

Whirl-a-Stopper • Centripetal Force Lab

Table 1 radius (m): _____ mass of the stopper (kg): _____

| hanging (m)ass (kg) | F_g (N) | total (M)ass (kg) | average time (s) | f (rev/s) $20 \div t$ | F_c (N) |
|------------------------|-----------|----------------------|---------------------|--------------------------|-----------|
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$$F_g = 9.8 \cdot m$$

$$F_c = 4 \cdot M \cdot \pi^2 \cdot r \cdot f^2$$

Table 2 mass (kg): _____ mass of the stopper (kg): _____

| radius (m) | F_g (N) | total (M)ass (kg) | average time (s) | f (rev/s) $20 \div t$ | F_c (N) |
|------------|-----------|----------------------|---------------------|--------------------------|-----------|
| 0.20 | | | | | |
| 0.40 | | | | | |
| 0.60 | | | | | |
| 0.80 | | | | | |

$$F_g = 9.8 \cdot m$$

$$F_c = 4 \cdot M \cdot \pi^2 \cdot r \cdot f^2$$