**Energy Calculations**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_ Score: \_\_\_\_\_\_\_\_\_\_\_**/106**

|  |
| --- |
| **Gravitational Potential Energy Calculations** (Based on different Masses) **/6** |

|  |  |  |  |
| --- | --- | --- | --- |
| Mass | Gravitational Acceleration | Height | **Gravitational Potential Energy**[GPE = Mass x Gr x Height] |
| 1 Kg | 9.8 m/s2 | 1.5 m |  |
| 2 Kg | 9.8 m/s2 | 1.5 m |  |
| 3 Kg | 9.8 m/s2 | 1.5 m |  |

**6. Graph**

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **/20**



Energy [J]

Mass [Kg]

|  |
| --- |
| **Energy Calculations** (based on Different Heights)  **/10** |

|  |  |  |  |
| --- | --- | --- | --- |
| Mass | Gravitational Acceleration | Height | **Gravitational Potential Energy**[GPE = Weight x Distance] |
| 1 Kg | 9.8 m/s2 | .5 m |  |
| 1 Kg | 9.8 m/s2 | 1.0 m  |  |
| 1 Kg | 9.8 m/s2 | 1.5 m |  |
| 1 Kg | 9.8 m/s2 | 2.0 m |  |
| 1 Kg | 9.8 m/s2 | 2.5 m |  |

**6. Graph**

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **/20**



Energy [J]

Height [m]

|  |
| --- |
| **Elastic Potential Energy Calculations /20** |

|  |  |  |
| --- | --- | --- |
| Distance the Rubber Band is Pulled Back | The Force | **Elastic Potential Energy**[Energy = Force x Distance] |
| .10 m |  |  |
| .20 m |  |  |
| .30 m |  |  |
| .40 m |  |  |
| .50 m |  |  |

**6. Graph**

Title: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **/20**



Energy [J]

Distance Pulled [m]

**Data Analysis: /10**

Gravitational Potential Energy (height)

1. What trends and patterns do you see as you increase the objects height?

Gravitational Potential Energy (mass)

1. What trends and patterns do you see as you increase the objects mass?

Elastic Potential Energy

1. What trends and patterns do you see when you stretch the rubber band further back?

Going Further (Gravitational Potential Energy)

1. Look at your data from your GPE lab. How might the energy graphs of mass, height, help to explain your experimental findings?

Going Further (Elastic Potential Energy)

1. Look at your data from your EPE lab. How might the data table & energy graphs of force and distance, help to explain your experimental findings?