

# The Numbers of Training

## Data Collection & Utilization in Predictive Periodization

### How Do I Put My Data to Work?

Scott "Coach Scott" Murphy

"Self-perception of high  
expertise increases  
closed-mindedness."

- Victor Ottatia, Loyola University

*(AKA: I already know it all)*

# You Are The Expert

You are already good at what you do, now let's help you get more out of the time you already spend on your teams.

## How Do I Use My Data?

### **Training Targets**

Use recent data to set targets for practice sessions.

### **Practice Adaptation**

Grade yourself, and adapt practices based on reality.

### **Competition Goals**

Predict with training results and competition history.

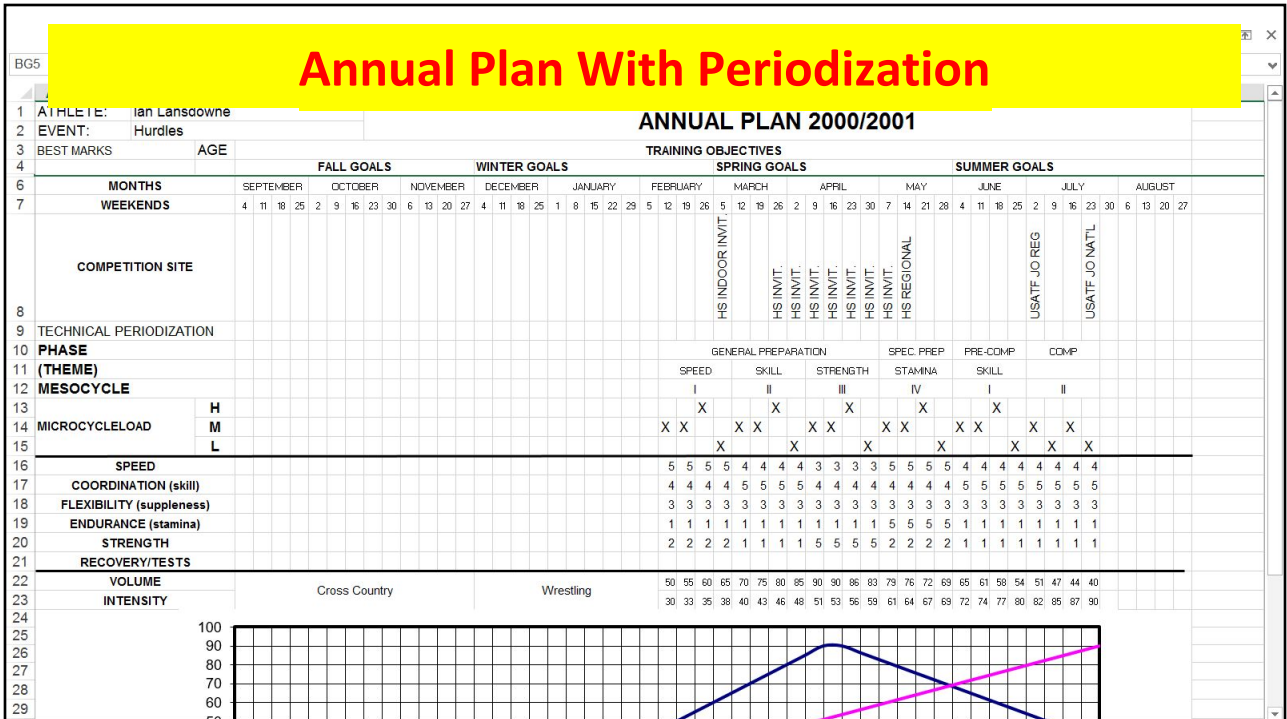
### **Long Range Planning**

Season comparisons allow us to plan for growth.

# Training Targets

Use recent data to set targets for practice sessions.

- Track improvement to set better target times.
- Compare across distances to find strengths.
- Compare across reps for strength metrics.
- Compare athlete performances for placement.



