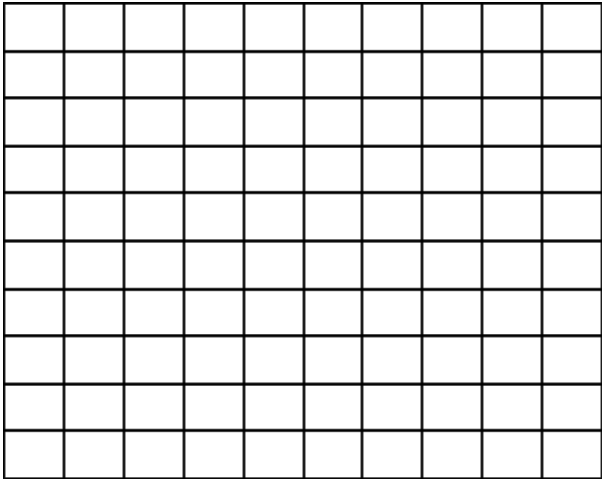


Data Discussion for Modeling E_k Experiment

Group Facilitator Guide

Orient to Data	Defining Description/Name: _____		Defining Description/Name: _____	
	Determine a data point from this group's graph: (_____, _____)		Determine a data point from this group's graph: (_____, _____)	
	Diagram of Set Up:			Diagram of Set Up:
	Mathematical Model:	1. Draw the graph for each object dropped and label which spring corresponds to which graph		Mathematical Model:
Analyze	Similarities: 2a. List at least 4 similarities to share with group if they cannot come up with any.			
	Differences: 2b. List at least 2 differences to share with group if they cannot come up with any.			
	Prediction #1 with confidence for second scenario given by group facilitator: 3. Predict the answer for the facilitator questions.		Prediction #2 with confidence for second scenario given by group facilitator:	

Making Sense of Pattern	In words, describe the A-value (rate of change) for the following three contexts:		
	In the real world, it means	In the graph, it shows up as	In the mathematical model, it is
	4c. Use the answers to the right to inform what the A-value means in the real world.	4a. If two objects have the same velocity, from the graph how can you tell which mass is heavier? How does that show up graphically?	4b. Beyond being the constant in the equation, for two objects with the same velocity, a bigger “A” value makes it so that for a given velocity (say 1 m/s), the E_{kinetic} will be ____?
	Write out the equation using all words (concepts):		
	Explain why the pattern in the data makes sense:		

Applications & Limitations	Using the pattern above to make a data-informed prediction. My prediction with justification for my confidence is:	
	What are some concerns or limitations you see in the experimental set-up, the mathematical model, and/or applying the pattern?	
	How does this help us use STEM to make thrilling experiences safe?	