# Lab 7: Energy

Experiment for Physics 211 and 225 Lab at CSUF

## What You Need To Know:

## What You Need To Do:

### The Equipment

### Part 1 – Conservation of Energy With a Bag

Based on what was discussed in the introduction, what types of energy will you be using for this situation? For each type, explain how you know you will be using it.

Table - Part 1 Data

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **hI** | **PEI** | **hF** | **PEF** | **vF** | **KEF** | **EI** | **EF** | **%** |
|  |  | 1.0 |  |  |  |  |  |  |

### Part 2 – Hooke’s Law

|  |  |  |  |
| --- | --- | --- | --- |
| $$m$$ | $$x\_{F}$$ | $$x$$ | $$F\_{sp}$$ |
| 200 g |  |  |  |
| 400 g |  |  |  |
| 600 g |  |  |  |
| 800 g |  |  |  |
| $$x\_{I}$$ |  |
| $$k$$ |  |

Table – Part 2 Data

1.

Explain in detail using an equation why the spring constant is equal to the slope of the line.

### Part 3 – Conservation of Energy With a Cart

Based on what was discussed in the introduction, what types of energy will you be using? For each type, explain how you know you will be using it.

1.

What type of energy/energies do you have at the initial point? What type of energy/energies do you have at the final point? Discuss.

|  |  |
| --- | --- |
| $$x\_{I}$$ |  |
| $$x\_{F}$$ |  |
| **x** |  |
| $$v\_{1}$$ |  |
| $$v\_{2}$$ |  |
| $$v\_{3}$$ |  |
| $$v\_{avg}$$ |  |

Table – Part 3 Data

## Conclusion

Follow the lab report guide to write a conclusion on this lab.

Submit any excel or graphical analysis data your instructor requests along with your report.

Conclusion