Name_____ Date_____

Period and Frequency
Worksheet

1. A series battery is connected, via two switches and resistors, to a motor. Switch #1 places a 10 ohm resistor in series with the motor, while switch #2 places a 22 ohm resistor in series with the motor. Predict which switch will make the motor rotate faster when turned on.

2. Period is the amount of time it takes a motor to complete one full rotation. Turning on just switch #1, and using a stopwatch, determine the period of the motor. Timing more than one rotation and dividing the time by the number of rotations you observed will result in a more accurate answer.

3. Turn switch #1 off, and turn switch #2 on. Determine the period of the motor.

4. Another measure of how quickly a motor is turning is frequency, measured in hertz. This would be the number of rotations the motor completes in one second. Using the formula f=1/T, determine the frequency of the motor when only switch #1 is turned on.

5. The rate at which a motor in an automobile is rotating is measured in revolutions per minute (rpm). To determine this, find the frequency in hertz, and multiply by the number of seconds in a minute. Determine the frequency of the motor in rpm when only switch #2 is turned on.