

Calories: the type of measurement used to determine the amount of energy the body uses during physical activity.

- The equation used to determine the calories used during a specific activity is...

$$\text{total Calories} = \text{Calories used} \times \text{number of minutes used in one minute}$$

example

Find the total number of Calories used if you played baseball for 30 minutes and then walked slowly (2 mph) for 5 minutes.

Step 1. Find the number of Calories for each activity.

$$\begin{array}{ll} 30 \text{ min baseball} & 6 \times 30 = 180 \\ 5 \text{ min walking slowly} & 3 \times 5 = 15 \end{array}$$

Step 2. Find the total. $180+15= 195$

* You would use about 195 Calories.

exercises

Use the table to the right to help you find the total number of Calories used.

- 1 hour tae kwon do
- 45 min hiking
45 walking quickly (3.5 mph)
- 20 min swimming laps
50 min volleyball
- 2 hour football game
- 40 min sleeping
55 min baseball



Activity	Number of Calories Used in One Minute
sleeping	1
walking, 2 mph	3
walking, 3.5 mph	5
jogging, 5 mph	10
basketball game	10
football game	10
hiking	7
jump rope	12
baseball	6
swimming, laps	9
tae kwon do	12
volleyball	5
weight lifting / free weight	4

6. Kyle went to the gym. He lifted weights for 35 minutes, then jumped rope for 20 minutes. He then went to the pool and swam for 15 minutes. About how many Calories did Kyle use?

7. Sam took a 20 minute nap and woke up late for his basketball game. It took him 12 minutes to jog to the school. He only ended up playing 16 minutes of the basketball game. How many Calories did Sam use?

real world application

Meghan is going to URI and is majoring in nutrition. She is interning at the hospital and working with a dietitian. Her job is to determine the number of calories needed per day needed to lead a healthy lifestyle for each of her clients.

To figure this out, she uses the following formula...

$$\text{Calories needed} = \frac{\text{activity rate}}{\text{rate}} \times \text{weight in pounds}$$

example

Nick is Meghan's first client. He weighs 165 lbs and his daily activity rating is 16. How many calories does he need per day?

$$\begin{aligned} \text{Calories needed} &= 16 \times 165 \\ &= 2640 \end{aligned}$$

*Nick needs 2640 Calories each day.

exercises

Use the table to the right to help you determine the Calories needed.

1. Matt weighs 140 lbs. His daily activity rating is 17. Approximately, how many Calories does he need each day?
2. Cory weighs 130 lbs. She has a moderate activity level. About how many Calories does she need per day?
3. Michael has a very light activity level. He weighs 213 lbs. How many Calories does he need per day?
4. Lisa is on the dance team at school. She weighs 120 lbs. About how many Calories does she need per day?
5. Lucas is an avid golfer. He weighs 147 lbs. Approximately how many Calories does he need each day?

Activity Level	Daily Activity Rating
Very light: reading, eating, sleeping, watching TV	13
Light: golfing, bowling, slow walking	14
Moderate: walking quickly, gardening, light chores	15
Strenuous: physical labor, dancing	16
Very Strenuous: swimming, tennis, football, bicycling	17



6. If Mallory is 143 lbs, has a daily activity rating of 15, and consumes 2200 Calories each day, is the amount of Calories she consumes too few or too many?
7. If Cameron is 180 lbs, has a very strenuous activity level, and consumes 3044 Calories each day, is the amount of Calories he consumes too few or too many?