**Tools and Equipment, Part II Activity –**

**Pulley Worksheet**

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| **Instruction/Questions** |
| 1. MA1What is the measured weight of your object? Load = \_\_\_\_\_\_\_\_\_\_\_
2. How is the Mechanical Advantage of a pulley system calculated?
3. **Set up your pulley, weight and rope as shown at right.**
4. What is the theoretical Mechanical Advantage of this system?

MA = \_\_\_\_\_\_\_\_\_\_\_1. What is the required force to raise object higher?

 Effort = \_\_\_\_\_\_\_\_\_\_\_1. Calculate the actual Mechanical Advantage of the pulley system using the following equation:

 1. How does this compare to the theoretical MA from above?

 **MA2** 1. **Support your load according to the pulley setup shown at right.**
2. What is the theoretical Mechanical Advantage of this system?

MA = \_\_\_\_\_\_\_\_\_\_\_1. What is the required force to raise object higher?

 Effort = \_\_\_\_\_\_\_\_\_\_\_1. Calculate the actual Mechanical Advantage of the pulley system using the following equation:

 1. How does this compare to the theoretical MA from above?

 **MA3** 1. **Add another pulley to your system as shown to the right.**
2. What is the theoretical Mechanical Advantage of this system?

MA = \_\_\_\_\_\_\_\_\_\_\_1. What is the required force to raise object higher?

 Effort = \_\_\_\_\_\_\_\_\_\_\_1. Calculate the actual Mechanical Advantage of the pulley system using the following equation:

 1. How does this compare to the theoretical MA from above?

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| **Results** |
| In general, were the theoretical mechanical advantages similar to the actual ones?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

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| **Discussion** |
| 1. What were some sources of error in your experimental procedure?

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$$\% Error= \left|\frac{Theoretical Value-Actual Value}{Actual Value}\right|\*100$$**Pulley Setup A:****Pulley Setup B:****Pulley Setup C:** |