Kindergarten – Physical Science: Pushes and Pulls

- Week 1
  - **Take Home Science Sheet (link): Activity A: Finding Things That Move**
  - **Ramp It Up!**
    - Look for ramps in and around your house and neighborhood. Create a list of ramps you find and draw what they look like.
      - Bonus 1: Describe what they are used for.
      - Bonus 2: Record the height/length of these ramps using nonstandard measurements.
  - **Big Ball Challenge**
    - Head outdoors with a variety of balls. Roll two different sizes of balls and observe how the balls move. Use the following questions to guide your observations about the balls and their motion:
      - What starts the ball moving?
      - What stops big ball?
      - What is the same about the movement of the big ball and the small ball as you roll them?
    - Find a ramp or slide in your yard or on the playground and make a prediction about motion if the ball is rolled down the ramp or slide. Use the following questions to guide this activity:
      - What might happen if you put this ball at the top of the slide?
      - What is needed for the ball to move?
    - Complete the following sentences.
      - Today I found out _____.
      - Now I wonder _____.
- Week 2
  - **Movement Education**
    - Go back to the playground to observe the pushes, pulls, and any predictable patterns of movement on the playground. For example, observe how swings move. Create a list you find and draw what they look like.

- **A Counting Force**
  - Explore the movement of a swing in your yard or on a playground.
  - Can you push the swing so that it will swing four times and stop?
    - What happens if you use too much force?
    - What happens if you use too little force?
- **Read literacy Article 2A: Swinging on the tire swing (link):** Write about how a tire swing moves differently than the swing on the playground.

- Week 3
  - Click here for a video that shows dominos following over.
  - **Action Attraction**
    - Answer:
      - What might make the dominoes fall more slowly or more quickly.
      - Does spacing make a difference in how a line of dominoes topples over?
  - **Read literacy Article 3A: Falling Tree (link):** Write about other things that tumble.
  - **Bonus: Counting and Setting Up Sets -** Set up a line of dominoes that not only will fall down with one push but also is set up in sets of two or five. Offset the line of dominoes so that before the line is sent tumbling, you can identify and count the sets of two, three, or five. Film this activity and submit
- Week 4
  - **Take Home Science Sheet (link): Activity B: Finding Pushes and Pulls**
  - **Read literacy Article 4A: Pull Back Car (link):** Write what object you can see externally on a car makes it move.
- Week 5
  - Click here for an example of a Rube Goldberg machine
  - **Playground in Motion** See what kinds of toys and equipment you can come up with to draw a technical drawing of a big "motion machine" on the playground. For example, consider:
    - Hula hoops
    - Assorted balls
    - Riding toys
    - Parachutes
    - Scooter boards
    - Jump ropes
    - Slides
    - Swings