

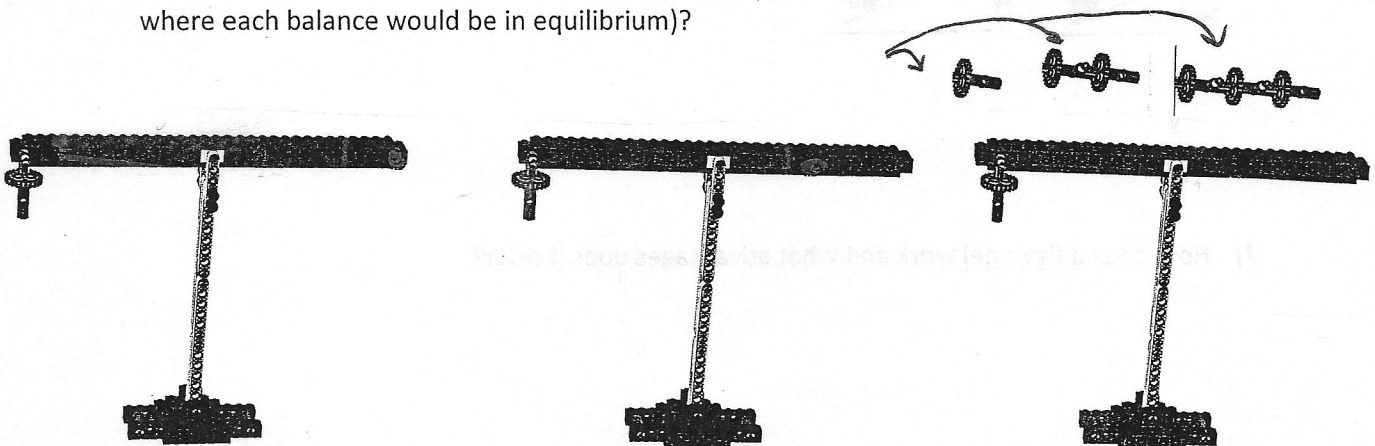
Name _____
Date _____

Review Sheet for Mechanics 101 parts 1-3 (Levers, Wheels, Gears)

- 1) Name two common items or uses for each type of lever.
 - a. 1st class
 - b. 2nd class
 - c. 3rd class

2) When we built and used a balance, what is the scientific name for what happens when the bar is horizontal and the two sides are balanced?

3) What could you do to make the balance even (draw weights onto the balances in locations where each balance would be in equilibrium)?



4) How does it work to put different masses on a balance like you did on step 3.

- 5) Use the formula (diameter of wheel divided by diameter of axle = mechanical advantage) to calculate mechanical advantage of the following wheel/axle combinations.



The diameter of large LEGO® wheels are 43.2 mm (≈ 1.7 in).

MA =



The diameter of LEGO axles are 4.7 mm (≈ 0.18 in)



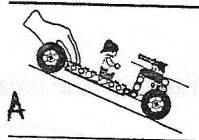
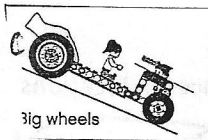
Diameter of small wheel 31mm

MA =



The diameter of LEGO axles are 4.7 mm (≈ 0.18 in)

- 6) Which wheel combination (in Freewheeling) rolled farther? Why?



- 7) How does a flywheel work and what advantages does it offer?

- 8) Give a real life example of a flywheel

- 9) Explain some of the dangers of unbalanced flywheels.