attractive. There is a gravitational force between any two masses, but it is very small except when one or both of the objects have large mass—e.g., Earth and the sun. |

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