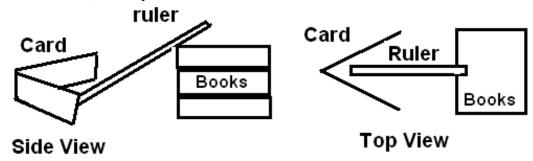
## Marble GPE - KE Activity

Materials needed: Plastic ruler, 3 glass marbles, 3 textbooks, tape, folded card Stack textbooks as shown, and tape ruler to books.



- 2. Calculate GPE of the marble at this position if the marble has a mass of .002 kg.
- **3.** What is the GPE of the marble when it's only half way up the ruler? (hint–it's only half as high off the table)
- **4.** What is the GPE of two marbles at the top of the ruler?
- **5.** If one marble is released from the top of the ruler, how much kinetic energy should it have at the bottom of the ramp? Explain.

Place your card right in front of the ruler on your desk and mark starting position on your desk. Roll marble down ruler ramp into the card, and measure the distance the card moves. Complete all different trials and record data in table.

Sample Data Table: Distance Card is Pushed by Marble

Sample Data Table: Distance Card is Pushed by Marble									
Test:	GPE top (J)	Trial 1 (cm)	Trial 2 (cm)	Trial 3 (cm)	Average (cm)				
	(KE bottom)								
1 marble from top									
, vop									
2 marbles from top									
3 marbles from top									
1 marble from ½ way up									
2 marbles from									

½ way up					
3 marbles from					
½ way up	CDE C 11	1 1 1	41 4	41 11 4 41	1 10
<b>6</b> . How does the	JPE of marbles w	hen released from	tne top compare t	the distance the	e card moved?
7. Graph your av	erage data for the	trials – think w	hat type of graph	should you use?	What should you
put on the X-axis	? (it's one of the	columns you filled			-
8a. Find the slop		. 0 . 5 . 11		G1 1	
the back side of the		et for 5 marbles at	the top position?	Show your work	with the graph on
					$\neg$
	<del></del>				
					<del></del>
					$\neg \neg \neg \neg \neg \neg$
					$\Box$
	<del></del>			<del>, , , , , , , , , , , , , , , , , , , </del>	
	<del></del>			<del>, , , , , , , , , , , , , , , , , , , </del>	
	<del>, , , , , , , ,</del>			<del>                                     </del>	
		1 1 1 1 1 1		1 1 1 1 1 1	

