

Exercise and Calories

EXAMPLE

According to the National Institutes of Health, the average number of calories spent per hour by a 150-pound person who rides a bicycle 6 miles per hour is 240 calories. The calories spent in a particular activity vary in proportion to one's body weight. For example, a 100-pound person burns $\frac{1}{3}$ fewer calories, and a 200-pound person, burns $\frac{1}{3}$ more calories.

Find the average number of calories burned by a 100-pound person and a 200-pound person who ride bikes at 6 mph for one hour. Round your answer to the nearest calorie.

100-pound person

Think: $\frac{1}{3}$ fewer is about 33% fewer. Multiply by 100% minus 33%, or 67%
 $240 \text{ calories per hour} \times 67\% = 240 \times 0.67 = 160.8 \approx 161 \text{ cal./hr}$

200-pound person

Think: $\frac{1}{3}$ more is about 33% more. Multiply by 100% plus 33%, or 133%
 $240 \text{ calories per hour} \times 133\% = 240 \times 1.33 = 319.2 \approx 319 \text{ cal./hr}$

A 100-pound person burns an average of 161 calories per hour bicycling at 6 mph.
 A 200-pound person burns an average of 319 calories per hour bicycling at 6 mph.

Directions Find the average number of calories a 100-pound person and a 200-pound person burn while engaged in the following activities. Round your answer to the nearest calorie.

	Activity	Calories burned by 150-lb person	Calories burned by 100-lb person	Calories burned by 200-lb person
1.	Bicycling 6 mph	240 cal./hr	161	319
2.	Bicycling 12 mph	410 cal./hr		
3.	Cross-country skiing	700 cal./hr		
4.	Jogging $5\frac{1}{2}$ mph	740 cal./hr		
5.	Jogging 7 mph	920 cal./hr		
6.	Jumping rope	750 cal./hr		
7.	Running in place	650 cal./hr		
8.	Running 10 mph	1280 cal./hr		

Source: Exercise and Your Heart, A Guide to Physical Activity
<http://www.nih.gov/health/exercise/3.htm>



Exercising to Lose Weight

EXAMPLE

Each extra pound in a person's body contains about 3,500 calories. One way to lose a pound is to exercise enough to burn 3,500 calories. Jasmine plays golf for 4 hours. How much weight does she lose? Use the chart to find the number of calories used in 1 hour.

$$\begin{array}{r} \text{Step 1} \quad 350 \text{ Calories} \\ \times \quad 4 \text{ Hours} \\ \hline 1,400 \text{ total calories used} \end{array}$$

$$\text{Step 2} \quad \frac{1,400}{3,500} = \frac{14}{35} = \frac{2}{5}$$

Jasmine loses $\frac{2}{5}$ pound.

Calories Used in One Hour

Activity	Calories
Tennis	500
Bicycling	500
Golf	350
Swimming	500
Walking	300
Running	700
Heavy Exercise	1,200

Directions Use the chart to compute how much weight each person loses. Simplify your answers.

Daily Exercise

- Mohab plays tennis for 3 hours.
- Janet walks for 2 hours.
- David plays golf for 6 hours.
- Jose runs for 2 hours.
- Natel bikes for 3 hours.
- Aslan swims for 2 hours.

Weight Loss

Monthly Exercise

- Makel runs for 15 hours.
- Jacque plays golf for 34 hours.
- Darbert walks for 84 hours.
- LaVerne does 16 hours of heavy exercise.
- Spike swims for 70 hours.
- Sanji bikes for 10 hours.

Weight Loss

