Event	100m	200m	400m	500m	800m	1000m	1500m	Mile	2000m	3000m	2M	4000m	3M	5000m
Time	22.1	44.2	1:32.3	2:00.4	3:22.7	4:25.0	6:57.5	7:29.6	9:30.1	14:53.2	15:59.5	20:20.4	25:01	25:58
Pace/Mile	--	--	--	--	--	--	--	--	7:38.7	7:59.1	7:59.7	8:11.0	8:20	8:21
Pace/K	--	--	--	--	--	--	4:38.4	4:39.4	4:45.0	4:57.7	4:58.1	5:05.1	5:11	5:12

Event	4M	8000m	5M	10K	15K	10M	20K	13.1M	15M	25K	30K	20M	25M	Marathon
Time	33:57	42:47	43:01	53:56	1:23:34	1:30:22	1:53:43	2:00:00	2:18:24	2:24:27	2:55:42	3:10:01	3:59:32	4:13:05
Pace/Mile	8:30	8:36	8:36	8:40	8:58	9:02	9:10	9:10	9:14	9:18	9:26	9:30	9:34	9:40
Pace/K	5:17	5:21	5:21	5:23	5:34	5:37	5:42	5:42	5:44	5:47	5:52	5:54	5:57	6:00

Endurance Workouts	Pace/Mile	Pace/K
Recovery Jogs	11:10 to 11:40	6:56 to 7:15
Long Runs	10:10 to 11:10	6:19 to 6:56
Easy Runs	10:10 to 10:40	6:19 to 6:38

Stamina Workouts		Pace/Mile	Pace/K
Steady-State Runs		9:10 to 9:26	5:42 to 5:52
Tempo Runs		8:47 to 9:10	5:28 to 5:42
Tempo Intervals		8:40 to 8:58	5:23 to 5:34
		Time/Interval	
Cruise Intervals	(mile)	8:36 to 8:47	
	(1200m)	6:25 to 6:33	
	(1000m)	5:21 to 5:28	
	(800m)	4:16 to 4:22	
	(600m)	3:12 to 3:17	
	(400m)	2:08 to 2:11	

Key	m = meters	M = miles	K = kilometers

Speed Workouts		
	Middle Distance Runners	Long Distance Runners
400m	1:51.8 to 1:56.5	1:54.0 to 2:00.6
800m	3:48.0 to 3:58.5	3:58.2 to 4:09.3
1000m	4:57.7 to 5:11.6	5:05.1 to 5:16.8
1200m	5:57.7 to 6:13.9	6:06.1 to 6:24.7
1600m	8:08.1 to 8:26.9	8:18.5 to 8:36.9
2000m	10:23.1 to 10:41.1	10:33.6 to 10:46.1

Sprint Workouts		
	Middle Distance Runners	Long Distance Runners
100m	23.1 to 25.3	24.1 to 26.5
200m	48.2 to 53.0	49.4 to 54.3
300m	1:12.3 to 1:23.5	1:14.1 to 1:24.5
400m	1:41.4 to 1:52.7	1:46.0 to 1:54.0
600m	2:38.9 to 2:51.0	2:47.0 to 2:54.8

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What is an Equivalent Performance?

When I say "Equivalent Performance", I mean what would be an equivalent race time at one race distance based on your recent race time at another distance. For example, if you run 31:24 for 10K, you might wonder what you could run for a 5K or for the marathon or for a 30K or 15K. Using my Running Calculator, you'll now know. Of course, I must say that these are "estimates" of what you can run. Actual results will vary depending on the course, the weather, if it's your day or not and a myriad of other factors. However, I think you'll find that within a small variation, these estimates are accurate. (Do keep in mind that a 5K runner is unlikely to run the equivalent time in the marathon off of 5K training. The runner would obviously need to train for the marathon to accomplish this equivalent time.)

Naturally, knowing what you could run at an upcoming race based on a recent performance can help take the guesswork out of your race planning. You'll be able to set more realistic race goals and judge an appropriate race pace better. The results are performances that are more consistent and fewer crappy races.

The Link with Optimal Training Paces

The second, and I think most important function, of the Calculator is that it also calculates your Optimal Training Paces. As was discussed in the last section, there are certain specific race paces that govern certain training zones. And as you'll find out in the information below, you can even break these training zones down into specific types of workouts which have even more defined training pace ranges for optimal development. So included in the Equivalent Performance calculations is your Optimal Training Pace ranges.

Believe me, this will really take the guesswork out of your training and give you the confidence that every time you lace up your shoes, you are doing the best training possible to make you faster. The challenge is simply to be patient, obey the optimal training pace zones and sit back and wait for the adaptations to occur.

How to read it

In your hands is now complete information on your optimal training paces and on what you can expect to run at different distances based on your current fitness level. Across the top row is listed your equivalent performance for distances of 100m to 5000m or 5K (see sample below). Underneath, where applicable, is listed the pace per mile for each distance. This will be helpful in planning your pacing strategy for upcoming races. A couple of more rows down lists equivalent performances for distances ranging from 4000m to the marathon with the corresponding pace per mile also listed.

