Name:

Partner:

AP Physics C
M. Lam   Mystery Mass Challenge   Block:

Objective
Use a vertical mass-spring oscillator to determine the mass of an unknown sample

Part 1: Collect Data (30 minutes)
Construct a vertical mass-spring oscillator. Using hooked weights, collect data which will be used to determine the mass of an unknown sample.

Part 2: Collect Data for unknown mass (10 minutes)
Retrieve an unknown sample. Collect data using your unknown sample.

Unknown sample number: _____

Part 3: Submit your prediction (by 11:59 pm of the same day)
Submit your experimentally determined mass on Teams.

Part 4: Measure the mass of the unknown sample (next class)
Use an electronic balance to measure the mass of the unknown sample. Your score (out of 10) will be based on percent error.

Percent Error (rounded up)	Score (out of 10)
1	10
2	9
5	8
10	7
15	6
>15	5

You must include a complete lab report to receive full marks. Students with incomplete reports or reports which do not clearly show how the experimental mass was determined will receive a score based on the report, capped at their performance score above.