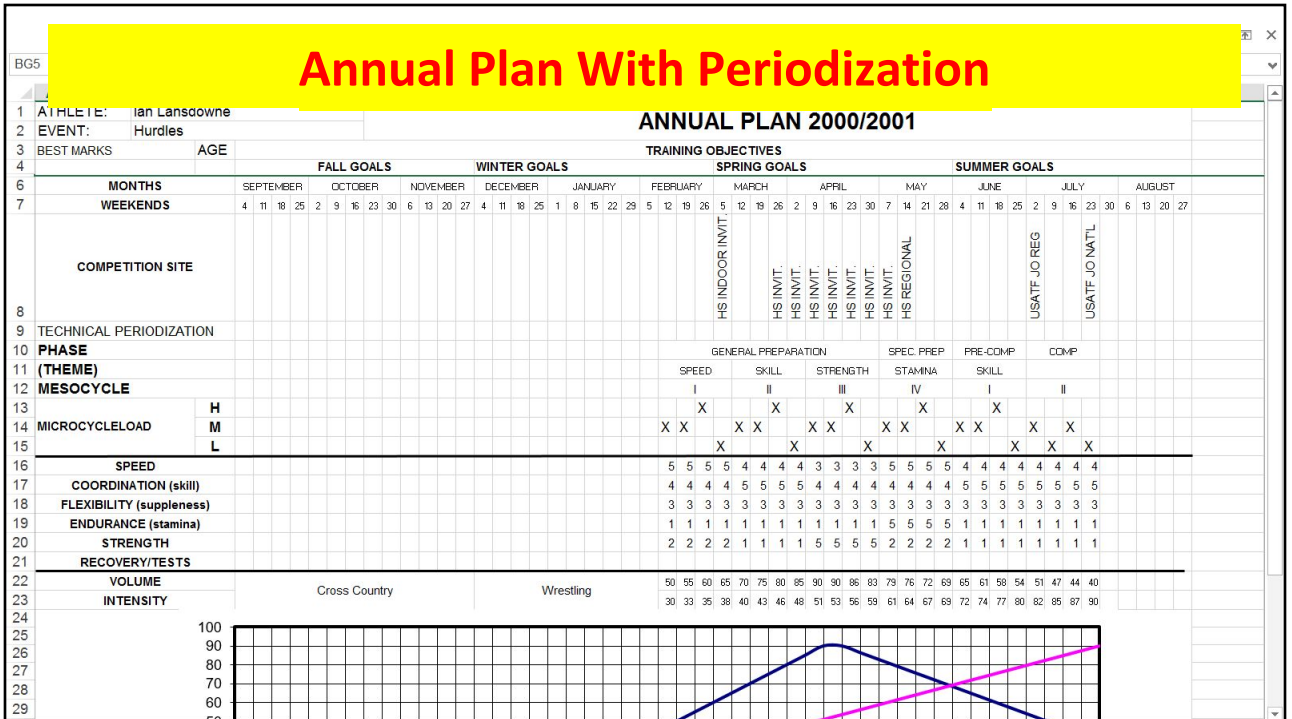
	A	B	C	D	E	F	G	H	I	J	K	L	P	Q	R	S
2						400	800	1200	1600	2000	2400	2800				0.0503
3	<b>Practice Session Data</b>															
5	VIII	Auslander	18:32	05:47	01:00	01:08	01:15	01:17	01:21	01:19	01:19	01:12	1:18	0:04	1:16	1
6						01:18	01:21	01:20	01:20	01:21	01:23	01:14	04	2	0:02	
7	Santi	Turon	18:59	05:55	01:10	01:04	01:20	02:00	01:49	01:44	01:36	01:26	1:25	0:16	1:21	3
8						01:14	01:17	01:16	01:14	01:20	01:20	01:07	16	4	0:04	
9	Nevan	Norrell	21:02	06:34	01:17	01:17	01:20	01:16	01:20	01:24	01:23	01:14	1:20	0:04	1:18	2
10						01:22	01:22	01:24	01:23	01:25	01:24	01:09	04	2	0:02	
11	Johann	Lopez	21:39	06:45	01:19	01:20	01:21	01:21	01:23	01:24	01:24	01:19	1:23	0:02	1:21	4
12						01:23	01:23	01:25	01:25	01:26	01:25	01:20	02	1.4	0:01	
13	Nick	Wieczorek	24:34	07:40	01:30	01:21	01:30	01:31	01:35	01:31	01:33	01:33	1:32	0:07	1:30	5
14						01:37	01:37	01:37	01:39	01:36	01:38	01:13	07	2.6	0:03	
15	Omeka	Bhatia	26:03	08:07	01:35	01:33	01:34	01:32	01:37	01:35	01:46	01:38	1:38	0:05	1:36	7
16						01:47	01:43	1:43.0	01:39	1:42.0	01:45	01:31	05	2.2	0:02	
17	John	Morris	26:19	08:12	01:36	01:34	01:34	01:31	01:34	01:33	01:33	01:37	1:36	0:04	1:34	6

