

First off: The top finisher for each rank goes to the Golden Eagle Finals, Saturday February 6 at New Mark Middle School (515 NE 106th Street, KC, MO 64155). Those are:

Tiger: Jacob Caylor - Wild Kratt

WEBELOS I: Benji Mitchell - Blue Burrito

WEBELOS II: Jacob Laake - The Outstanding Squirrel

Ok, now on to the race info. First off, the last Run of the Cub Primaries had to be rerun due to odd results. I wanted to understand what went wrong, in case there was a problem with my program (spoiler - procedural issue). Looking at the **13** results logged during the cub primary races (should be 12).... It didn't take long to spot the problem. Look at the times on the highlighted row, below. All 9+ seconds. Once the track timer exceeds 9.999 seconds, it keeps showing 9's. I *think* it just keeps rolling over from 9.999 to 9.0, not sure. The point is, these cars have been running between 2.8 and 4.1 seconds, not 9+!! The only way for this to happen is if we started a Run when the red light on the laser gate was not lit:

- 1) Track timer reset after prior run. This turns on the red light at the start laser gate.
- 2) Laser was broken prior to the start of the run, starting the track timer and turning off the red light at the start laser gate.
- 3) Some time later, the run was started, finishing 10+ seconds after the laser was first tripped.
- 4) Computer receives track results after the last lane detects a car at the finish line.

Side note: I just noticed I'm logging the date/time twice. The part the track sends back to the computer starts with "A=...".

2016-01-23 18:16:46,709	2016-01-23 18:16:46.709231:A=3.119	B=2.850!	C=2.999	D=4.031	E=3.019	F=2.968
2016-01-23 18:20:05,927	2016-01-23 18:20:05.927623:A=2.919!	B=3.373	C=2.926	D=3.594	E=3.047	F=3.371
2016-01-23 18:22:06,996	2016-01-23 18:22:06.996520:A=3.031	B=3.350	C=2.951	D=3.020	E=2.894!	F=3.165
2016-01-23 18:24:45,867	2016-01-23 18:24:45.866897:A=3.085	B=3.077	C=3.311	D=2.961!	E=3.623	F=3.082
2016-01-23 18:27:38,076	2016-01-23 18:27:38.076766:A=2.825!	B=2.913	C=3.185	D=2.917	E=3.459	F=2.960
2016-01-23 18:29:32,201	2016-01-23 18:29:32.201140:A=3.472	B=2.914!	C=3.113	D=3.281	E=2.980	F=2.978
2016-01-23 18:30:42,799	2016-01-23 18:30:42.799517:A=3.564	B=3.297	C=2.897!	D=3.124	E=2.920	F=3.097
2016-01-23 18:34:19,690	2016-01-23 18:34:19.690575:A=3.000	B=3.262	C=3.033	D=3.122	E=2.923!	F=2.979
2016-01-23 18:36:30,082	2016-01-23 18:36:30.081894:A=3.007!	B=3.144	C=3.104	D=3.026	E=3.375	F=3.459
2016-01-23 18:38:35,371	2016-01-23 18:38:35.371240:A=2.980	B=3.009	C=2.957!	D=3.017	E=3.176	F=3.736
2016-01-23 18:40:10,071	2016-01-23 18:40:10.071798:A=3.385	B=3.127!	C=3.503	D=3.156	E=3.195	F=3.155
2016-01-23 18:41:24,756	2016-01-23 18:41:24.756774:A=9.968	B=9.954	C=9.906	D=9.987!	E=9.991	F=9.971
2016-01-23 18:43:34,609	2016-01-23 18:43:34.609032:A=3.391	B=3.159	C=3.758	D=2.979!	E=3.054	F=3.036

I also confirmed the problem result's timestamp is the one not recorded in the Run times (good!), because we overwrote it with the next run (18:43) when we re-ran the Run.

```
select id, race_id, run_seq, run_completed, stamp from runner_run where race_id=2 order by stamp
3      2      1      1      2016-01-23 18:16:46.709231
4      2      2      1      2016-01-23 18:20:05.927623
5      2      3      1      2016-01-23 18:22:06.996520
6      2      4      1      2016-01-23 18:24:45.866897
7      2      5      1      2016-01-23 18:27:38.076766
8      2      6      1      2016-01-23 18:29:32.201140
9      2      7      1      2016-01-23 18:30:42.799517
10     2      8      1      2016-01-23 18:34:19.690575
11     2      9      1      2016-01-23 18:36:30.081894
12     2     10      1      2016-01-23 18:38:35.371240
13     2     11      1      2016-01-23 18:40:10.071798
14     2     12      1      2016-01-23 18:43:34.609032
```

Okay, now that that is settled (whew!), here are the race results. Race-level info first, then farther down are individual stats (by Race). Prepare thyself for information overload!

