Name: _____ Date: _____

Assessment Items for Engineering 1-4

Item 1

Mr. Newton's school has a problem. Many laptops and tablets are being dropped by students in his classroom. The screens break when they hit the floor. Replacing them is expensive. The school is looking into ways to reduce the number of devices that break. Mr. Newton has challenged his science students to design a solution to the problem.

When discussing possible solutions to the breakage problem, several students suggested using padding on the floor. Mr. Newton agreed that padding might work. The school principal is impressed with this solution, but before the school invests in padding for the classroom floor, he would like to know if it will work in the real world. Students can't test their solution with real devices, which might be damaged during testing.

Suggest a physical model of a device that students could make and use to evaluate whether the padding might be useful. For your model, describe:

- the components of the model and why each component is needed for the problem you are solving.
- how the components of the model might be varied.
- the data you will collect to help you figure out whether padding the floor is a possible solution.
- what you would do next after collecting and analyzing your first round of data.