

Calculators, Predictors, Conversions Charts

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General Health and Fitness Calculators

- [active.com](#) - assorted calculators
- [allHealth.com](#) - assorted calculators
- [drKoop.com](#) - BMI-, calories-, and daily intake calculators and interactive assessment tools
- [University of Metz' Calculators for Physiological Measurements](#)
- [Balance Works](#) - lean body analysis
- [National Health Study Of Nutrition](#) - by Berkeley Lab
- [HealthCalc Network Cool Tools](#)



Calorie, Body Fat, BMI Calculators

- [Activity calorie calculator](#) - by Prevention Magazine

- [Burn Barometer](#) - by Body Beautiful
- [Calorie and nutrition counter](#) - by Body Beautiful
- [The Bicycle Ride Calorie Calculator](#) - calculates the number of calories expended on a bicycle ride (based on an article in the May 1989 issue of Bicycling Magazine, pp. 100-103). It provides an estimate of the number of calories burned based on time, distance, rider weight, wind speed and direction, drafting, and climbing. Calorie expenditure values provided for average speeds between 5 and 30 mph.
- [Calorie use chart](#) - by American Heart Association
- [Calorie Calculator](#) - by Stevens Creek Software
- [Calorie Counter](#) - by Dr. Jenkins
- [Body fat calculator](#) - by Stevens Creek Software
- [body fat calculators](#) - by Triathlon Log
- [Body fat calculator](#) - for men
- [Basal Metabolism Calculator](#)
- [BMI calculator](#) - by National Heart, Lung and Blood Institute
- [iVillage.com BMI Calculation](#) - by The Women's Network
- [iVillage.com Ideal Weight Calculation](#) - by The Women's Network
- [Ask the Dietitian \(Joanne Larsen\)](#) - healthy body calculator
- [BMI Center](#) - by Shape Up America
- [Fitness Engine](#) - ideal body weight, calories, BMI (body mass index)
- [Height and Weight Charts](#) - by Metropolitan Life

Formula for caloric expenditure

Formula to determine number of calories needed to support life. Normal resting metabolism is related to body size, amount of muscle tissue, rate of growth, age, sex, thyroid and adrenal activity, and pregnancy and lactation. Resting metabolic expenditure is increased by infection and following trauma. During periods of stress, when insufficient fuel is supplied as food, energy is derived from tissue breakdown. Each of conditions should be considered when computing nutritional needs.

To determine caloric expenditure, calculate basal energy expenditure (BEE) by using the following equations:

$$\text{Men: BEE} = 66 + (13.7 \times W) + (5 \times H) - (6.8 \times A)$$

$$\text{Women: BEE} = 655 + (9.6 \times W) + (1.7 \times H) - (4.7 \times A)$$

W is actual (or desired) weight in kg (weight in kg = weight in pounds/2.2)

H is actual height in cm (height in cm = height in inches x 2.5)

A is age in years

Activity:

The BEE is increased to adjust for activity level:

Very sedentary: + 20%

Sedentary: + 30%

Moderate: + 40%

Very heavy: + 50%

Fever: an adjustment is made for calories by adding 7% of the BEE to the total for each degree F raised (13% for each degree C).



Miscellaneous Sport Calculators

Simple Science *Heart Rate*

Approximate maximum HR = $220 - \text{age}$

Approximate training zone target: lower limit = $0.6 \times \text{max HR}$, upper limit = $0.8 \times \text{max HR}$

Bike Fit

Frame size (cm, center-to-center) = $\text{inseam (cm)} \times 0.65$

Saddle height (cm, from center of bottom bracket to top of saddle) = $\text{inseam (cm)} \times 0.883$

Inseam - Crankarm Length

inseam of less than 74 cm = 165 mm crankarm

inseam of 74 to 80 cm = 170 mm crankarm

inseam of 81 to 86 cm = 172.5 mm crankarm

inseam of 87 to 93 cm = 175 mm crankarm

(Crankarm is measured from the center of the bottom bracket axle to the center of the pedal mounting hole.)

Length Conversions:

to get centimeters: multiply inches by 2.54

centimeters to inches: x 0.394

to get meters: multiply feet by 0.305, or yards by 0.914

meters to feet: x 3.28, meters to yards: x 1.094

to get kilometers: multiply miles by 1.61

kilometers to miles: x 0.62

- [Fitness Profile](#) - by The Fitness Zone
- [Performance Calculator](#) - by Howard Grubb
- [Calculator.com](#) - cycling calculators, from caloric expenditures to more technical (gear ratios, spoke length).
- [Calculator.com](#) - running calculators, from calories used to performance/pace predictors
- [Kick Sports calculators](#)
- [RunCoach Calculators](#)
- [Runners World magazine calculators](#)
- [SwimInfo conversion page](#) - time conversions for standard swimming distances and list of factors
- [Run Calculator, Calorie Counter](#) - by Dr. Jenkins
- [Gym Source](#) - running calculators
- [Age Adjusted Performance Tables](#)
- [Age Equalizer](#) - by Peak Running Performance
- [Age Graded Table Lookup](#)