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S
1	<b>"Distance Factors" Spreadsheet (conversions)</b>																		
3	KNOWN DIST:	1609																2	3218.69
4																		3	4828.03
5	KNOWN TIME:	258.00																4	6437.38
6								0.286705	0:01:00.0									5	8046.72
7	DESIRED DIST.:	5000							0:03:29.3									6	9656.06
8																		7	11265.41
9	ESTIMATED TIME:	899.88																3.1	4988.97
10		14 59.88																6.2	9977.93
11																		8	12874.75
12																		9	14484.10
13																		10	16093.44

# Practice Adaptation

Grade yourself, and adapt practices based on reality.

- Compare expectations to reality - and adjust.
- Compare peaking strategies for success.
- Include strength and cross training measures.
- Measure intangibles (complaints, indifference).



20160915	3.21	16.37	400	800	1200	1600	2000	2400	2800	6000	6400	6800
ATHLETES	304	400	418	219	310	411	512	613	714	15	16	17

## Ranking Data and/or Course Comparison

Name	Partner	Time	06:34	01:17	1:14	1:17	1:16	1:14	1:20	1:20	1:17			
Nevan	Norrell	21:02	06:34	01:17	1:14	1:17	1:16	1:14	1:20	1:20	1:17			
Johann	Lopez	21:39	06:45	01:19	1:22	1:22	1:21	1:23	1:25	1:24	1:09			
Nick	Wieczorek	24:34	07:40	01:30	1:22	1:23	1:25	1:25	1:26	1:25	1:20			
Omeka	Bhatia	26:03	08:07	01:35	1:31	1:30	1:31	1:35	1:31	1:33	1:33			
John	Morris	26:19	08:12	01:36	1:37	1:37	1:37	1:39	1:36	1:38	1:13			
Alex	Wieczorek	28:57	09:02	01:46	1:33	1:34	1:32	1:37	1:35	1:46	1:38			
Andrea	Mojica	28:58	09:02	01:46	1:47	1:43	1:43	1:39	1:42	1:45	1:31			
Eduardo	Alvear	31:25	09:48	01:55	1:39	1:35	1:42	1:38	1:40	1:45	1:32			
Benjamin	Kuehler	35:05	10:56	02:09	1:36	1:37	1:39	1:45	1:47	1:43	1:40			
					1:46	1:44	1:50	1:42	1:42	1:50	1:34			
					1:43	1:40	1:49	1:58	1:58	2:05	2:06			
					2:10	2:18	2:24	2:08	2:12	2:21	1:48			
					2:09	2:10	2:20	2:31		2:20	2:42			
					2:50	2:51	2:29	2:39	2:42	2:48	1:59			
					1:29	1:25								

