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STL SABR Hot Stove Luncheon – Jan 30, 2016

Thank you for this opportunity today





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June 2013 ... asked myself what I thought was a simple question

Who is my team's MVP?



(Season mid-point)

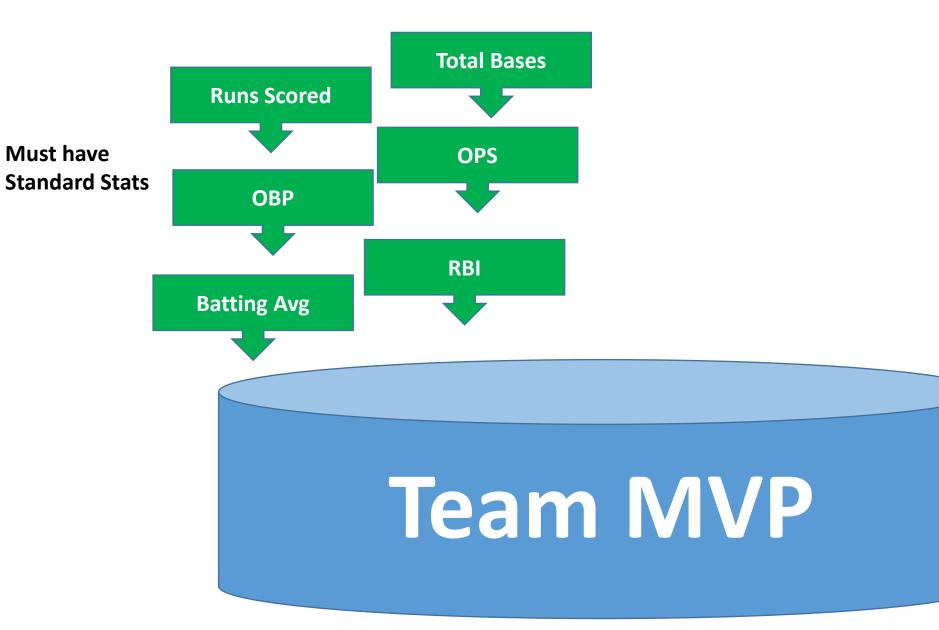


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Which measure(s) should be used?

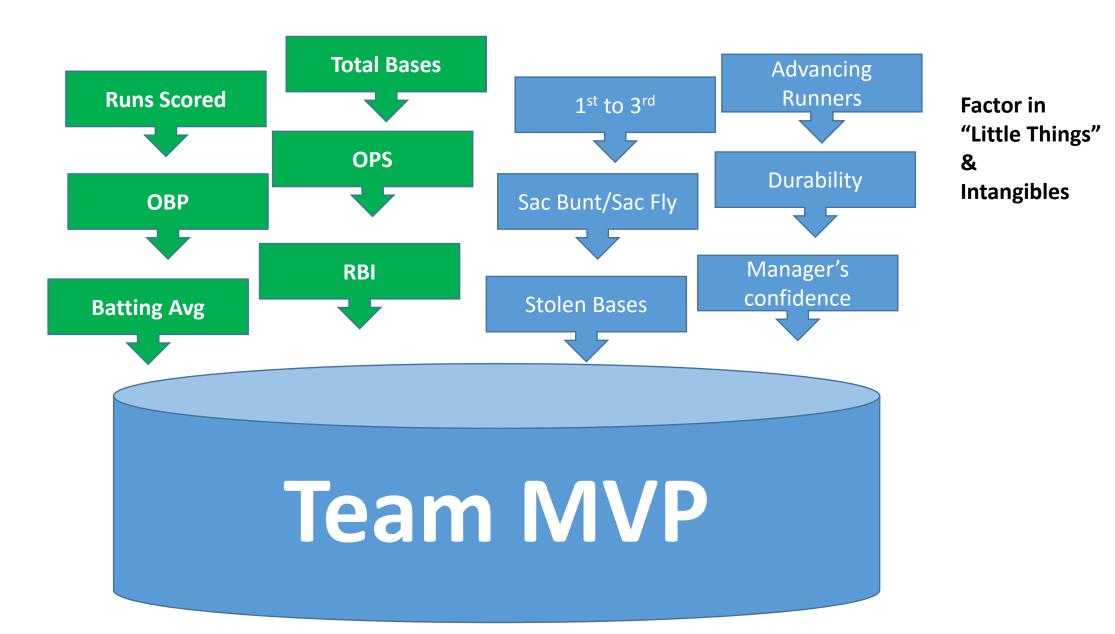
How to weight them?

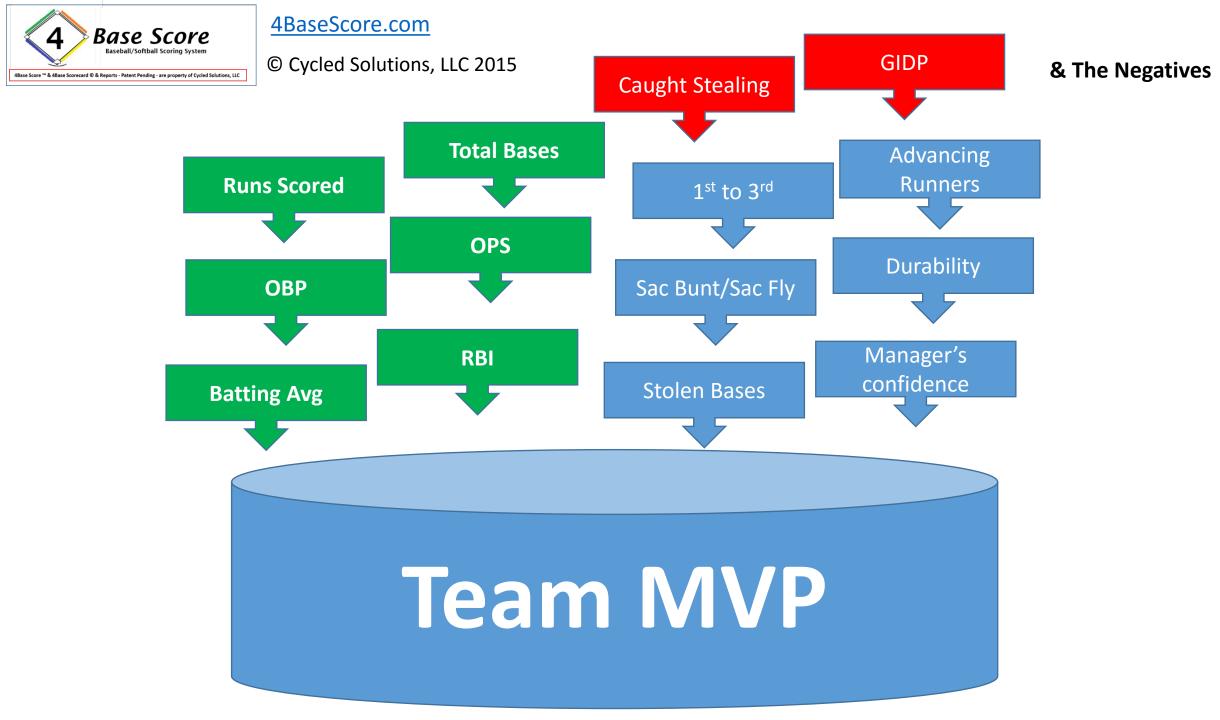


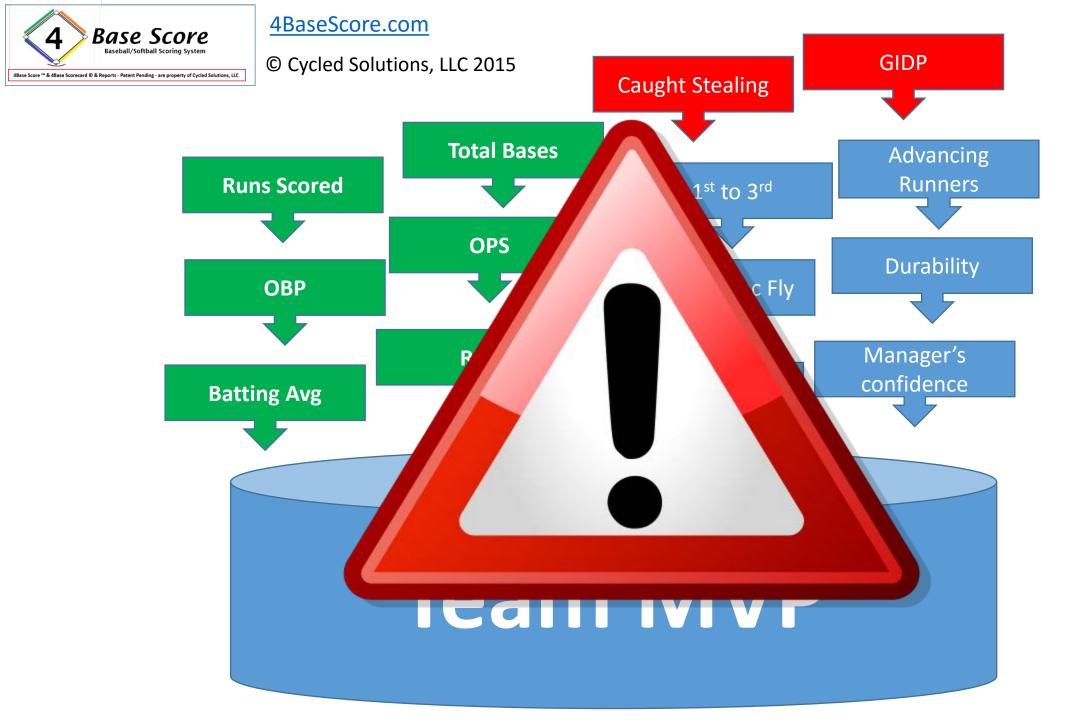


48ses Score ** & 48ses Scorecard @ & Reports - Patent Pending - are property of Cycled Solutions, LLC

4BaseScore.com













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Wait a minute ... Much of the time ...

It's not entirely clear who the Star of a single <u>GAME</u> is!







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... because in baseball an in-game box score could show 8 guys as "1 for 3"





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How *can* we determine the <u>Top Contributor</u> of a single game?

(with available tools?)



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How about the post game Box Score



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Scores for May 31, 2015

CIN 8 + NYM 4 BAL 5 PHI 1 + MIL 7 + MIN 6 HOU 0 + STL 3 + CHC 2 + TEX 4 +

Oh my ...