Pace Calculators

- [Interval Training Pace AT and VO2 Max](#) - by Running Free
- [Javascript Source Pace Calculator](#)
- [Marathon Pace Charts](#) - by Rob Klima
- [Pace Coach](#) - by Peak Running Performance
- [5K Workout Wizard](#) - by Peak Running Performance
- [10K Workout Wizard](#) - by Peak Running Performance
- [Half-Marathon Workout Wizard](#) - by Peak Running Performance
- [Race Pace Calculator](#) - for any distance (km or miles) by Terry McConnell
- [Training Pace Calculator](#) - by Runner's World
- [Saskatchewan Runners Pace Split Calculator](#)
- [The Pace Wizard](#) - by Team Oregon
- [Marathon Sports Event Management](#) - running pace chart for distances from 2 miles to marathon (4:45 to 12:00 min/mile pace)



Race Time Prediction Calculators

- [Performance Factor and Pace Calculator](#) - by P. Hoffman
- [Race Predictor](#) - by Peak Running Performance
- [Race Time Prediction](#) - by Running Free

- [Runner's Race Performance Predictor](#) - by Hank Gac
- [Running Advisor](#) - race times calculator based on the recent race type and finish time



Heart Rate Calculators

- [Target heart rate](#) - by Stevens Creek Software
- [Target heart rate](#) - by Peak Running Performance
- [Heart rate zones](#) - by Running Free
- [Target heart rate](#) - by Health A to Z



VO2 Max Calculators

- [VO2 Max](#) - by Triathlon Log
- [Interval Training Pace AT and VO2 Max](#) - by Running Free
- [VO2 Max](#) - article on VO2 Max and how to improve it by Cool Running

Distances Conversion Chart

1 yard = .9144 meter 100 yards = 91.4400 meters
220 yards = 201.1680 meters
440 yards = 402.3360 meters 880 yards = 804.6720 meters

1 meter = 1.094 yards 100 meters = 109.400 yards
200 meters = 218.800 yards
400 meters = 437.600 yards 800 meters = 875.200 yards

1 mile = .609 kilometers = 1760 yards = 5280 feet
1 kilometer = .6214 miles = 1094 yards = 3281 feet

Kilometers to Miles

Miles to Kilometers

1 km = .6214 miles	1 mile = 1.609 km
2 km = 1.2418 miles	2 miles = 3.218 km
3 km = 1.8642 miles	3 miles = 4.827 km
4 km = 2.4856 miles	4 miles = 6.436 km
5 km = 3.1070 miles	5 miles = 8.045 km
6 km = 3.7284 miles	6 miles = 9.654 km
7 km = 4.3498 miles	7 miles = 11.263 km
8 km = 4.9712 miles	8 miles = 12.872 km
9 km = 5.5926 miles	9 miles = 14.481 km
10 km = 6.2140 miles	10 miles = 16.090 km
11 km = 6.8354 miles	11 miles = 17.699 km
12 km = 7.4568 miles	12 miles = 19.308 km
13 km = 8.0782 miles	13 miles = 20.917 km
14 km = 8.6996 miles	14 miles = 22.526 km
15 km = 9.3210 miles	15 miles = 24.135 km
20 km = 12.4280 miles	20 miles = 32.180 km
25 km = 15.5350 miles	25 miles = 40.225 km
30 km = 18.6420 miles	

1 marathon = 26 miles + 385 yards = 42.186 km

Weather Charts

Probability of Precipitation (POP) and Terminology

POP is the likelihood of occurrence (expressed as a percent) of a precipitation event at any given point in the forecast area. The National Weather Service (NWS) uses two different methods to indicate the chance of precipitation for a specific area: numerical or in non-numerical terms. The "Expression of Uncertainty" category is used for widespread precipitation and the "Equivalent Areal Coverage" for convective (i.e., showery) events. Below is a table of these two methods with the corresponding POP.

POP	Expression of Uncertainty	Equivalent Areal Coverage
0%	None Used	None Used
10%	Slight Chance (seldom used)	Isolated or few
20%	Slight Chance	Widely Scattered
30-50%	Chance	Scattered
60-70%	Likely	Numerous
80-100%	None Used	None Used

There are other qualifying terms which are used with the above non-numerical expressions. For example:

For duration - brief, occasional, intermittent, frequent.

For intensity - very light, light, heavy, very heavy.

VERY LIGHT	less than .01 inches
LIGHT	.01 to .10 inch per hour
MODERATE	.10 to .30 inch per hour
HEAVY	.30 inch per hour

Wind Direction and Speed Terminology

A forecast wind (direction and speed) is included in the first two periods of the forecast. The wind is included in the third and/or fourth period if considered significant.

1. Wind direction is the direction where the wind is coming FROM and is based on an 8-point compass (NE, E, SE, etc.). Light wind (usually 5 mph or less) will be handled in the following ways:

LIGHT SOUTH WINDS (if direction is known),
LIGHT AND VARIABLE WINDS, or
LIGHT WINDS (where "light" implies a variable wind direction).