Race: Cub Primaries - Pack 4180's 2016 Pinewood Derby

Lanes in use: 6

Number of race participants: 12

Overall race stats:

Fastest run time: 2.825 seconds

Fastest run speed: 346 MPH

Average run time: 3.151 seconds

Average run speed: 313 MPH

Slowest run time: 4.031 seconds

Slowest run speed: 244 MPH

Standings + Racer averages:

Pack 4180's 2016 Pinewood Derby - Cub Primaries						
Race is 100% complete						
All	Tiger	Wolf	Bear	WEBELOS I	WEBELOS II	
Place	Racer	Name	Rank	Avg Time	MPH	Run count
1st	#12 - Blue burrito	Benji Mitchell	WEBELOS I	2.914	337 MPH	Complete!
2nd	#4 - Wild Kratt	Jacob Caylor	Tiger	2.942	334 MPH	Complete!
3rd	#3 - Pizza	Josh Quintero	WEBELOS I	2.961	332 MPH	Complete!
4th	#9 - The Outstanding Squirrel	Jacob Laake	WEBELOS II	2.977	330 MPH	Complete!
5th	#10 - Stewert	Luke Morrison	WEBELOS II	3.034	325 MPH	Complete!
6th	#2 - Xwing	Owen Leinen	WEBELOS I	3.039	324 MPH	Complete!
7th	#11 - Amazing red	Aidan Winnike	WEBELOS II	3.108	317 MPH	Complete!
8th	#8 - The Alien	Liam Jones	WEBELOS II	3.129	315 MPH	Complete!
9th	#7 - Spicy mobile	Avery Barnes	Tiger	3.217	307 MPH	Complete!
10th	#6 - Storm trooper	Christian Quintero	WEBELOS I	3.337	297 MPH	Complete!
11th	#1 - The batman	Zachery Quintero	Tiger	3.577	277 MPH	Complete!
12th	#13 - Doom buggy	Colt Russell	Tiger	3.577	277 MPH	Complete!

This matrix shows which lane each Racer ran on for each Run in the Cub Primaries Race. Next year we may run everyone on each lane twice. This is what district does for their finals. And on that note, the first place finisher in each rank will represent our pack in the Golden Eagle District finals. Note our old district (North Star) changed this year to Golden Eagle. They split up Clay and Platte counties into their own district.

Cub Primaries

Cub Primaries Racer Group

racer_ids=[1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 13]

0 0 0 0 0 0 0 1 1 1 1

Racer ID: 1 2 3 4 6 7 8 9 0 1 2 3

Run # 1c> - 3 - 6 - - 1 - 5 - 2 4

Run # 2c> 4 - 3 - 6 - - 1 - 5 - 2

Run # 3c> 2 4 - 3 - 6 - - 1 - 5 -

Run # 4c> - 2 4 - 3 - 6 - - 1 - 5

Run # 5c> 5 - 2 4 - 3 - 6 - - 1 -

Run # 6c> - 5 - 2 4 - 3 - 6 - - 1

Run # 7c> 1 - 5 - 2 4 - 3 - 6 - -

Run # 8c> - 1 - 5 - 2 4 - 3 - 6 -

Run # 9c> - - 1 - 5 - 2 4 - 3 - 6

Run #10c> 6 - - 1 - 5 - 2 4 - 3 -

Run #11c> - 6 - - 1 - 5 - 2 4 - 3

Run #12c> 3 - 6 - - 1 - 5 - 2 4 -

Lane-to-Run Result Matrix.

Race: Pack 4180's 2016 Pinewood Derby - Cub Primaries

Lane #	1	2	3	4	5	6
Run # 1:	8: 3.119	12: 2.85	2: 2.999	13: 4.031	10: 3.019	4: 2.968
Run # 2:	9: 2.919	13: 3.373	3: 2.926	1: 3.594	11: 3.047	6: 3.371
Run # 3:	10: 3.031	1: 3.35	4: 2.951	2: 3.02	12: 2.894	7: 3.165
Run # 4:	11: 3.085	2: 3.077	6: 3.311	3: 2.961	13: 3.623	8: 3.082
Run # 5:	12: 2.825	3: 2.913	7: 3.185	4: 2.917	1: 3.459	9: 2.96
Run # 6:	13: 3.472	4: 2.914	8: 3.113	6: 3.281	2: 2.98	10: 2.978
Run # 7:	1: 3.564	6: 3.297	9: 2.897	7: 3.124	3: 2.92	11: 3.097
Run # 8:	2: 3.0	7: 3.262	10: 3.033	8: 3.122	4: 2.923	12: 2.979
Run # 9:	3: 3.007	8: 3.144	11: 3.104	9: 3.026	6: 3.375	13: 3.459
Run # 10:	4: 2.98	9: 3.009	12: 2.957	10: 3.017	7: 3.176	1: 3.736
Run # 11:	6: 3.385	10: 3.127	13: 3.503	11: 3.156	8: 3.195	2: 3.155
Run # 12:	7: 3.391	11: 3.159	1: 3.758	12: 2.979	9: 3.054	3: 3.036
Min:	2.825	2.850	2.897	2.917	2.894	2.960
Avg:	3.148	3.123	3.145	3.186	3.139	3.166
Max:	3.564	3.373	3.758	4.031	3.623	3.736