🗛 Los Angeles Dod	gers									
Hitters	AB	R	н	RBI	BB	50	#P	AVG	OBP	SLG
Pederson CF	з	1	1	1	1	1	14	.258	.387	.546
Callaspo 38	з	0	0	0	1	2	23	.205	.295	.250
García P	0	0	0	0	0	0	0	.000	.000	.000
González 18	- 4	0	0	0	0	1	20	.324	.400	.591
Kendrick 28	4	0	0	0	0	1	16	.290	.350	.430
Ethler RF	з	0	1	0	1	0	19	.305	.395	.519
Grandal C	з	0	0	0	1	0	20	.284	.402	.477
Barnes PR	0	0	0	0	0	0	0	.333	.333	.333
Guerrero LF	з	0	0	0	0	з	10	.290	.323	.656
Hatcher P	0	0	0	0	0	0	0	.000	.000	.000
Turner 38	1	0	0	0	0	1	4	.303	.389	.525
Rollins SS	з	0	0	0	0	1	9	.202	.269	.339
Anderson P	1	0	0	0	1	1	9	.077	.333	.154
Hernández LF	1	0	0	0	0	1	з	.237	.275	.421
Totals	29	1	2	1	5	12	147			
BATTING										

HR: Pederson (13, 8th Inning of Slearist 0 on, 2 Out) RBI: Pederson (24) 2-out RBI: Pederson Dodgers RISP: 0-3 (Kendrick 0-1, Turner 0-1, González 0-1) Team LOB: 6 FIELDING

DP: 2 (Ethler-González, Kendrick-Rollins-González). Outfield Assist: Ethler (Grichuk at 1st base); Hernández (Carpenter at Home).

Pitchers	ers IP	н				60	LUD.	PC-ST	EDA
FILCTIONS	10	•		ER	DD	50	nĸ	- Purai	EI0
Anderson (L, 2-3)	6.0	5	2	2	з	5	1	102-61	3.42
Hatcher	1.1	1	1	1	2	0	0	21-12	6.89
Sarcía	0.2	2	0	0	0	1	0	12-9	2.91
Totals	8.0	8	3	3	5	6	1	135-82	

Called strikes-Swinging strikes-Foul balls-In Play strikes: Anderson 23-5-18-15; Hatcher 3-0-5-4; García 1-2-4-2 Ground Balls-Fly Balls: Anderson 7-3; Hatcher 2-2; García 0-0 Game Scores: B Anderson 56

월 St. Louis Cardi	nals									
Hitters	AB	R	н	RBI	BB	50	#P	AVG	OBP	SLG
Bourjos CF	4	0	1	0	0	0	10	.258	.323	.393
Carpenter 38	з	1	1	0	1	1	20	.318	.398	. 559
Peralta SS	з	1	2	3	1	1	19	.310	.373	.519
Grichuk LF	4	0	1	0	0	1	19	.286	.318	.556
Molina C	4	0	1	0	0	0	13	.284	.330	.337
Reynolds 18	з	0	1	0	0	0	8	.250	.319	.389
Heyward RF	3	0	1	0	0	1	12	.251	.303	.398
Kozma 2B	1	0	0	0	1	1	11	.116	.174	.116
a-Wong PH-28	1	0	0	0	0	0	5	.310	.365	.473
Martínez P	1	0	0	0	1	1	11	.100	.143	.100
Slegrist P	0	0	0	0	0	0	0	.000	.000	.000
b- <u>Jay</u> PH	0	1	0	0	1	0	7	.257	.342	.276
Rosenthal P	0	0	0	0	0	0	0	.000	.000	.000
Totals	27	з	8	з	5	6	135			

b-walked for K Slegrist in the 8th

BATTING

HR: Peraita (8, 1st inning of Anderson 1 on, 1 Out) RBI: Peralta 3 (30) GIDP: Wong Cardinals RISP: 2-5 (Grichuk 0-1, Bourjos 0-1, Molina 1-2, Peralta 1-1) Team LOB: 5

BASERUNNING

CS: Heyward (1, 2nd base by Anderson); Bourjos (5, 2nd base by Anderson) Picked Off: Heyward (1st base by Anderson); Bourjos (1st base by Anderson)

😫 St. Louis Cardina	als								
Pitchers	IP	н	R	ER	BB	50	HR	PC-ST	ERA
Martínez (W, 5-2)	7.0	1	0	0	3	8	0	108-72	3.13
Slegrist (H, 8)	1.0	1	1	1	0	3	1	13-11	2.08
Rosenthal (S, 15)	1.0	0	0	0	2	1	0	26-15	0.74
Totals	9.0	2	1	1	5	12	1	147-98	
PITCHING									

First-pitch strikes/Batters faced: Martínez 17/25; Siegrist 4/4; Rosenthal 3/5 Called strikes-Swinging strikes-Foul balls-In Play strikes: Martínez 17-18-23-14; Slegrist 4-2-4-1; Rosenthal 6-1-7-1 Ground Balls-Fly Balls: Martínez 9-4; Slegrist 0-0; Rosenthal 1-1 Game Scores: C Martinez 80



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Scores for May 31, 2015

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+ CIN 8 + NYM 4 BAL 5 PHI 1 + MIL 7 + MIN 6 HOU 0 + STL 3 + CHC 2 + TEX 4 +
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Box Score:

- Too much information
- Not enough information
- Information poorly arranged
- (i.e. footnotes, requires deciphering, etc.)

Hitters	AB	R	н	RBI	BB	50	#P	AVG	OBP	SLO
Pederson CF	3	1	1	1	1	1	14	.258	.387	.546
Callaspo 38	з	0	0	0	1	2	23	.205	.295	.29
<u>García</u> P	0	0	0	0	0	0	0	.000	.000	.00
González 18	4	0	0	0	0	1	20	.324	.400	. 99
Kendrick 28	4	0	0	0	0	1	16	.290	.350	.43
Ethier RF	3	0	1	0	1	0	19	.305	.395	.51
Grandal C	3	0	0	0	1	0	20	.284	.402	.47
Barnes PR	0	0	0	0	0	0	0	.333	.333	.33
Guerrero LF	3	0	0	0	0	3	10	.290	.323	.65
<u>Hatcher</u> P	0	0	0	0	0	0	0	.000	.000	.00
Turner 38	1	0	0	0	0	1	4	.303	.389	. 52
Rollins SS	3	0	0	0	0	1	9	.202	.269	.33
Anderson P	1	0	0	0	1	1	9	.077	.333	.15
Hernández LF	1	0	0	0	0	1	3	.237	.275	.42
Totals	29	1	2	1	5	12	147			
HR: Pederson (13, 8th Innin RBI: Pederson (24) 2-out RBI: Pederson Dodgers RISP: 0-3 (Kendi Team LOB: 6 FIELDING	-	-				ez 0-	1)			

Los Angele	s Dodgers								
Pitchers	IP	н	R	ER	вв	50	HR	PC-ST	ERA
Anderson (L, 2-3)	6.0	5	2	2	з	5	1	102-61	3.42
Hatcher	1.1	1	1	1	2	0	0	21-12	6.89
García	0.2	2	0	0	0	1	0	12-9	2.91
Totals	8.0	8	з	з	5	6	1	135-82	

PITCHING

First-pitch strikes/Batters faced: Anderson 16/23; Hatcher 5/6; García 1/3 Called strikes-Swinging strikes-Foul balls-In Play strikes: Anderson 23-5-18-15; Hatcher 3-0-5-4; García 1-2-4-2 Ground Balls-Fly Balls: Anderson 7-3; Hatcher 2-2; García 0-0

Game Scores: B Anderson 56

Hitters	AB	R	н	RBI	вв	50	#P	AVG	OBP	SL
Bourjos CF	4	0	1	0	0	0	10	.258	.323	.39
Carpenter 38	3	1	1	0	1	1	20	.318	.398	.5
Peralta SS	3	1	2	3	1	1	19	.310	.373	.5
Grichuk LF	4	0	1	0	0	1	19	.286	.318	.5
Molina C	4	0	1	0	0	0	13	.284	.330	.3
Reynolds 18	3	0	1	0	0	0	8	.250	.319	.3
Heyward RF	3	0	1	0	0	1	12	.251	.303	.3
Kozma 2B	1	0	0	0	1	1	11	.116	.174	.1
a-Wong PH-28	1	0	0	0	0	0	5	.310	.365	.4
<u>Martínez</u> P	1	0	0	0	1	1	11	.100	.143	. 10
<u>Slegrist</u> P	0	0	0	0	0	0	0	.000	.000	.0
b- <u>Jay</u> PH	0	1	0	0	1	0	7	.257	.342	.z
Rosenthal P	0	0	0	0	0	0	0	.000	.000	.0
Totals	27	з	8	з	5	6	135			

b-walked for K Slegrist in the 8th

BATTING

HR: Peralta (8, 1st inning of Anderson 1 on, 1 Out) RBI: Peralta 3 (30) GIDP: Wong Cardinals RISP: 2-5 (Grichuk 0-1, Bourjos 0-1, Molina 1-2, Peraita 1-1) Team LOB: 5

BASERUNNING

CS: Heyward (1, 2nd base by Anderson); Bourjos (5, 2nd base by Anderson) Picked Off: Heyward (1st base by Anderson); Bourjos (1st base by Anderson)

😫 St. Louis Cardinals	6								
Pitchers	IP	н	R	ER	BB	50	HR	PC-ST	ERA
Martínez (W, 5-2)	7.0	1	0	0	3	8	0	108-72	3.13
Slegrist (H, B)	1.0	1	1	1	0	3	1	13-11	2.08
Rosenthal (S, 15)	1.0	0	0	0	2	1	0	26-15	0.74
Totals	9.0	2	1	1	5	12	1	147-98	
PITCHING									

First-pitch strikes/Batters faced: Martinez 17/25; Siegrist 4/4; Rosenthal 3/5 Called strikes-Swinging strikes-Foul balls-In Play strikes: Martínez 17-18-23-14; Slearist 4-2-4-1; Rosenthal 6-1-7-1 Ground Balls-Fly Balls: Martínez 9-4; Slegrist 0-0; Rosenthal 1-1 Game Scores: C Martinez 80



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Well ... there's always the Scorecard!



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Ah yes ... baseball *hieroglyphics*

This certainly clarifies everything!

(Even Harold & Joe think it's ridiculous)





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As a long time consumer of next day baseball information

I was frustrated with what was available ...



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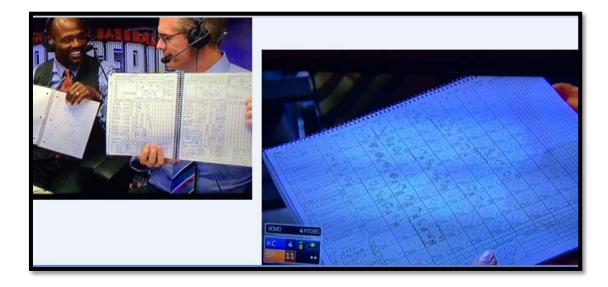
Let's review:

I want to know which player did the best? ... maybe 3 Stars of the Game? ... who might've contributed "under the radar"?

• One source gives me columns of numbers but no context of the game (no story).