05 2:10 3:1

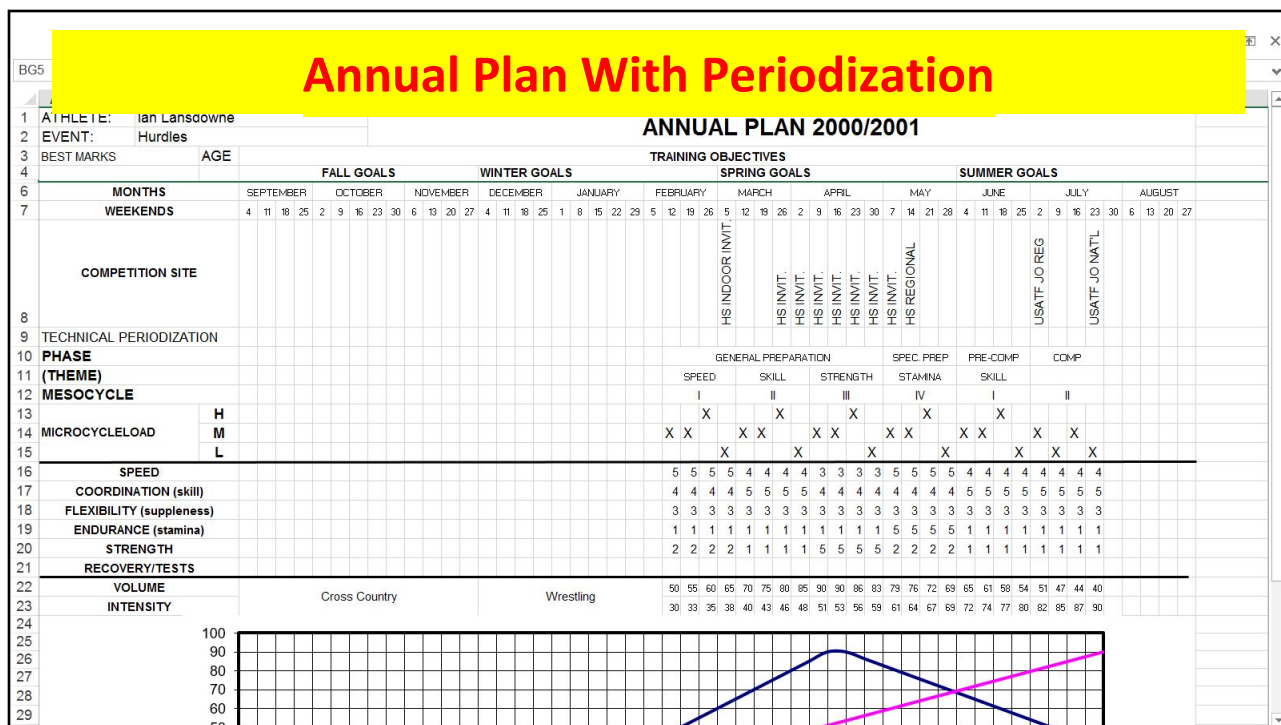
## Ranking Data and/or Course Comparison

Santi	Turon	1:08	2:29	5:45	18:59	2:32		22:13	600
<del>Nevan</del>	<del>Norrell</del>	<del>1:16</del>	<del>2:46</del>	<del>6:22</del>	<del>21:02</del>				
<del>Johann</del>	<del>Lopez</del>	<del>1:17</del>	<del>2:50</del>	<del>6:33</del>	<del>21:39</del>				
Nick	Wieczorek	1:30	3:20	7:41	25:22	2:59		31:27	600
John	Morris	1:34	3:27	7:58	26:19	3:20		25+4	
Omeka	Bhatia	1:35	3:30	8:04	26:38	3:10		31:32	600
Andrea	Mojica	1:43	3:48	8:46	28:58	3:34	(5:30)	25+3	
Alex	Wieczorek	1:49	4:00	9:14	30:30	3:26		25+2	
<del>Sadie</del>	<del>Shah</del>	<del>1:56</del>	<del>4:16</del>	<del>9:51</del>	<del>32:32</del>				

