BIO 188, SCU Biology Dept., Fall 2023 Name: _____

Lab 3: Flipping the Machines Worksheet

Let's flip our understanding of the other 4 simple machines. If at any point you get confused trying to fill this out, continue watching the video (or watch it again) to try to get a better understanding of how to apply the concepts. If that doesn't help, try going back to re-watch the first video.

3.1 - Think about the function of an inclined plane. In your own words, what is it trying to accomplish? What is the driving force behind it and how does it behave as a tool?

3.2 - If a normal inclined plane is used to increase input distance in order to decrease input force, then the flipped version of an inclined plane would

Increase / Decrease input force in order to **increase / decrease** input distance.

3.3 - An example of this in the real world is (draw it and label the forces)

3.4 - Think about the function of a pulley. In your own words, what is it trying to accomplish? What is the driving force behind it and how does it behave as a tool?

3.5 - If a normal pulley system is used to increase input distance in order to decrease input force, then the flipped version of a pulley system would

Increase / Decrease input force in order to **increase / decrease** input distance.

3.6 - An example of this in the real world is (draw it and label the forces)

3.7 - Think about the function of a wedge. In your own words, what is it trying to accomplish? What is the driving force behind it and how does it behave as a tool?

3.8 - If a normal wedge is used to increase input distance in order to decrease input force, then the flipped version of a wedge would

Increase / Decrease input force in order to **increase / decrease** input distance.

3.9 - An example of this in the real world is (draw it and label the forces)

3.10 - Think about the function of a screw. In your own words, what is it trying to accomplish? What is the driving force behind it and how does it behave as a tool?

3.11 - If a normal screw is used to increase input distance in order to decrease input force, then the flipped version of a screw would

Increase / Decrease input force in order to **increase / decrease** input distance.

3.12 - An example of this in the real world is (draw it and label the forces)

3.10 - Think of another example of a lever being used to increase input force by decreasing input distance. Draw it.