Instruction, 198 I	Kansas City	AB	R	H	RBI	BB	80	LOB	AVG	San Francisco	AB	R	н	RBI	BB	80	LOB	AVG
Octors, A, P 6 1 1 15 15 2 2 0 0 2		4							363	Bianco G CE	5	-						267
Cani, Left S I 2 0 0 1 1 2 2 1 <th1< th=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></th1<>																		
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Index 1 0 1 0 1 2 0 1 2 1 2 1 1 1 0 1 4 4 4 4 4 4 4 4 4 4 4 4 4 1 1 0 1 4 <td></td>																		
Press, P. O 3 1 0 0 1 3 3 1 1 0 0 2 3 24 0																		
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Fasce, P 0<																		
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Battone (L, Pett V), Gordon, A.(2, Brotstend). Battone (L, Batton). Battone (L, Batton). <td< th=""><td>a-Grounded Into a double</td><td>play for D</td><td>atiy k</td><td>the 6</td><td>in.</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td>٥</td><td></td><td></td></td<>	a-Grounded Into a double	play for D	atiy k	the 6	in.											٥		
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Arthon Arthon, Arg, Brotand, Bartone, Ba										Totals	88	11	18	10	8	8		
	28: Hosmer (1, Petit, Y), TB: Perez, S 3; Dyson, J;	Caln, L 2;	Gord	n, As		e; Esco	bar, A; I	Hosmer 4	L	7th. d-Lined out for Romo BATTINO 28: Panik 2 (2, Verges, Co TB: Sandoval 2; Blanco, O	ollins), Pe	nce (S	, Coll	ins).				
	28: Hosmer (1, Petit, Y), TB: Peters, S 3; Dyson, J; RB: Hosmer (2), Infante 2-our RB: Hosmer; Infant Runners left in scoring p GIDP: Acki Team LOB: 9. BA EFRUNINO BB: Gordon, A (1, 2nd ba FIELDINO	Cain, L 2; 2 (4), Perez e 2; Perez osition, 2	Gordi , S (4 , S. out \	on, A 2). brgas g/Pos	2; Peres 2; Peres ey).				ERA 6.75	ThCLIned out for Romo BATTINO 28: Pennix 2 (2, Vargas, Co Plets, J., Posey, Plets, Pance 3 (8), Posey (2-out RBL: Posey, Bandou RBL: Pence 3 (8), Posey (2-out RBL: Posey, Bandou BAC: Penci, BAC: Penci, BAC: Penci, BAC: Penci, Bac 100; 11, Data Bac, Co Bac 100; 11, Data Bac, Co Res, Co Res	in the Sth ollins), Pe 3 2, Arias 2), Perez, al 2; Belt osition, 2 se off Varg	nce (J Duff) J (1), : out S as/Pe	, Coll Belt; Bando andov rez, Sj	ins). Panik 4 val 2 (4 al; Blan	; Crawf), Beit (ford, B; 2), Par	Pence 4 nk 2 (3).	(Petit, Y)
Frasor 0.1 1 1 1 0 0 0 6.75 Machi 0.1 0 0 0 1 1 0 27.00	28: Hosene (1, Pett, Y), III: Prets, 8: 20, Spon, 2; RBI: Hoamer (2), Infant Runner (2), Infant Runner (2), Infant Runner (2), Infant Ban (20): A Ban (20)	Cain, L 2; 2 (4), Perez osition, 2 se off Vog	Gordi , S (, S out \ elson H	on, A 1). brgas g/Pos	2; Infant 2; Peres (ey).	E S; NO	80 3	HR 0	ERA 6.75	7th. 6-LineS out for Romo BATTNO 281 Frank (D. Verges, C. D. Barrowski, S. Lanco, C. Matti, Parces J. B. Foser, O. Andre Frank, S. Starrowski, S. Starrowski, Br. Franciski, S. Starrowski, Bellet Barrowski, B. Barrou, S. H. Barrowski, B. Barrowski, Bellet Barrowski, B. Barrowski, B. Barrowski, Barrowski, B. Barrowski, B. Barrowski, Barrowski, B. Barrowski, B. Barrowski, Barrowski, B. Barrowski, B. Barrowski, Barrowski, B. Barrowski, B. Barrowski, B. Barrowski, B. Barrowski, Barrowski, B. Barrowski, B.	in the 8th oilins), Pe 3 2; Arias; 2), Perez, rai 2; Beit osition, 2 te off Varg t). IP	nce (J Duffy J (1), : out: S as/Pe H 7	: Coll Belt; Bandov rez, Sj R 4	ins). Panik 4 val 2 (4 al; Blan L ER 4	; Crawf), Belt (co, Q;) BB 1	tord, 8; 2), Par Crawfo 80 2	Pence 4 nk 2 (3). rd, B; Per HR 0	; Petit, Y; rez, J 2. ERA 13.50
Duffy 0.2 1 0 0 1 1 0 491 Pett Y (W. 10) 30 2 0 0 0 2 0 000	28: Hostmer (1, Pett, Y), III: Prece, 8: 20, pon, 2; RB: Hoamer (2), Internet (3), Internet (3), RB: Hoamer (3), Internet (3), Ban (3), 20, 40, 10, 10, 10, 10, 10, 10, 10, 10, 10, 1	Cain, L 2; 2 (4), Perez osilition, 2 se off Vog IP 4.0 0.1	Gordi , S (4 , S, S put \ elson H elson	on, A 1). brgas g/Pos R 3 1	2; Infant 2; Peres (ey). 8 ER 1 3	85; NO 88 2 0	80 3 0	HR 0 0	ERA 6.75 6.75	The scaled out for Rome Ballmon Bill Parks (2, Magas C), Bill Parks (2, Magas C), Pertu J, Parks RBL, Parks J, Bans, RBL, Parks J, Bans, Bans I, CBL, Bans RE, Tooris, Bans Francisco Vogesorg Machine	In the Bth ollins), Pe 2 2, Arias; 2), Perez, 31 2; Beit osition, 2 te off Varg t). IP 2.2 0.1	nce () Duffy J (1), out: S as/Pe H 7 0	, Coll Belt; Bando andov ez, Sj R 4 0	ins). Panik 4 vval 2 (4 si; Blar t ER 4 0	; Crawf), Bett (ico, Q; I BB 1 1	tord, B; ;2), Par Crawfo 2 2 1	Pence 4 Ik 2 (3). rd, B; Per HR 0 0	ERA 13.50 27.00
	28: Hosene (1, Pett, Y) III: Press, 8: 20, Son, J; RBI: Hosene (2), Internet 2004 RBI: Hosene (2), Internet Runners tell is societa p 2007 Add. Ban RUIP: 40c+11, Ban RUIP: 40c+1	Cain, L 2; 2 (4), Perez osilition, 2 se off Vog IP 4.0 0.1	Gordi , S (4 , S, put \ elson H e 1	on, A 1). brgas g/Pos R 3 1 0	2; intent 2; Peret (ey). 1 1 1 0	BB 2 0	80 3 1	HR 0 0	ERA 6.75 6.75 4.91	Th. Suites out for Rome BarTimo El Panis 2 (Negas, Co TE: Bartosol 2; Blanco, C Peter, 2; Pase; Peter, 2; Pase	in the Bth oilins), Perez, 2), Perez, 3) 2 Arias, 2), Bert, 3) 2 Bert, 3) 3 Bert, 3) 4 B	nce () Duffy J (1), : out S es/Pe H 7 0	Eelt; Bando andov ez, Sj R 4 0 0	ins). Panik 4 val 2 (4 si; Blan si; Blan si; Blan si si 2 (4 si si 2 (4) si si si si si si si si si si si si si s	; Crawf), Bett (ico, Q; I 1 1 0	tord, 8; 2), Par Crawfo 2 1 2	Pence 4 Ik 2 (3). Id, B; Per HR 0 0 0	ERA 13.50 27.00
Dotty 0.2 1 0 0 1 1 0 491 Pett, Y (W, 1-0) 3.0 2 0 0 0 2 0 0.00	28: Hosene (1, Pett, Y), Refer, B. 20, Spon, J, Rill: Hosene (2), Internet 204 (RB): Hosene (2), Internet 204 (RB): Hosene (2), Internet Refer, Refer, Refer, Refer, Refer, Refer, Refer, Refer, Refer, Refer, Refer, Refer, Refer, Ref, Refer,	Cain, L 2; (4), Peres osition, 2 osition, 2 se off Vog se off Vog IP 4.0 0.1 1.0	Gord, 5 (4 , 5 (4 , 5, 0 , 5, 0 , 5, 0 , 5 , 5 , 6 , 1 , 1 , 1 , 1 , 5	on, A 1). brgas g/Pos R 3 1 0 5	2; intent 2; Peret (ey). 2; ER () 3 () 0 () 5	BB 2 0 1	80 3 0 1	HR 0 0 0	ERA 6.75 6.75 4.91 27.00	Th. 6-Lines out for Rome Barmon Barnou C. S. Weaks. Cr. Barnou C. S. Weaks. Cr. Barnou C. S. Weaks. Cr. Percu. J. Polici Percu. Polici	in the Bth oilins), Pee 2), Prets, 2), Prets	nce () Duffy J (1), : J (1), :	ez, Sj	ins). Panik 4 val 2 (4 si; Blan si; Blan si; Blan si si 2 (4 si si 2 (4) si si si si si si si si si si si si si s	; Crawf), Bett (), Bett	80 2 1 2 0	Pence 4 nk 2 (3). rd, B; Per HR 0 0 0	ERA 13.50 27.00 0.00
Duffy 0.2 1 0 1 1 4.51 Petr Y 0V, Hoj 3.0 2 0 0 2 0 0.00 Principan (L, 0-1) 1.0 5 5 2 0 0 27.00 Affesti (H, 1) 1.0 1 0 0 0 0.00	28 I comm (1, Pett, Y) 18 I comm (1, Pett, B) comm, J 18 I komm (2), infant, I 18 I komm (2), infant, I 18 I komm (2), infant, I 18 I comm, (2), infant, I 18 I comm, (2), infant, I 18 I comm, A (1, 2nd be FIELDING E Colline (1, brow). Kansas City Vapos Duft, Findage (L, C+1) Collins	Cain, L 2; (4), Peres osition, 2 e: Peres osition, 2 se off Vog liP 4.0 0.1 0.2 1.0 2.0	Gord , S (4 , S, out \ elson H es 1 1 1 5 2	n, A (). brgas g/Pos 3 1 0 5 2	2; intent 2; Peret (ey). 1 1 0 5 5 2 2	BB 2 1 1	80 3 0 1	HIR 0 0 0 0	ERA 6.75 6.75 4.91 27.00 4.50	The scales out for Rome EASTING EASTIN	in the Bth oilins), Pee 2, Arias; 2, Peres, 2, Peres, 2, Peres, 2, Peres, 2, Peres, 2, Peres, 2, Peres, 2, Peres, 2, Peres, 2, Arias; 2, Arias; 3, Arias; 3, Arias; 3, Arias; 4,	- Duffy J (1),: out S as/Pe H 7 0 2 1 1	Eandou ez, Sj R 4 0 0	ins). Panik 4 at; Bian ER 4 0 0 0	; Crawf), Bett (cco, G; (1 1 0 0 0	80 2 1 2 1	Pence 4 HR 2 (3). HR B; Per HR 0 0 0 0	ERA 13.50 0.00 0.00

• Another source gives me some of the story (assuming you can read it) but no compiled numbers.





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Traditional Scorecard:

Best feature: Captures the critical elements of the game

But ... certainly some deficiencies ...