2. Wind speed will be given in miles per hour. Following is a list of terms sometimes used to describe the wind speed.

Speed range	Terms
0-5 mph	Light or Light and Variable
5-15 mph	None used
15-25 mph	Breezy (usually for mild weather) Brisk (usually for cold weather)
20-30 mph	Windy
30-40 mph	Very Windy
40 mph or greater	Strong, Damaging, Dangerous, High

Note: A forecast can contain a peak wind speed in gusty situations. For example, "NORTHWEST WIND 20 TO 30 MPH WITH OCCASIONAL GUSTS TO 40 MPH.")

Terminology of Temperature

Numerical temperature values are represented in NWS forecasts in four ways:

1. "Near," "around," or "about" a specific value rounded to the nearest five zero. Above 100°F or below 10°F, any number will be used. For example:

NEAR 40, AROUND 15, ABOUT 85, or NEAR 106.

2. A general range where the terms are defined by the following:

LOWER 50's	(50 - 54)
MID 50's	(53 - 57)
UPPER 50's	(56 - 59)
50's	(50 - 59)

- A specific range rounded to the nearest five or zero (except ranges below 10°F or above 100°F, any number may be used). For example, 70 to 75 or 102 to 108.
- Specific numbers for site-specific locations: "Tri-State Area - 70/50/72".

Sky Cover Terminology

Term	Opaque Coverage	Aviation
Clear or Sunny	< 1/10	Clear
Mostly Clear/Mostly Sunny	1/10 to 2/10	Scattered
Partly Cloudy/Partly Sunny	3/10 to 6/10	Scattered
Mostly Cloudy	7/10 to 8/10	Broken
Cloudy	9/10 to 10/10 opaque clouds	Overcast

Wind Chill Index

The wind chill index provided below shows the effective cooling on exposed skin. When the wind blows across the skin, it removes the insulating layer of warm air adjacent to the skin. When all factors are the same, the faster the wind blows, the greater the heat loss, which results in a colder feeling.

		Temperature (° F)															
		35	30	25	20	15	10	5	0	-5	-10	-15	-20	-25	-30	-35	-40
Wind Speed	mph																
W	5	32	27	22	16	11	6	0	-5	-10	-15	-21	-26	-31	-36	-42	-47
I	10	22	16	10	3	-3	-9	-15	-22	-27	-34	-40	-46	-52	-58	-65	-71
N	15	16	9	2	-5	-11	-18	-25	-31	-38	-45	-51	-58	-65	-72	-78	-85
D	20	12	4	-3	-10	-17	-24	-31	-39	-46	-53	-60	-67	-74	-81	-88	-95
	25	8	1	-7	-15	-22	-29	-36	-44	-51	-59	-66	-74	-81	-88	-96	-103
S	30	6	-2	-10	-18	-25	-33	-41	-49	-56	-64	-71	-79	-86	-93	-101	-109
P	35	4	-4	-12	-20	-27	-35	-43	-52	-58	-67	-74	-82	-89	-97	-105	-113
E	40	3	-5	-13	-21	-29	-37	-45	-53	-60	-69	-76	-84	-92	-100	-107	-115
E	45	2	-6	-14	-22	-30	-38	-46	-54	-62	-70	-78	-85	-93	-102	-109	-117

Heat Index

The NWS has devised the "Heat Index" (HI), sometimes called the "apparent temperature." The HI is the temperature the body feels when the heat and humidity are combined. The table below is the Heat Index Chart. (Note: This chart is based upon shady, light wind conditions. Exposure to full sunshine can increase HI values by up to 15° F.)

		Relative Humidity (%)																				
		0	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100
TEMPERATURE	120	107	111	116	123	130	139	148														
	115	103	107	111	115	120	127	135	143	151												
	110	99	102	105	108	112	117	123	130	137	143	150										
	105	95	97	100	102	105	109	113	118	123	129	135	142	149								
	100	91	93	95	97	99	101	104	107	110	115	120	126	132	138	144						
91	95	87	88	90	91	93	94	96	98	101	104	107	110	114	119	124	130	136				
	90	83	84	85	86	87	88	90	91	93	95	96	98	100	102	106	109	113	117	122		
	85	78	79	80	81	82	83	84	85	86	87	88	89	90	91	93	95	97	99	102	105	
80	80	108	73	74	75	76	77	77	78	79	79	80	81	81	82	83	85	86	86	87	88	89
	75	69	69	70	71	72	72	73	73	74	74	75	75	76	76	77	77	78	78	79	79	
70	64	64	65	65	66	66	67	67	68	68	69	69	70	70	70	70	71	71	71	71	71	72

Heat Index and Possible Heat Disorders

- 80°F to 90°F: Fatigue possible with prolonged exposure and/or physical activity.
- 90°F to 105°F: Sunstroke, heat cramps and heat exhaustion possible with prolonged exposure and/or physical activity.
- 105°F to 130°F: Sunstroke, heat cramps, or heat exhaustion likely, and heatstroke possible with prolonged exposure and/or physical activity.
- 130°F or greater: Heat stroke/sunstroke highly likely with continued exposure.