Name: Investigation 4.2

Part2:

What variables can be changed to balance a lever?

Part 3:

|  |  |  |  |
| --- | --- | --- | --- |
| Trial # | lever.gif | Trial # | lever.gif |
| Trial # | lever.gif | Trial # | lever.gif |
| Trial # | lever.gif | Trial # | lever.gif |

Part 4:

An equation that shows the lever in equilibrium is

(input force)x(input arm length) = (output force)x(output arm length)

Use your data from each of the three trials above to show that the above statement is true.

|  |  |  |  |
| --- | --- | --- | --- |
| Trial # |  | Trial # |  |
| Trial # |  | Trial # |  |
| Trial # |  | Trial # |  |

Part 5:

Draw a lever that has a mechanical advantage. Label these parts: fulcrum, input arm, output arm, input force, and output force.

In a lever, you can increase the amount of output force by increasing the length of the input arm. When you do this, what must decrease in order to increase output force?