но сло с с с с с с с с с с с с с с с с с	21-7 # 8-12 # 4-2 c 3:3 # 19-14 # 3-0 19-6 # 13-11 # 7-4 c 17-7 # 4-1 # 4-3 DH/ ¹¹¹ DEFENDE # N1. CANNE DH/ ¹¹¹ DEFENDE # N1. CANNE 31 Status 2:47- CAN STATUS C 2:47- CAN STATUS C 2:47- CAN STATUS C 2:47- C A STATUS	STANGARDS BIANGARDS DAVIES DAVIES DAVIES DAVIES DAVIES DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DAVIES DEFENSE E DEFENSE DE	STADUARCAN BUSCO Stream
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		Comments for the State	13.
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Traditional Scorecard:

- Too confining issues with extra innings, player substitutions, text on a complicated play
- Too much information pushed out to the margins
- Need for reader to match pitchers to batters

$\begin{array}{c} 1.41 \ \text{out} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$	BAR DOOD DOOD DOOD DOOD DOOD DOOD DOOD DO
DOPLISHS JUN M GAR 1 2 3 4 5 0 7 0 9 10 11 12 13 14 15	Chapter 2 7 1 1 1 2 3 4 5 6 7 8 8 10 11 12 13 14 15
Jou Prove sur (4) CF KEP (2) (1) (1)	P. 804405 CF 13 20 76 20
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And Emaly 15 / 15 12 13 10	Ynawn C 63 13 13 13
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	J. Horners (1) R.F / Fre / Har Be
Autor GUBNITED IF	
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I've wondered ...

Why can't a Scorecard be more logically arranged

more accommodating to the game?



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I've wondered ...

Why can't a Scorecard be more logically arranged

more accommodating to the game?

I decided to build my own

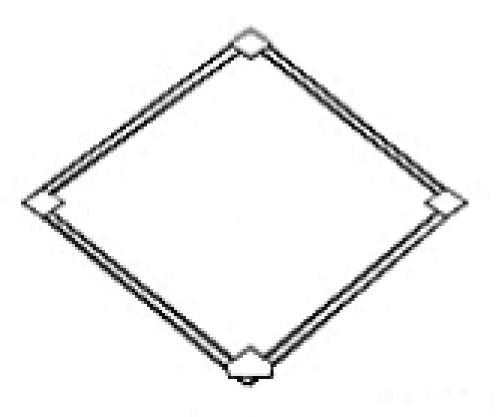


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I use the traditional scorecard as my guide

AND

COUNT 4 Measures





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I use the traditional scorecard as my guide

AND

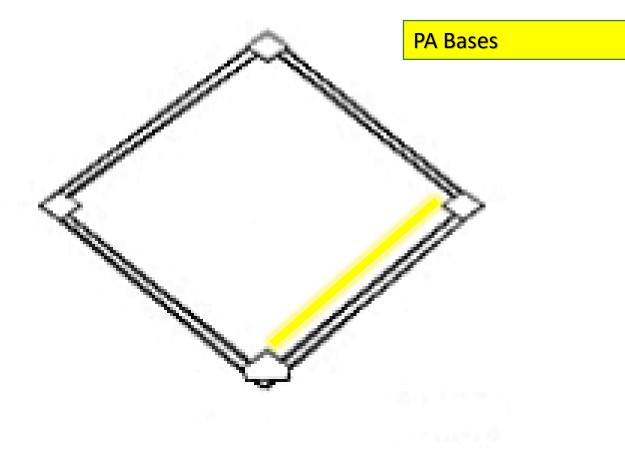
COUNT 4 Measures

he measures have always been part of the symbol scorecard ... We're just going to count them!



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4 Measures:



 Application

 Property
 2.0.5%

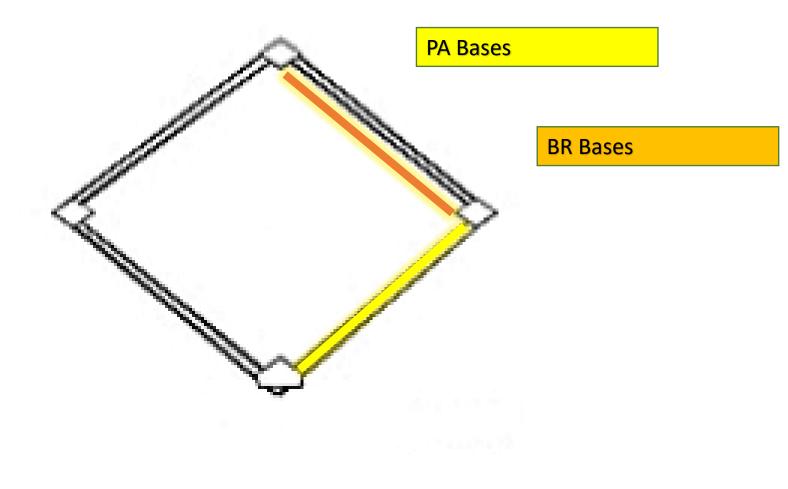
 Property
 4.0.5%

 Property
 4.0.5%
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4 Measures

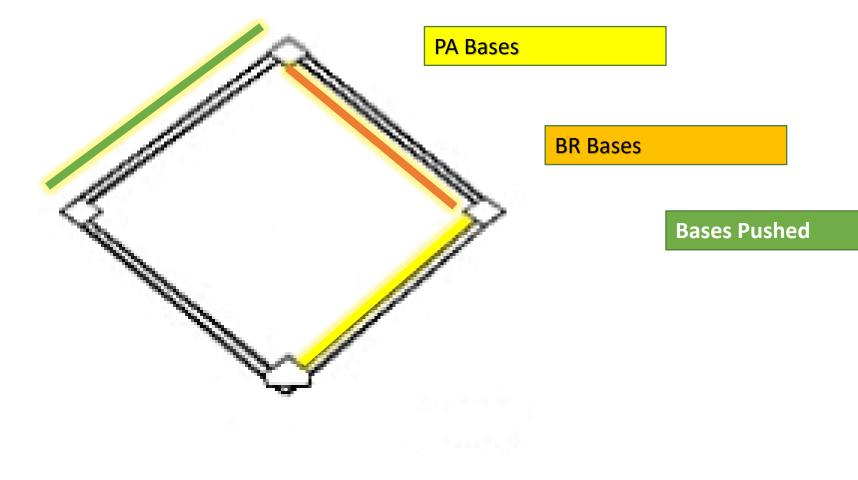






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4 Measures

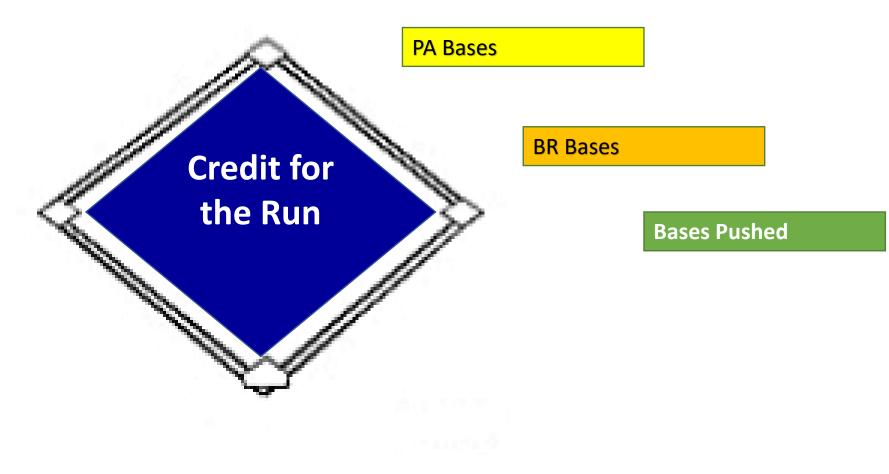






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4 Measures



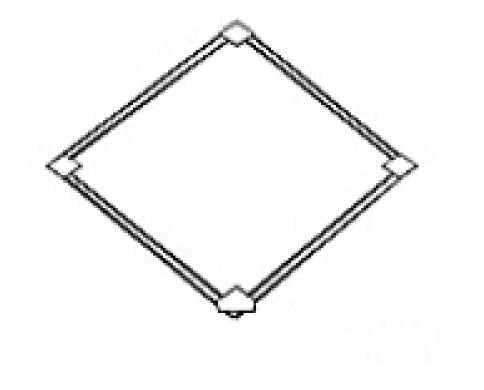




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<u>4 Base Scoring defined:</u>

The extent each player contributes to advancing himself and/or lead runners around 4 Bases.



not "SABR-metric" ... instead ...

The objective is to numerically represent the Traditional Symbol Scorecard!



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<u>4 Base Scorecard:</u>

#1

Read Top to Bottom

Extend downward





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<u>4 Base Scorecard:</u>

#2

Must Match

Pitcher to Batter





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<u>4 Base Scorecard:</u>

#3

Numerically Tally

Advancement Around 4 Bases

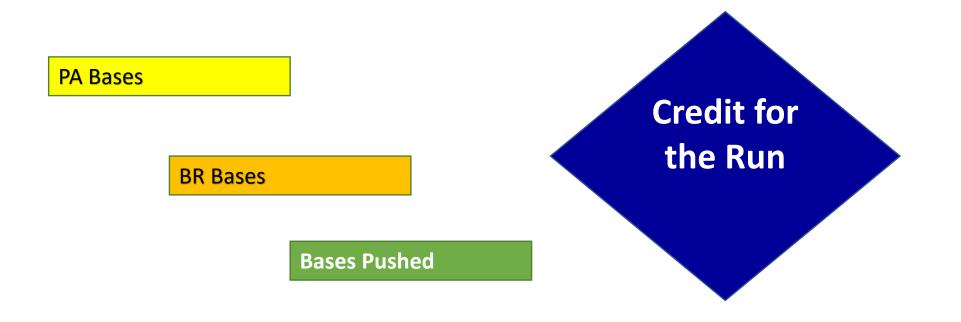
(simple Add/Subtract)

 Image: Second Second



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Using the 4Base measures + the Traditional Scorecard as my Guide ...