Race: Wildcard Races - Pack 4180's 2016 Pinewood Derby

Lanes in use: 3

Number of race participants: 3

Overall race stats:

Fastest run time: 2.911 seconds

Fastest run speed: 337 MPH

Average run time: 3.053 seconds

Average run speed: 322 MPH

Slowest run time: 3.341 seconds

Slowest run speed: 296 MPH

Standings + Racer averages:

Pack 4180's 2016 Pinewood Derby - Wildcard Races						
Race is 100% complete						
All	Tiger	Wolf	Bear	WEBELOS I	WEBELOS II	
Place	Racer	Name		Rank	Avg Time	MPH
1st	#3 - Pizza	Josh Quintero		WEBELOS I	2.925	336 MPH
2nd	#10 - Stewert	Luke Morrison		WEBELOS II	3.006	327 MPH
3rd	#7 - Spicy mobile	Avery Barnes		Tiger	3.227	306 MPH

Matrix entries are the lane numbers (just like above). Only 3 lanes used, since we had only 3 Racers:

Wildcard Races

Wildcard Racer Group

racer_ids=[3, 7, 10]

0 0 1

Racer ID: 3 7 0

Run # 1c> 1 3 2

Run # 2c> 2 1 3

Run # 3c> 3 2 1

Lane-to-Run Result Matrix. Matrix entries are "Car #: time(seconds)"

Race: Pack 4180's 2016 Pinewood Derby - Wildcard Races

Lane #		1	2	3
Run # 1:		3: 2.923	10: 3.025	7: 3.172
Run # 2:		7: 3.169	3: 2.94	10: 2.919
Run # 3:		10: 3.074	7: 3.341	3: 2.911
Min:		2.923	2.940	2.911
Avg:		3.055	3.102	3.001
Max:		3.169	3.341	3.172

Race: Pack Finals - Pack 4180's 2016 Pinewood Derby

Lanes in use: 4

Number of race participants: 4

Overall race stats:

Fastest run time: 2.855 seconds

Fastest run speed: 343 MPH

Average run time: 2.905 seconds

Average run speed: 337 MPH

Slowest run time: 2.981 seconds

Slowest run speed: 329 MPH

The difference between first and second place was **four thousandths of a second!!**

Pack 4180's 2016 Pinewood Derby - Pack Finals

[Auto-play](#)[View current race status](#)[Show last run result](#)[Refresh standings \(for older browsers\)](#)[Reverse lane display](#)

Race is 100% complete

All Tiger Wolf Bear WEBELOS I WEBELOS II

Place	Racer	Name	Rank	Avg Time	MPH	Run count
1st	#12 - Blue burrito	Benji Mitchell	WEBELOS I	2.876	341 MPH	Complete!
2nd	#4 - Wild Kratt	Jacob Caylor	Tiger	2.880	340 MPH	Complete!
3rd	#3 - Pizza	Josh Quintero	WEBELOS I	2.924	336 MPH	Complete!
4th	#9 - The Outstanding Squirrel	Jacob Laake	WEBELOS II	2.938	334 MPH	Complete!

Matrix entries are lane numbers. Lanes 5 & 6 were not used, since Racer count was just 4.

Pack Finals

Pack Finals Group

racer_ids=[3, 4, 9, 12]

0 0 0 1

Racer ID: 3 4 9 2

Run # 1c> 3 1 2 4

Run # 2c> 4 3 1 2

Run # 3c> 2 4 3 1

Run # 4c> 1 2 4 3

Lane-to-Run Result Matrix.

Race: Pack 4180's 2016 Pinewood Derby - Pack Finals

	Lane #	1	2	3	4
		-----	-----	-----	-----
Run # 1:		4: 2.855	9: 2.981	3: 2.949	12: 2.879
Run # 2:		9: 2.947	12: 2.885	4: 2.855	3: 2.98
Run # 3:		12: 2.862	3: 2.9	9: 2.906	4: 2.871
Run # 4:		3: 2.867	4: 2.94	12: 2.877	9: 2.92
		-----	-----	-----	-----
Min:		2.855	2.885	2.855	2.871
Avg:		2.883	2.926	2.897	2.913
Max:		2.947	2.981	2.949	2.980

Here is a picture of the car voted Best In Show. I don't have the ballot tally, but I do know this was the overwhelming favorite. Great job Owen Leinen!



Here are some pictures I took during the event.

<https://www.flickr.com/photos/joneser005/albums/72157663329671880>