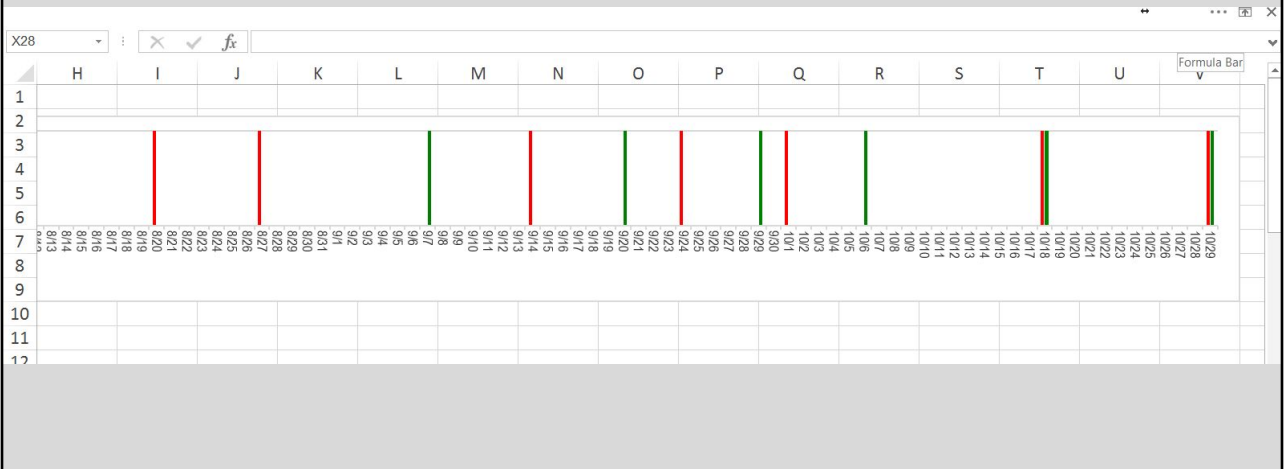
# Competition Goals

Predict with training results and competition history.

- Compare similar workouts for improvement.
- Compare training to competition for value.
- Use performance trends to set goals.
- Use meet data for athlete scheduling.



# Visual Calendar (SEE when competitions occur)



# Elite Performance Averaging (formula building)

23	1.150	12.31	12.31	12.31	1.150									
24	Elite Performance Averaging (formula building)													
25														
26														
27	<b>MEN</b>	<b>WOMEN</b>					00:11.6							
28	1.000	1.000			00:14.8	00:11.6	1							
29	1.003	1.014			00:29.7	00:23.3	2							
30	1.108	1.131			01:05.1	00:51.4	4							
31	1.296	1.341				02:00.3	8							
32	1.406	1.459				04:20.9	16							
33	1.509	1.553				09:20.2	32							
34	1.197	1.150												
35	1.199	1.235												
36														
37														
38														
39	<b>MEN</b>	<b>WOMEN</b>	<b>RATE</b>	<b>RATE</b>	<b>RATE</b>	<b>sin</b>	<b>sin/2</b>	<b>tan</b>	<b>1-cos</b>	<b>(1-cos)^2</b>	<b>AVG</b>	<b>EST</b>		
40	1.000	1.000	1.000	0	1	0	0.000	1.55741	1.000	1.000	1.000	1.000		
41	1.003	1.014	1.148	0.301	2	0.2965	0.148	-2.18504	0.852	0.725	1.009	0.009	1.407	
42	1.108	1.131	1.283	0.602	4	0.56634	0.283	1.15782	0.717	0.514	1.120	0.111	1.735	
43	1.296	1.341	1.393	0.903	8	0.78524	0.393	-6.79971	0.607	0.369	1.319	0.199	1.718	
44	1.406	1.459	1.462	1.176	15	0.92311	0.462	-0.85599	0.538	0.290	1.433	0.114	1.153	
45	1.509	1.553	1.498	1.477	30	0.99562	0.498	-6.40533	0.502	0.252	1.531	0.098	0.132	