Event	100m	200m	400m	500m	800m	1000m	1500m	Mile	2000m	3000m	2M	4000m	3M	5000m
Time	22.1	44.2	1:32.3	2:00.4	3:22.7	4:25.0	6:57.5	7:29.6	9:30.1	14:53.2	15:59.5	20:20.4	25:01	25:58
Pace/Mile	--	--	--	--	--	--	--	--	7:38.7	7:59.1	7:59.7	8:11.0	8:20	8:21
Pace/K	--	--	--	--	--	--	4:38.4	4:39.4	4:45.0	4:57.7	4:58.1	5:05.1	5:11	5:12

Event	4M	8000m	5M	10K	15K	10M	20K	13.1M	15M	25K	30K	20M	25M	Marathon
Time	33:57	42:47	43:01	53:56	1:23:34	1:30:22	1:53:43	2:00:00	2:18:24	2:24:27	2:55:42	3:10:01	3:59:32	4:13:05
Pace/Mile	8:30	8:36	8:36	8:40	8:58	9:02	9:10	9:10	9:14	9:18	9:26	9:30	9:34	9:40
Pace/K	5:17	5:21	5:21	5:23	5:34	5:37	5:42	5:42	5:44	5:47	5:52	5:54	5:57	6:00

Again, I should point out that these are estimates of what you can run for other distances. As you know, terrain, weather and simply if you're "on" or not can affect your final time. But, I think you'll agree that having a close estimate makes race planning and goal setting much, much easier. Over the past several years, I've had many athletes evaluate these estimates based on their real world performances and think you'll find that each equivalent is accurate.

Really for fun more than anything else, I've listed equivalent performance for distances you probably will never run, the 100m, 200m, 400m and 500m. While I've had a lot of success with equivalent performances at distances from 800m to the marathon, these shorter distances are just educated guesses. After all, it's likely that your genetic endowment of fast-twitch fibers plays a greater role in your pure sprinting ability than any training that you do. But hey, it's fun to think about your sprinting speed.

Underneath the equivalent performances are listed four boxes: Endurance Workouts, Stamina Workouts, Speed Workouts and Sprint Workouts. These boxes contain the optimal training pace range for each of the key workouts that I recommend. No more guesswork as to the proper pace for your best training and racing. Just look up the workout and read across to find the fastest and slowest paces you should run to receive optimal training results.

For the Endurance Workouts box (sample below), I've listed the optimal pace ranges for three types of workouts: recovery jogs, long runs and easy runs. Remember in an earlier section where we defined the parameters for ideal Endurance zone training? Well, here it is specific to you and your current fitness level. Just keep your pace in the appropriate range for the workout you're doing and the results will amaze you.

Endurance Workouts	Pace/Mile	Pace/K
Recovery Jogs	11:10 to 11:40	6:56 to 7:15
Long Runs	10:10 to 11:10	6:19 to 6:56
Easy Runs	10:10 to 10:40	6:19 to 6:38

Like the Endurance Workouts box, the appropriate pace ranges for the three other training zones are listed (see samples below). In addition, I've given a breakdown into appropriate paces for varying distances of repeats so if you're doing a variety of different repeats then you know exactly what times you should run. For example, if you are doing a Speed workout of 1200m, 2 x 800m and 4 x 400m then you simply need to look for those repeat distances within the Speed workouts box. This will give you a goal time range for each of these distances. The same goes for some of the stamina workouts and the sprint workouts.

Stamina Workouts		Pace/Mile	Pace/K
Steady-State Runs		9:10 to 9:26	5:42 to 5:52
Tempo Runs		8:47 to 9:10	5:28 to 5:42
Tempo Intervals		8:40 to 8:58	5:23 to 5:34
		Time/Interval	
Cruise Intervals	(mile)	8:36 to 8:47	
	(1200m)	6:25 to 6:33	
	(1000m)	5:21 to 5:28	
	(800m)	4:16 to 4:22	
	(600m)	3:12 to 3:17	
	(400m)	2:08 to 2:11	

Speed Workouts		
	Middle Distance Runners	Long Distance Runners
400m	1:51.8 to 1:56.5	1:54.0 to 2:00.6
800m	3:48.0 to 3:58.5	3:58.2 to 4:09.3
1000m	4:57.7 to 5:11.6	5:05.1 to 5:16.8
1200m	5:57.7 to 6:13.9	6:06.1 to 6:24.7
1600m	8:08.1 to 8:26.9	8:18.5 to 8:36.9
2000m	10:23.1 to 10:41.1	10:33.6 to 10:46.1

Also, note that there are two categories for the Speed and Sprint Workout boxes. One for middle-distance runners and one for long-distance runners. I've found that these two types of runners need slightly different pace ranges for optimal training. If you're a speedy runner moving up to longer distances, it's likely that the middle-distance pace ranges will work best for you. The longer the run the better for you? Then stay with the long-distance ranges for maximum benefit.

Finally, it's important to note that there is an optimal pace "range" not just one target time. This takes into affect your day-to-day performance variations, meaning that if you feel "on" one day you may run near the fast end of the range while if you feel sluggish, you may run near the slow end. As long as you stay in the listed pace range, you're training optimally.

I always suggest that during your first few workouts just shoot for the slow end of the range. Training too fast, too soon is the quickest way to failure. As you do more and more workouts, you should find that the same effort level results in faster and faster times until you are running at the fast end of the range. If the slow end feels too fast or the fast end feels too slow, then it's likely that you are in worse or better shape than the race performance you entered in the calculator. Another race might help refine your estimates of your current fitness level.