Student Name: _____ Date: _____

Activity 2: Colliding Marbles

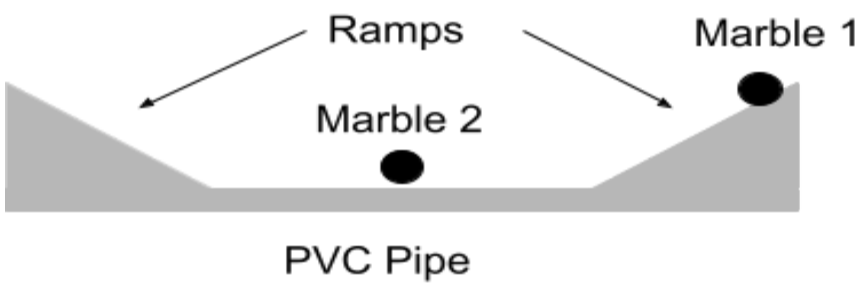
Background
As we just saw, **Energy** can change. Now we are going to look at the **Law of Conservation of Energy**. This law does not mean saving energy. Instead, the law of conservation of energy says that energy is neither created nor destroyed. When people use energy, it doesn't disappear. Energy changes from one form of energy into another form of energy.

Question - In activity 1, the potential energy of the marble did not equal the kinetic energy. Why do you think this happened?

Aim
To test the law of conservation of energy.

Materials		
PVC pipe	2 Ramps	2 Plastic Marbles
Ruler	Balance Scale	

Track Diagram



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Method	
1	Set up the track as shown in the diagram.
2	Find the mass of marble 2. Convert to kg and record below.
Marble 2 =	
2	Place marble 1 at the 4cm height of the ramp and marble 2 at the 30cm mark.
Question: How much potential energy did marble 1 have from the previous experiment? How much potential energy does marble 2 have?	

3	Release marble 1 and let it collide with marble 2. Measure the time it takes the other marble to go 30cm.
Calculation: Calculate how much kinetic energy marble 2 has. Show your work below.	
Question: Compare the potential energy of marble 1 to the kinetic energy of marble 2. What do you notice about these in terms of the law of conservation of energy?	