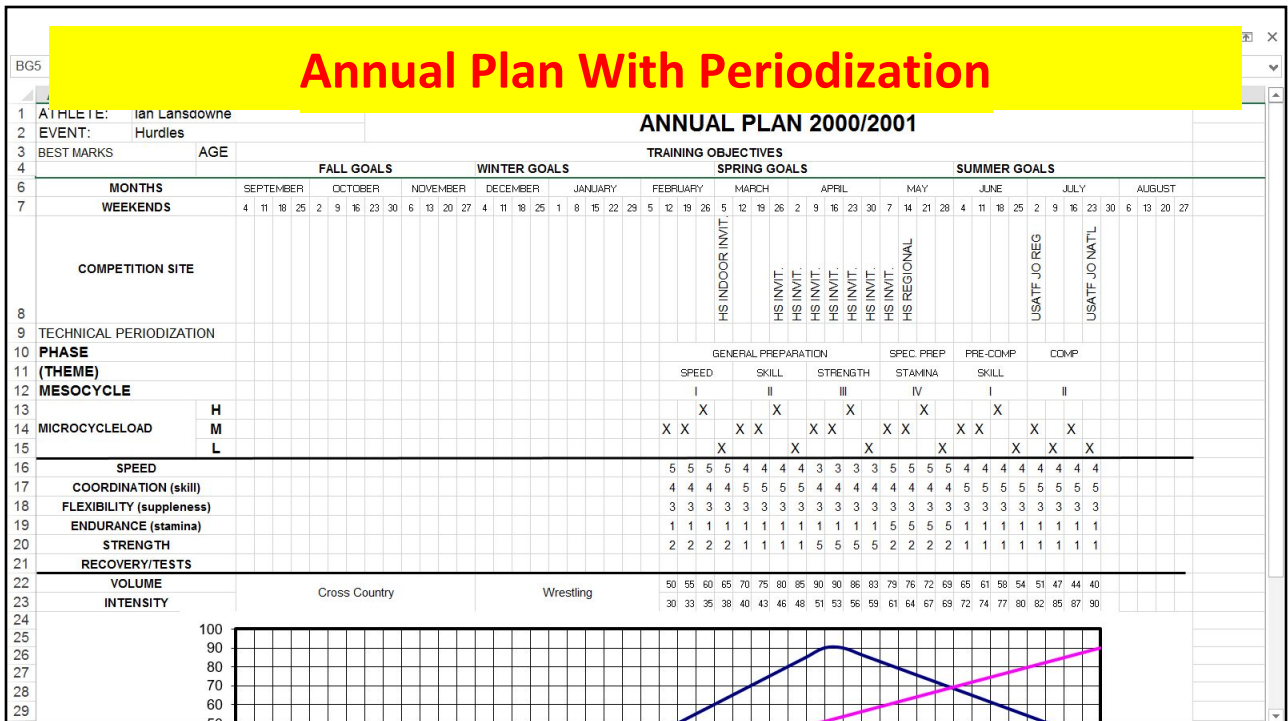




# Long Range Planning

Season comparisons allow us to plan for growth.

- Compare athletes season-by-season.
- Compare event groups to find trends.
- Compare meets for a productive schedule.
- Compare peaking for effective coaching.





# Personal Observations by Others

Fauquier Sarah Bowman of Fauquier indicated fully well that she wants to be the top middle distance runner in the state with her outstanding performance at the East Coast Invitational where she won the 1600 in 5:11 and 1000 in 3:05, showing she could very well be already in sub 5 minute shape for the 1600 and sub 3 for the 1000 as she earned athlete of the week honors.



## Athletics Prime Athlete Data Form

This form is intended to streamline the process of collecting the information needed to contact schools, coaches, and/or representatives on your behalf. Please complete this form as completely and accurately as possible.

# Athlete Data Form (pre-season)

### Personal Information

First: \_\_\_\_\_ Middle: \_\_\_\_\_ Last: \_\_\_\_\_  
 F  M DOB: \_\_\_\_\_  
 Graduation: \_\_\_\_\_ E-mail: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Alt. Phone: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 Address 2: \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ ZIP: \_\_\_\_\_

### Athletic Information

**Running Events** (please use MM:SS.00 format - 10:15.10, 10.66, etc.)  
In Open/HS distances, circle the distance that applies to the listed time.

40m: \_\_\_\_\_ 55m: \_\_\_\_\_ 100m: \_\_\_\_\_ 200m: \_\_\_\_\_  
 300m: \_\_\_\_\_ 400m: \_\_\_\_\_ 500m: \_\_\_\_\_ 800m: \_\_\_\_\_  
 1000m: \_\_\_\_\_ 1500/1600m: \_\_\_\_\_ 3000/3200m: \_\_\_\_\_ 5000m: \_\_\_\_\_  
 55/60m HH: \_\_\_\_\_ HH: \_\_\_\_\_ 400/300m H: \_\_\_\_\_ 5000m XC: \_\_\_\_\_  
**Relays:** List leg/split (ex: 1/54.8, or 4/2:06.3)  
 400m R: \_\_\_\_\_ 800m R: \_\_\_\_\_ 1600m R: \_\_\_\_\_ 3200m R: \_\_\_\_\_