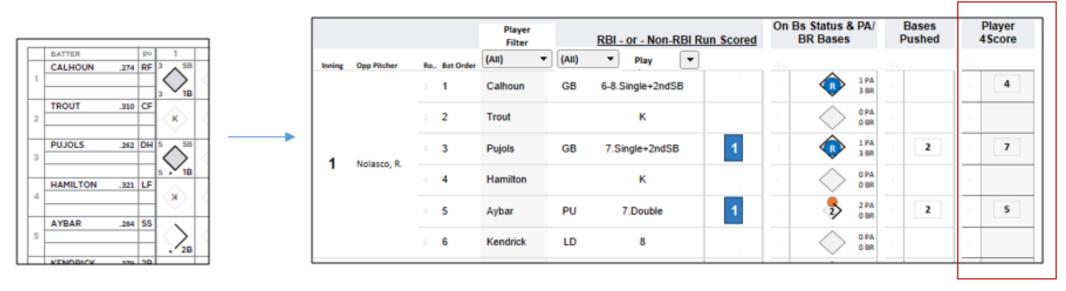




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Transform the Hieroglyphics into Stats

So the symbolic view on the left – 1st inning of a LAA vs MIN game from 2014 - translates to the numeric representation on the right:





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4Base Scorecard

Reads Top to Bottom

Extends Downward

Matches Pitcher to Batter

Room for Play Text

	C 2015					R			Bases Bases		ases Ished		
						RBI - or - Non-RBI Run Sco	ored	On	Bs Status & VBR Bases		Bases ushed	F 4	Player Score
ning	Opp Pitcher	Ro	Bat Ord	Player	BIP Ty	Play Text		Ro		Ro.,		Ro.,	
		5	1	Wong	GB	3.Single+2ndSB		5	3 1 PA 2 BR	5		5	3
		6	2	Carpenter	GB	1-3		6		6	1	6	1
1	Guthrie, J.	7	3	Peralta		к		7		7		7	0
		8	4	Reynolds		к		8		8		8	0
		15	5	Molina	GB	8.Single+FO'd-5U		15	1 PA BR	15		15	1
		16	6	Heyward	GB	5U-FO-E5		16	2 2 PA BR	16	-1	16	1
2	Guthrie, J.	17	7	Grichuk	GB	1-3		17		27		17	0
		18	8	Jay		IBB		18	1 1PA BR	18		18	1
		19	9	Lyons		к		19		19		19	0
		23	1	Wong	LD	9.Triple		23	3 PA 1 BR	23		23	4
		24	2	Carpenter	LD	9.Single-Out2nd-9-6		24	1 PA -1 BR	24	1	24	2
		25	3	Peralta	LD	8		25		25		25	$\overline{}$



<u>4BaseScore.com</u>

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4Base Scorecard

- Simply Tallies game action
- Each line = Player's full Offensive Appearance
- (From batters box back to dugout)

						<u>RBI - or - Non-RBI Ru</u>	in Scored		Bs Status & A/BR Bases		Bases Pushed	F 4	Player Score
ning	Opp Pitcher	Ro	Bat Ord	Player	BIP Ty	Play Text		Ro		R		Ro.	
		5	1	Wong	GB	3.Single+2ndSB		5	3 1 P 2 P	R S		5	3
		6	2	Carpenter	GB	1-3		6		A R 6	1	6	1
1	Guthrie, J.	7	3	Peralta		к		7		A R		7	0
		8	4	Reynolds		к		8		A R		8	0
		15	5	Molina	GB	8.Single+FO'd-5U		15		R 15		15	1
		16	6	Heyward	GB	5U-FO-E5		16	2 2 F	A R	-1	16	1
2	Guthrie, J.	17	7	Grichuk	GB	1-3		17		A R 10		17	0
		18	8	Jay		IBB		18	10 ¹	R		1.8	1
		19	9	Lyons		к		19		A R		19	0
		23	1	Wong	LD	9.Triple		23	R 18	A R		23	4
		24	2	Carpenter	LD	9.Single-Out2nd-9-6	1	24	1P -18	A R 24	1	24	2
		25	3	Peralta	LD	8			P	A			

R

PA Bases

Bases

Pushed



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Let's look at specific elements 4Base Scorecard captures/tallies

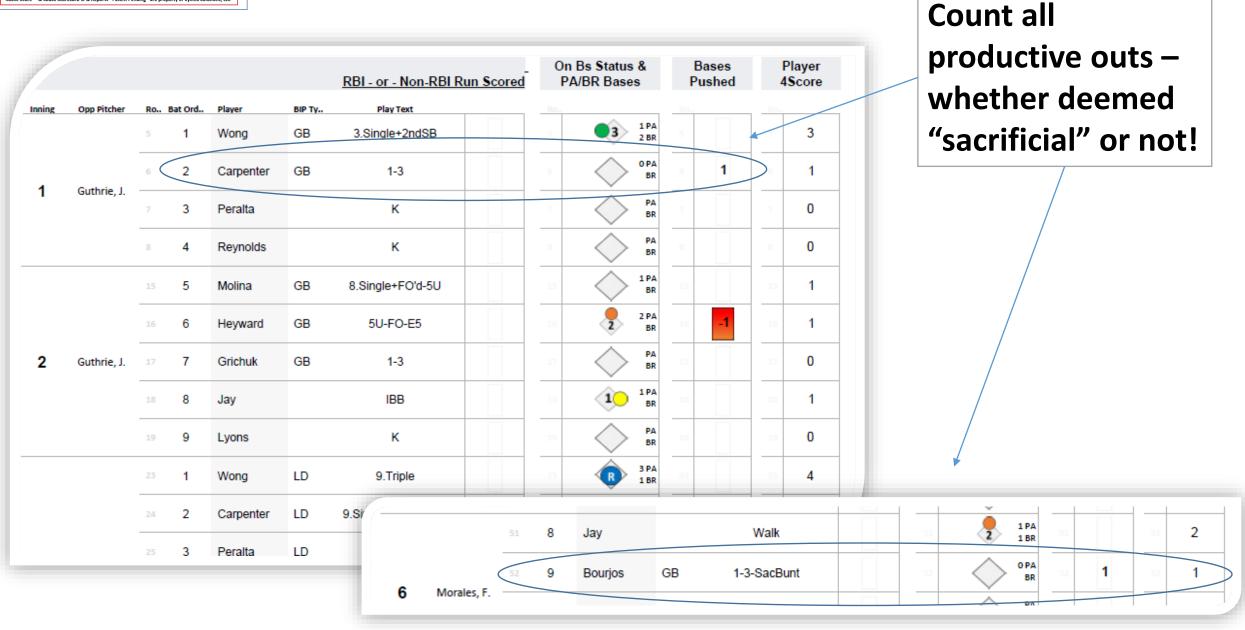
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						<u>RBI - or - Non-RBI R</u>	un Scored		Bs Status & VBR Bases		Bases Pushed	2	Player 4Score
nning	Opp Pitcher	Ro	Bat Ord	Player	BIP Ty	Play Text		Ro		Ro		Ro.	\square
		5	1	Wong	GB	3.Single+2ndSB		5	3 1			5	3
1	Guthrie, J.	6 🤇	2	Carpenter	GB	1-3		6	\bigcirc	R 6	1		1
	Guunne, J.	7	3	Peralta		К		7		R		7	0
		8	4	Reynolds		к		8		R		8	0
		15	5	Molina	GB	8.Single+FO'd-5U		15		R 15		15	1
		16	6	Heyward	GB	5U-FO-E5		16	2 2	R 16	-1	16	1
2	Guthrie, J.	17	7	Grichuk	GB	1-3		17		R 17		17	0
		18	8	Jay		IBB		1.8	10 1	R		18	1
		19	9	Lyons		к		19		R 19		19	0
		23	1	Wong	LD	9.Triple		23	R 31 11			23	4
		24	2	Carpenter	LD	9.Single-Out2nd-9-6	1	24	× 11		1	24	2
		25	3	Peralta	LD	8		25		A 25			

Count all productive outs –





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<u>4BaseScore.com</u>

						<u>RBI - or - Non-RBI R</u>	un Scored		Bs Status & /BR Bases		Bases ushed		Player Score	Conversely
ning	Opp Pitcher	Ro	Bat Ord	Player	BIP Ty	Play Text		Ro		Ro	_	Ro.		
		5	1	Wong	GB	3.Single+2ndSB		5	3 1 PA 2 BR	5		5	3	Count (as negativ
4	Cuthrin 1	6	2	Carpenter	GB	1-3		6		6	1	6	1	all "Predator" ou
	Guthrie, J.	7	3	Peralta		к		7		7		7	0	
		8	4	Reynolds		к		8		8		8	0	
		15	5	Molina	GB	8.Single+FO'd-5U		15	1 PA BR	15		15	1	
		16	6	Heyward	GB	5U-FO-E5		1.6	2 Z PA BR	16	-1	16	1	
2	Guthrie, J.	17	7	Grichuk	GB	1-3		17		17		17	0	
		18	8	Jay		IBB		18	1 1 PA BR	18		18	1	
		19	9	Lyons		к		19		19		19	0	
		23	1	Wong	LD	9.Triple		23	(R) 3 PA 1 BR	23		23	4	
		24	2	Carpenter	LD	9.Single-Out2nd-9-6	1	24	1 PA -1 BR	24	1	24	2	
		25	3	Peralta	LD	8		25		25		25		



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Let's stop and <u>Note</u> ...

In Standard Stats/Box Scores: A Productive Out = A Predator Out (i.e. force out lead runner) It's an Out

4Base Scoring appropriately tallies the True Impact:

```
Typical Predator Out = -1 (or worse)
```

```
Productive Out = +1 (or more)
```

- much debate about Productive Outs. However, 4Base scoring isn't rewarding the occurrence, simply tallying the numeric impact on the bases.



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BR Bases

BR BASES

4Base scoring captures good base running

A player who typically goes 1st to 3rd, 1st to home, etc.

Will end up with good BR Bases number

(in 2013 & 2014 Jon Jay was the poster child for an under the radar Good BR Bases guy)



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Likewise – <u>Negative</u> base running is captured

Critical element in the context of the game.

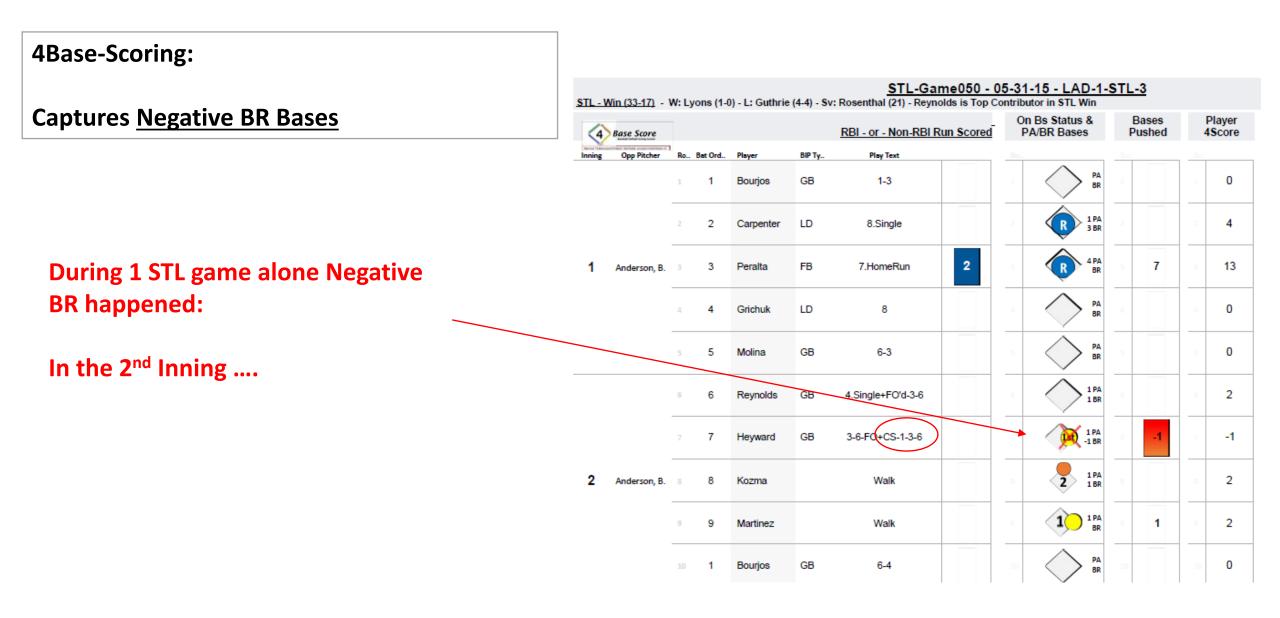
4Base-Score numerically tallies base running outs

