

**Anchoring phenomenon:
Why do pool balls scatter
after a break shot?**

Phenomenon Video:

<https://www.youtube.com/watch?v=oHQdWM2ovWg>



POGIL[®] Activities that support the anchoring phenomenon:

PSActivity 9 – What Happens When Marbles Collide?
Exploration of collisions of marbles of equal and different masses.



PSActivity 10 – Energy of Motion: The Effect of Mass and Speed
As mass and speed change, an object's kinetic energy changes.

POGIL® Activity	NGSS Performance Expectation	Learning Outcomes
PSActivity 9	<p>MS-PS2-1 Apply Newton’s Third Law to design a solution to a problem involving the motion of two colliding objects.</p>	<p>1: I can predict the final speed and direction of movement of both objects when a moving object collides with a non-moving object of the same mass.</p> <p>2: I can estimate the final speed and direction of movement of an object when a moving object collides with a non-moving object of higher mass.</p> <p>3: I can estimate the speed and direction of movement of an object when a moving object collides with a non-moving object of lower mass.</p>
PSActivity 10	<p>MS-PS3-1 Construct and interpret graphical displays of data to describe the relationships of kinetic energy to the mass of an object and to the speed of an object.</p>	<p>1. I can analyze and interpret data to determine how the amount of kinetic energy changes as the mass of an object increases, based on a data table or graph.</p> <p>2. I can analyze and interpret data to determine how the amount of kinetic energy changes as the speed of an object increases, based on a data table or graph.</p>