HUGK12 Activity

Title: *Conservation of Momentum: Newton Cradle*

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DCPS Standards:

Goals:

1. Create a Newton Cradle.
2. Define momentum.
3. Describe what happens when momentum is conserved.
4. Define the transfer of energy from kinetic energy to potential energy.

Objectives:

1. For students to be able to create a Newton Cradle and observe conservation if momentum.

Prerequisite Knowledge

Background: Momentum is the product of mass and velocity. In elastic collisions, momentum is conserved. In elastic collision, momentum is no conserved but lost through the system.

Essential Questions:

1. What is kinetic energy?

2. What is potential energy?

Laboratory Materials:

- 30 marbles
- 10 rulers with grooves
- Tape
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Differentiating Instruction :

English Language Limited (ESL) students should have no problems with this activity.

Rationale:
This activity is designed to have students become familiar with conservation of momentum.

Research Activity:

- Students will be given the lab items and a diagram/steps of how to create a Newton Cradle.
- They will then systematically release one marble to see it displace one on the opposite side. They will also observe the distance at which the marble was moved.
- They will repeat this process for two, three, and so marbles.

EVALUATION AND ASSESMENT:

Scholars will be asked to record their results for discussion.