And

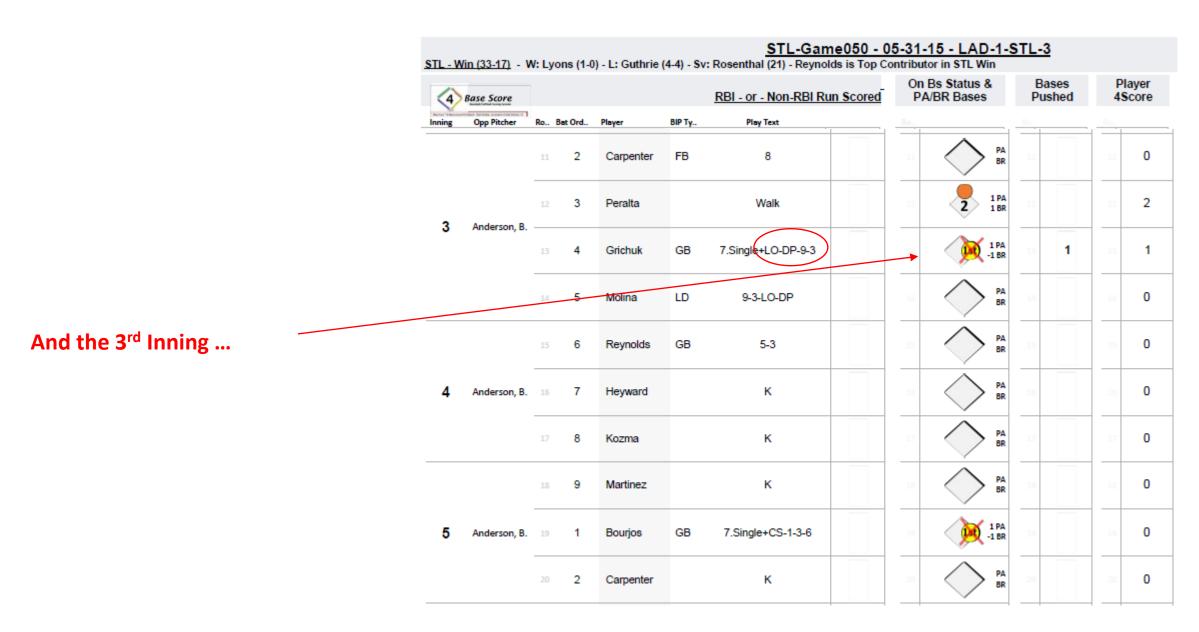
Visually shows where player was prior to Negative BR Out.

4	Base Score					RBI - or - Non-RBI R	un Scored		n Bs Status & A/BR Bases	
Inning	Opp Pitcher	Ro	Bat Ord	Player	BIP Ty	Play Text		Ro		Ro
		1	1	Bourjos	GB	1-3		1		1
		2	2	Carpenter	LD	8.Single		2	R 1 PA 3 BR	2
1	Anderson, B.	3	3	Peralta	FB	7.HomeRun	2	3	R 4 PA BR	3
		4	4	Grichuk	LD	8		4		4
		5	5	Molina	GB	6-3		5		5
		6	6	Reynolds	GB	4.Single+EQ'd-3-6		6	1PA 1BR	6
		7	7	Heyward	GB	3-6-F0+CS-1-3-6		-	1PA -1 BR	7

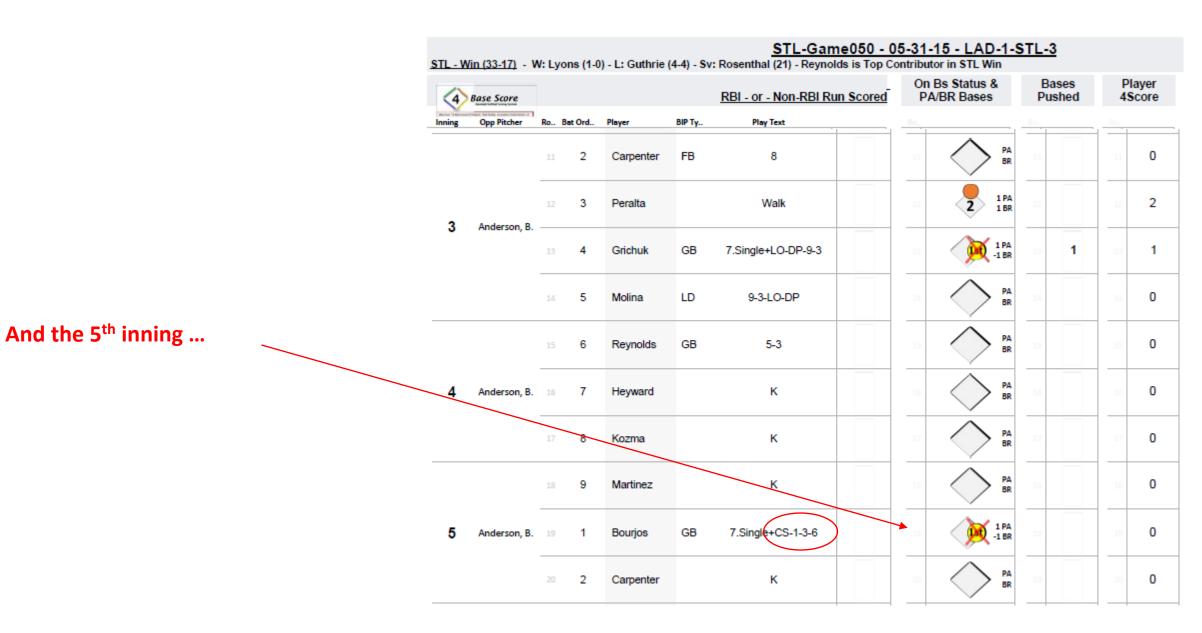














<u>4BaseScore.com</u>

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4	Base Score					RBI - or - Non-RBI Run Sc	cored		Bs Status & VBR Bases		ases Ished	PI 4S	ayer core
Inning	Opp Pitcher	Ro B	Bat Ord	Player	BIP Ty	Play Text		Ro		Ro.,		Ro.	
		27	9	Jay		Walk		27	R 1PA 3 BR	27		27	4
	Hatcher, C.	28	1	Bourjos	PU	3		28		28		28	C
		29	2	Carpenter		Walk +OutHome-7-2		•	1 PA -1 BR	29	1	29	
8			3	Peralta	FB	9.Single	1	30	2 1 PA 2 1 BR	30	3	30	(
	Garcia, Y.	31	4	Grichuk		к		31		31		31	(
		32	5	Molina	GB	7.Single		32	1 1PA BR	32	2	32	

And the 8th Inning

4 ABase Score ¹¹ & 4Base Score and 0 & Reports - Patent Pending - are property of Cycled Solutions, LLC

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Note: 4Base Scorecard highlights all 4 Negative BR Occurrences –

Box Score

2 BR outs are shown in footnote text outside the box score

Grichuk's BR Mistake - caught off 1st on a LO-DP and Carpenter's failed attempt to score -Aren't noted at all in the Box Score

😫 St. Louis Care	dinals									
Hitters	AB	R	н	RBI	BB	50	#P	AVG	OBP	SLG
Bourjos CF	4	0	1	0	0	0	10	.258	.323	. 39
Carpenter 38	з	1	1	0	1	1	20	.318	.398	.59
<u>Peralta</u> SS	3	1	2	3	1	1	19	.310	.373	.51
Grichuk LF	4	0	1	0	0	1	19	.286	.318	.55
<u>Molina</u> C	4	0	1	0	0	0	13	.284	.330	.33
Reynolds 18	з	0	1	0	0	0	8	.250	.319	.38
Heyward RF	3	0	1	0	0	1	12	.251	.303	.39
Kozma 28	1	0	0	0	1	1	11	.116	.174	.11
a-Wong PH-28	1	0	0	0	0	0	5	.310	.365	.47
<u>Martínez</u> P	1	0	0	0	1	1	11	.100	.143	.10
<u>Slegrist</u> P	0	0	0	0	0	0	0	.000	.000	.00
b- <u>Jay</u> РН	0	1	0	0	1	0	7	.257	.342	.27
Rosenthal P	0	0	0	0	0	0	0	.000	.000	.00
Totals	27	з	8	з	5	6	135			

a-grounded to shortstop for P Kozma in the 7th b-walked for K Siegrist in the 8th

BATTING

HR: Peraita (8, 1st inning off Anderson 1 on, 1 Out) RBI: Peraita 3 (30) GIDP: Wong Cardinals RISP: 2-5 (Grichuk 0-1, Bourjos 0-1, Molina 1-2, Peraita 1-1) Team LOB: 5

BASERUNNING

CS: Heyward (1, 2nd base by Anderson); Bourjos (5, 2nd base by Anderson) Picked Off: Heyward (1st base by Anderson); Bourjos (1st base by Anderson)









Run

4Base Scoring always assigns Credit For the Run

If not the batter – then it's the Base Runner

4	Base Score					RBI - or - Non-RBI	Run Scored	On Bs Star PA/BR Ba		Base Push	Play 4Sc	
Inning	Opp Pitcher		Bat Ord	I Player	BIP Ty.	Play Text		Ro		Ro	 Ro.,	
								-			 	
3	Bettis, C.	10	1	Wong	LD	9.Single++HomeWP	1	10 🛞	1 PA 3 BR	10 2	10	7



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Game 120 – 08-19-15 – SF-3 @ STL-4

STL – Win (77-43) – W: Siegrist (5-0) – L: Strickland (2-3) – Sv: Rosenthal (38) –

Post game 4Base scorecard looks like this

Molina is Top Contributor in STL Win (Crawford for SF in Loss)

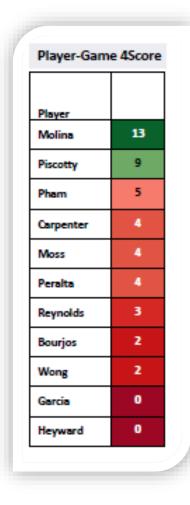
	m	-Wile G	743	- W: Singifiel (5	STL-Game12 4)-L: Stickland (24)-Sv:	Resetted (20)	- Moline is Top Contrib	utor in \$11. Win	(Crewford for 5	IF In Loss)
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There's always a clear Top Contributor (occasionally – but rarely - a tie for Top)





<u>4BaseScore.com</u>

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A Batting Order view of Player Contributions (4Score) is also produced

				layer 4:)-15 - Sl				,		
					Ba	t Order I	Nbr		_	
Player	Position	1	2	3	4	5	6	7	8	9
Molina	с				13					
Piscotty	RF		9							
Pham	CF-LF							5		
Carpenter	3B	4								
Moss	LF								4	
Peralta	SS			4						
Reynolds	1B					3				
Bourjos	PH-CF									2
Wong	2B						2			
Garcia	Р									0
Heyward	PH								0	



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"Determine the Top Contributor of a Single Game"





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So ... How does the 4Base *Game* scoring data set look when <u>Aggregated</u>?