### Field Events

Discus: \_\_\_\_\_ Long Jump: \_\_\_\_\_ High Jump: \_\_\_\_\_ Pole Vault: \_\_\_\_\_  
 Shot Put: \_\_\_\_\_ Triple Jump: \_\_\_\_\_ Javelin: \_\_\_\_\_ Hammer: \_\_\_\_\_

PreSeason Testing/Eval																	Evaluators:		
PreSeason Testing and Evaluation																			
G	C	Athlete	SLJ	STJ	5 DLH	OHB	BLF	30m F	SBT	Vrch	VJ	Vert	800a	800b	AVG	REC	Didx		
													03:39.0	03:47.0	03:43.0	96.48%	03:51.		
			SLJ Standing Long Jump STJ Standing Triple Jump 5 DLH 5 Double-leg hops (continuous, measure start to finish) OHB BLF Between the Legs forward medicine ball throw 30m F Flying 30m sprint (15-25m acceleration before starting line) SBT Softball throw Vrch Vertical Reach																

TIME	ATHLETE	MEET	DATE	RANK	TIME	ATHLETE	MEET
Program Historical Data (All-Time List)							
24:53.0	Barton, Amanda	GISA State Championships	10/30/2010	4	19:54.3	Terns, Carl	North Georgia Championships
25:13.1	Cisco, Christine	LCA Lions' Prowl	10/15/2011	5	20:28.3	Price, Jacob	LCA Lions' Prowl
25:56.5	Moss, Shelby	GISA State Championships	10/30/2010	6	20:31.9	Scott, Wells	GISA State Championships
25:59.9	Baker, Christy	GISA State Championships	10/27/2012	7	20:38.2	Glassman, David	GISA State Championships
26:14.9	Jarrett, Shelby	GISA State Championships	10/30/2010	8	20:50.4	Swars, Christopher	GISA State Championships
26:38.4	Bhatia, Omeka	Morgan County's Rick Boullis Inv.	9/7/2016	9	21:01.9	Norrell, Nevan	North Georgia Championsh
27:35.4	McAuley, Maddy	GISA State Championships	10/31/2015	10	21:19.0	McCullough, Sebastian	CCS Knights Invitational (G
27:41.4	Shah, Sadie	GISA State Championships	10/25/2014	11	21:22.0	Joseph, Samson	GISA State Championships
27:59.5	McCullough, Paxton	GISA State Championships	10/31/2015	12	21:39.4	Lopez, Johann	North Georgia Championsh
28:58.0	Mojica, Andrea	Morgan County's Rick Boullis Inv.	9/7/2016	13	21:56.9	Smith, Ford	Stratford Invitational
29:26.2	Ramos, Balbina	GISA State Championships	10/29/2011	14	22:09.7	Kurian, Chris	LCA Lions' Prowl
29:27.2	Christian, Malia	GISA State Championships	10/25/2014	15	22:13.8	Rhyme, Chad	GISA State Championships
31:19.9	Gallegos, Emily	GISA State Championships	10/30/2010	16	22:17.6	Reyes, Carlos	Dominion Dash
32:05.8	Curtis, Erin	GISA State Meet	10/31/2009	17	22:52.2	Barks, Tucker	GISA State Championships
33:34.8	Kurian, Crystal	Stratford Invitational	9/19/2011	18	23:00.7	Moore, Zach	Loganville Christian Acaden
34:34.0	Morgan, Andrew	Stratford Invitational	9/19/2011	19	23:36.0	Ohana, Michael	CCS Knights Invitational (G
35:18.0	Flores, Arianna	Trinity Cross Country Invitational	9/20/2014	20	23:36.1	Krunkosky, T.j.	Loganville Christian Acaden
35:26.4	Gallo, Isabella	LCA Home Cross Country Meet #1	8/24/2013	21	24:08.0	Gneidina, Daniel	GISA State Chamionships

# How Do I Use My Data?

## **Training Targets**

Use recent data to set targets for practice sessions.

## **Practice Adaptation**

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## **Competition Goals**

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## **Long Range Planning**

Season comparisons allow us to plan for growth.

# You Are The Expert

You are already good at what you do, now be courageous enough to become even better.

Plan, execute, adapt.



# The Numbers of Training

## How Do I Put My Data to Work?

**Scott Murphy**  
scott@smartwork.net