

Interactive Physics Activity #4 – Bicycle Simulation

Name: _____

Now you get a chance to show off your new Interactive Physics skills. In this activity you will use many of the tools you became acquainted with in Activities 1 through 3.

You are to build a simulation of a functioning bicycle, including a frame (the seat and handlebars can be part of the frame), wheels, front and rear gears, and pedals. The picture below is intended only to show you *approximately* how your bike should look.



Add to your simulation a “floor,” and propel the bicycle across the floor by applying a *force* to each of the pedals.

Your simulation will be built successfully when:

- The frame holds its shape
- The wheels rotate freely and smoothly
- The pedals turn freely and smoothly
- The gears connecting the pedals to the rear wheel operate freely, smoothly, and in the correct direction
- Your model actually looks like a bicycle ☺

If time permits, and you are looking to improve your model, try one of the following:

- Add a suspension (spring/shock) to the front wheel
- Add a suspension to the frame (see the picture above)

Submit your simulation for a grade by saving your file to the S drive (ask your teacher for clarification) with a filename like *yourgroupmembers’names.ip*.