At Season End

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<u>4BaseScore.com</u>



Rank	Player	OPS
1	Grichuk	.877
2	Carpenter	.871
3	Heyward	.797
4	Peralta	.745
5	Wong	.707





Rank	Player	Batting Avg
1	Heyward	.293
2	Grichuk	.276
3	Peralta	.275
4	Carpenter	.272
5	Wong	.262

WAR	
(Per Baseball Reference)	

Rank	Player	WAR (per Baseball Reference)
1	Heyward	6.5
2	Carpenter	3.9
3	Grichuk	3.1
4	Wong	2.2
5	Peralta	1.8



<u>4BaseScore.com</u>

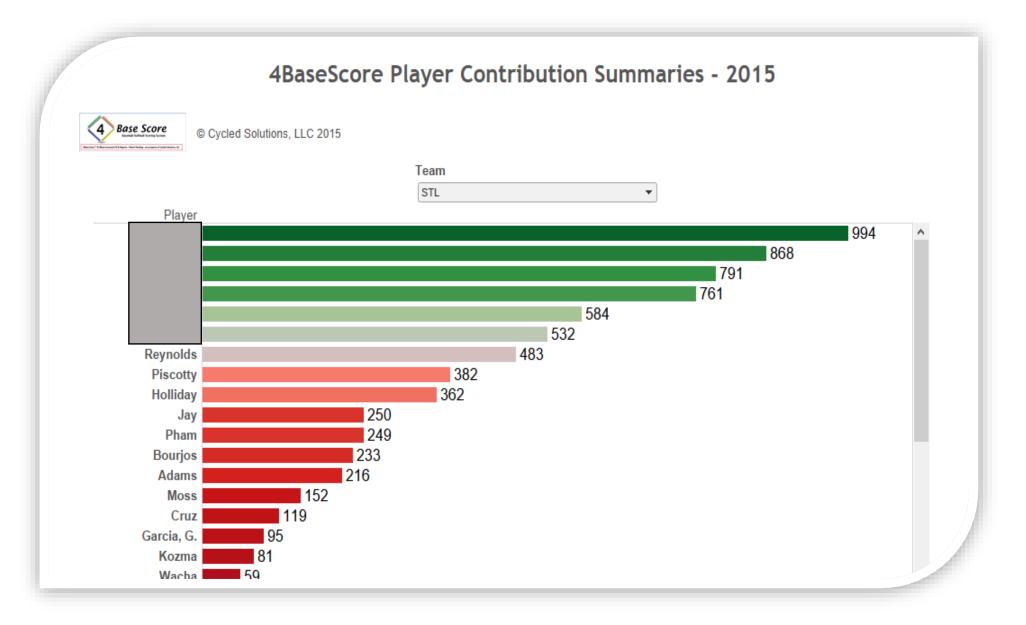
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Standard Stats for my 4Base Top 4 Contributors

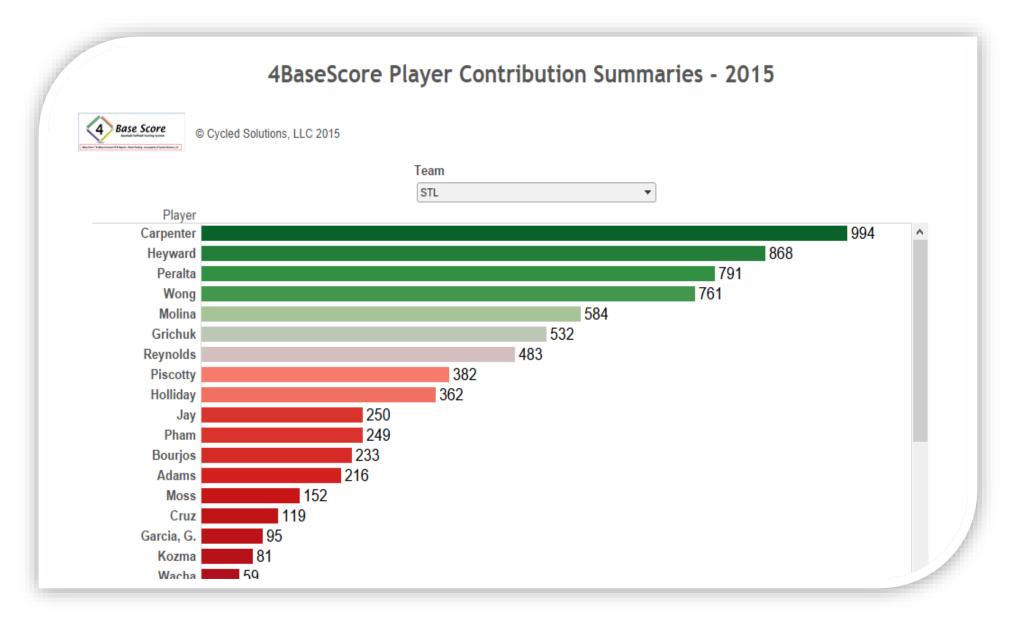
AVG .267	OBP .365	SLG .469	OPS .834	Ca	rpent	ter - #	1 (as o	of 120 Games)
	AVG .280		SLG .444	OPS .780	Pera	alta		
			AV .28		SLG .436	OPS .779	Неу	ward
						BP SLG		Wong

Player	
Carpenter	711 ^
Peralta	620
Heyward	616
Wong	613
Grichuk	491
Molina	480
Reynolds	381
Holliday	340













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Now that we've delved into 4Base Scoring ...

Here's a repeat of our round of Rapid Fire Questions –

Over/Under 120 (games played)

... Updated for 2015 Full Regular Season



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After 120 Games

How many Bases do the Cardinals have via **Productive Outs**?

Over/Under 120?



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After 120 Games

How many Bases do the Cardinals have via **Productive Outs**?

Over/Under 120?

205 Bases via Productive Outs



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Full Regular Season 2015

How many Bases do the Cardinals have via **Productive Outs**?





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Full Regular Season 2015

How many Bases do the Cardinals have via **Productive Outs**?

281 Bases via Productive Outs *223 occurrences *only 81 official sacrifices



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2015 Regular Season

281 Bases via Productive Outs

015 St. Louis	Cardinals <mark>(</mark> regular sea	son) – 4Base Score Pi
Player	Occurrences	Sum of Bases Pushed
Molina	31	43
Heyward	21	27
Peralta	18	24
Carpenter	17	18
Holliday	14	18
Wong	15	17
Cruz	11	15
Reynolds	10	13
Wacha	7	11
Bourjos	8	10
Jay	9	10
Grichuk	6	8
Martinez	5	7
Adams	6	7
Piscotty	6	7
Lookou	6	7



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After 120 Games

Number of <a>Predator Out victims - 2015 Cardinals?

Over/Under 120?

136 runners eliminated via Predator Outs



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Full Regular Season 2015

Number of **Predator Out** victims - 2015 Cardinals?

195 runners eliminated via Predator Outs



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Full Regular Season 2015

<u>Predator Out</u> base runners eliminated by Player:

	Predator Out
Player	Occurrences
Heyward	34
Peralta	29
Wong	20
Molina	16
Holliday	11
Piscotty	10
Jay	10
Reynolds	9
Carpenter	8
Cruz	8
Grichuk	6
Bourjos	6
Adams	5
Kozma	5
Moss	4
Martinez	3
Garcia, G.	3
Lackey	2
Lynn	2
Scruggs	1
Easley	1
Johnson	1
Pham	1
Grand Total	195



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After 120 Games

How many **<u>Negative Base Running</u>** outs do you think Cardinals have?

96 Negative BR Outs



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Full 2015 Regular Season

How many **<u>Negative Base Running</u>** outs do you think Cardinals have?





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Full 2015 Regular Season

How many **<u>Negative Base Running</u>** outs do you think Cardinals have?

107 Negative BR Outs *-127 Impact on the bases *38 Caught Stealing

Base Score Baseball/Softball Scoring System

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Full 2015 Regular Season

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Negative Base Running by Player:

Player	Negative Base Running Outs (includes CS)	"Bases" Impact of Negative BR Outs
Carpenter	14	-18
Heyward	12	-16
Wong	14	-15
Peralta	11	-11
Grichuk		-10
Reynolds	8	-10
Bourjos	8	-9
Jay	6	-7
Holliday	4	-5
Molina	5	-5
Piscotty	5	-5
Pham	2	-4
Moss	2	-3
Peralta-Kozma	2	-2
Lackey	1	-1
Adams	1	-1
Cruz	1	-1
Reynolds-		
Bourjos	1	-1
Kozma	1	-1
Peralta-Garcia,		
G.	1	-1
Johnson	1	-1
Grand Total	107	-127

2015 St. Louis Cardinals - 4Base Score Negative BR Outs



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Remember – "Who is my Team MVP"?

Have we answered that (& for multiple seasons)?





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Who is my team's MVP? 2013 ...

Aggregate Player Contributions	
Position Players > 100 Plate Appearances	
Games Scored - 162 Regular Season - Apr 1 - Sept 29	

MAC 1

(All)

Player	Player % Contribution	Plate Appearances
Carpenter	12.60%	717
Holliday	12.12%	596
Craig	10.84%	563
Jay	10.09%	628
Beltran	10.00%	596
Molina	9.68%	541
Freese	7.80%	515
Adams	6.24%	314
Descalso	5.53%	357
Kozma	5.13%	449
Robinson	2.40%	169
Cruz	1.56%	129



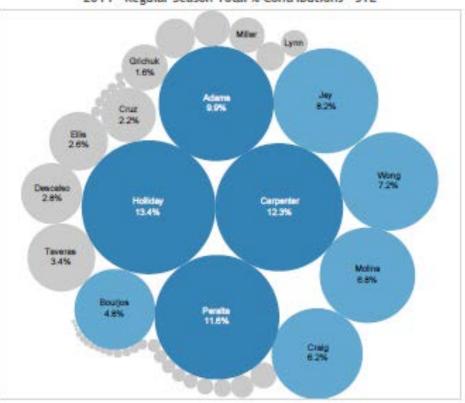
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Who is my team's MVP? 2014 ...

