MY SUMMER IN SPACE: SPACE PING-PONG

Today we are going to learn what it might be like to design for space. With a partner and on a table, play a round of ping-pong. Then, describe all the reasons why this is a fun activity.

Now, draw a free body of force diagram for all the forces that are acting on the ball. More information on how can be found at:

https://www.brightstorm.com/science/physics/newtons-laws-of-motion/free-body-force-diagrams/ or https://www.real-world-physics-problems.com/free-body-diagram.html

Next, take the ping-pong ball to a fish tank that is filled with water. It can be helpful to do this activity outside. Try and play the same game as you did before.

How was playing ping-pong the same? How was it different?

Evaluate your game based on the original criteria for what makes ping-pong fun. Was it still fun to play ping-pong? If so, was it for the same reasons, or for different ones? If not, why not? Explain your reasoning.

IV. Now, create and label a free body diagram for water ping-pong.

Do the following reading: http://www.physicsclassroom.com/class/newtlaws/Lesson-4/Newton-s-Third-Law

Describe Newton's Third Law of Motion in your own words:

Apply that knowledge to model what the process of hitting a ping-pong ball in space would look like. Explain with pictures and words why this is different than on Earth.