4BaseScore Player Contribution Summaries - STL - 2014 Regular Season

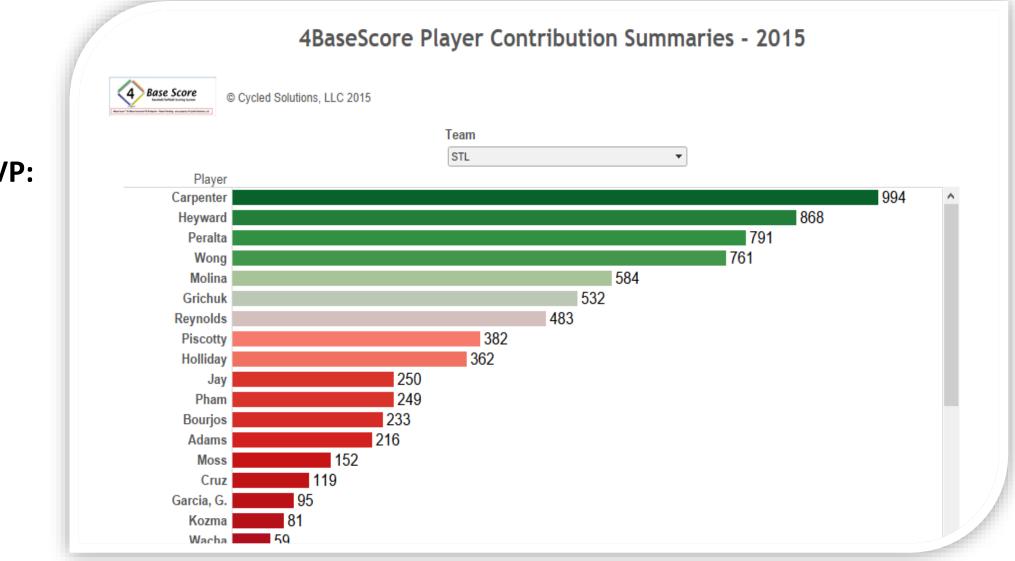








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2015 Cardinal MVP: Matt Carpenter



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My original objectives

* Create a data visualized scorecard * with Game Top Contributor * Find Team MVP



						RBI - or - Non-RBI Ru		P	Bs Status A/BR Base	25	Pu	ases Ished	4	Player Score	A	ise Score
Inning	Opp Pitcher	Ro	Bat Ord	Player	BIP Ty	Play Text 4Base	eScore	& 4t	BaseSo	core	.com	1: © C	ycle	d Solu		20
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		5	2	Piscotty	LD	8		5	\diamond	PA BR	5		5	0	Player	
1	Cain, M.	6	3	Peralta	LD	8.Double		6	Ŕ	2 PA 2 BR			6	4	Molina Piscotty	13 9
									<u> </u>	1 PA		-			Pham	5
		7	4	Molina	LD	9.Single-Out2nd-9-2-6	1	7	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	-1 BR	2	2	7	3	Carpenter	4
			5	Reynolds	LD	8.Single		11	- 🍫	1 PA 1 BR	11		- 33.	2	Moss	4
		12	6	Wong	LD	7.Single		12	10	1 PA BR	22	1	- 22	2	Peralta	4
2			7	Pham	-	к		_		PA	_			0	Bourjos	2
2	Cain, M.	13	1	Pham	_	ĸ				BR	- 10		- 13	0	Wong	2
		14	8	Moss	PU	6		24	\diamond	PA BR	- 14		- 34	0	Garcia	•
		15	9	Garcia		к		15	\diamond	PA BR	15		- 25	0	Heyward	0
		19	1	Carpenter	FB	8		19	\diamond	PA BR	- 29		- 29	0		
		20	2	Piscotty	FB	7.HomeRun	1	20	®	4 PA BR	20	4	20	9		
3	Cain, M.	21	3	Peralta	-	k		23	\diamond	PA BR	23.		21	0		
		22	4	Molina	GB	9.Single		22	1	1 PA BR	22	Ĩ.	22	1	Runs By I	nning STL
		23	5	Reynolds	FB	9		23	\sim	PA BR	23		23	0	1	1
		28	6	Wong	GB	5-3		21	Ŏ	PA BR	21		28	0	2	
4	Cain, M.	29	7	Pham	LD	9		- 20		PA BR			29	0	з	1



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The last numbers I'll present to you are my own ...

4Base Scorer Stats

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<u>4BaseScore.com</u>

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• Over 900 Games Scored

 Over 35,000 data lines (Player
 Offensive
 Appearances)

4Base Scorer's Stats - Estimated As of Nov-2015

4BaseScore: Games Scored	2015	2014	2013	Total
Prototype team: LAA Regular Season	162	162	162	486
Prototype team: STL Regular Season	162	162	162	486
2013 Postseason (STL games only)			17	17
2014 Postseason - All Teams		30		30
2015 Misc games (other teams) estimated	5			5
2015 Postseason *	31			31
	360	354	341	1055

Total 4BaseScore Data Records calc'd @ Games		
Scored x Avg OA line items (38)	38	40,090

* As of Nov-2015 there are 5 Div Series games that are partially scored (advancing team only) I plan to eventually score all games



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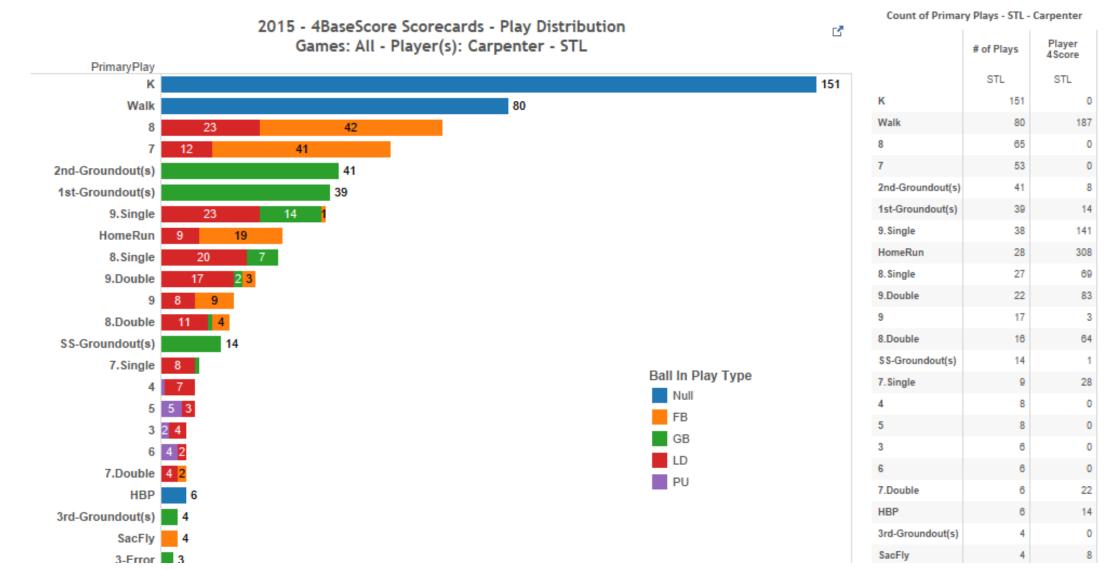
Something new since last time is a Play Distribution view – since I have my own full scoring dataset it allowed me to visually see player tendencies:

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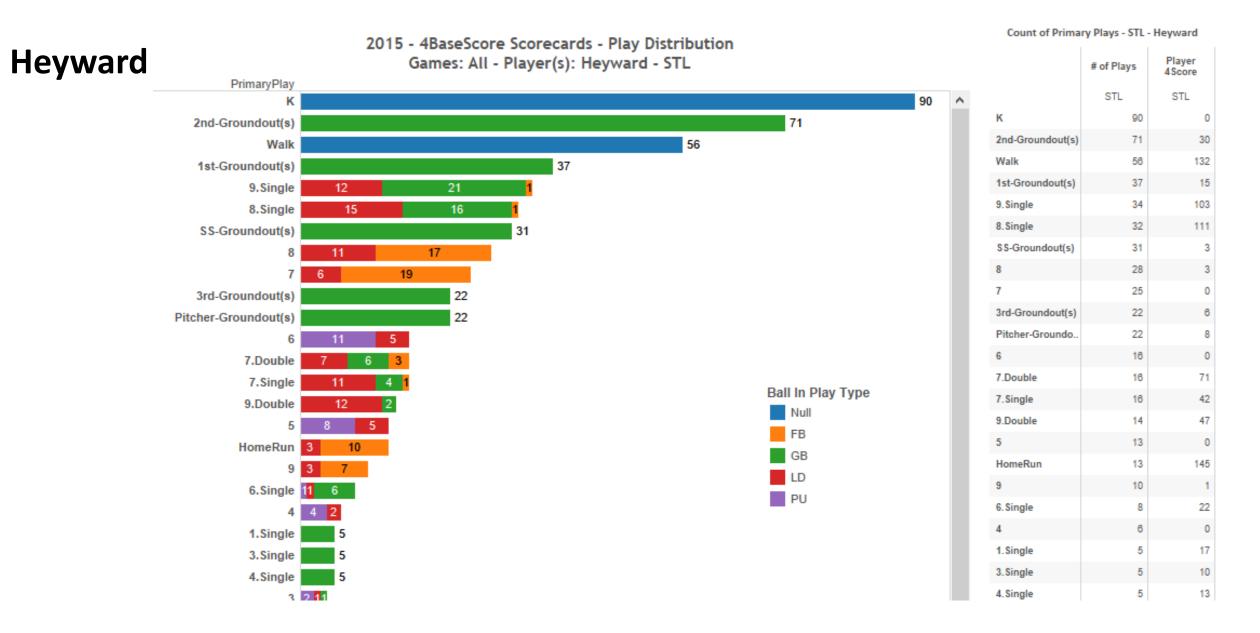
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Carpenter



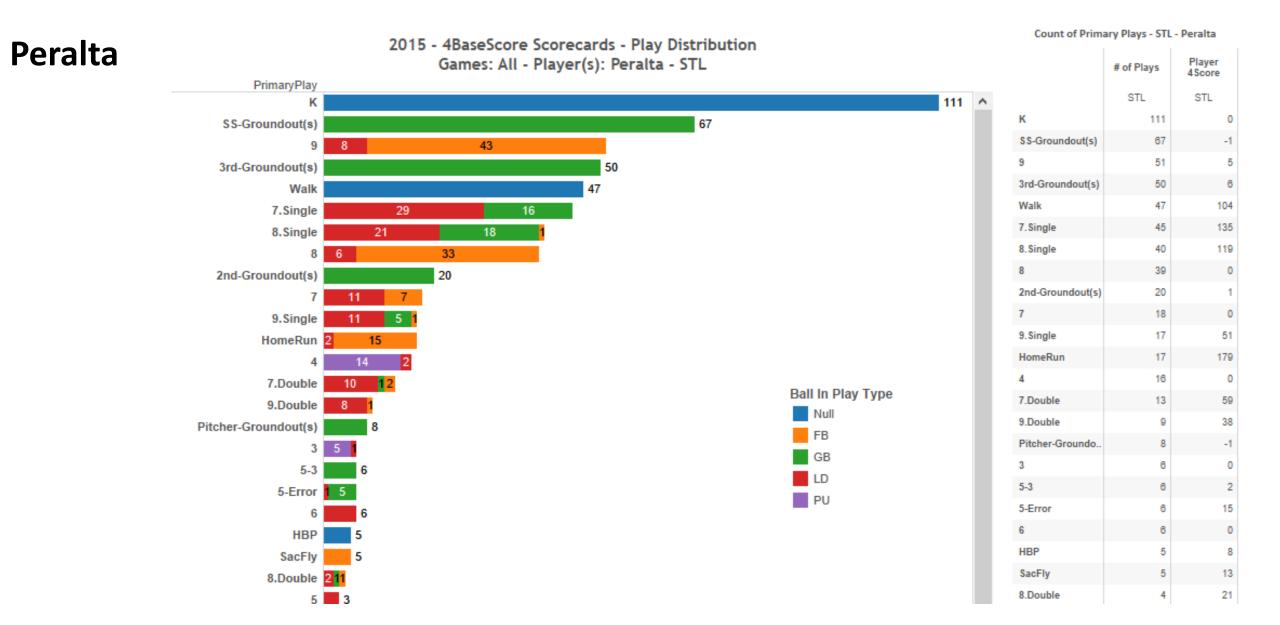
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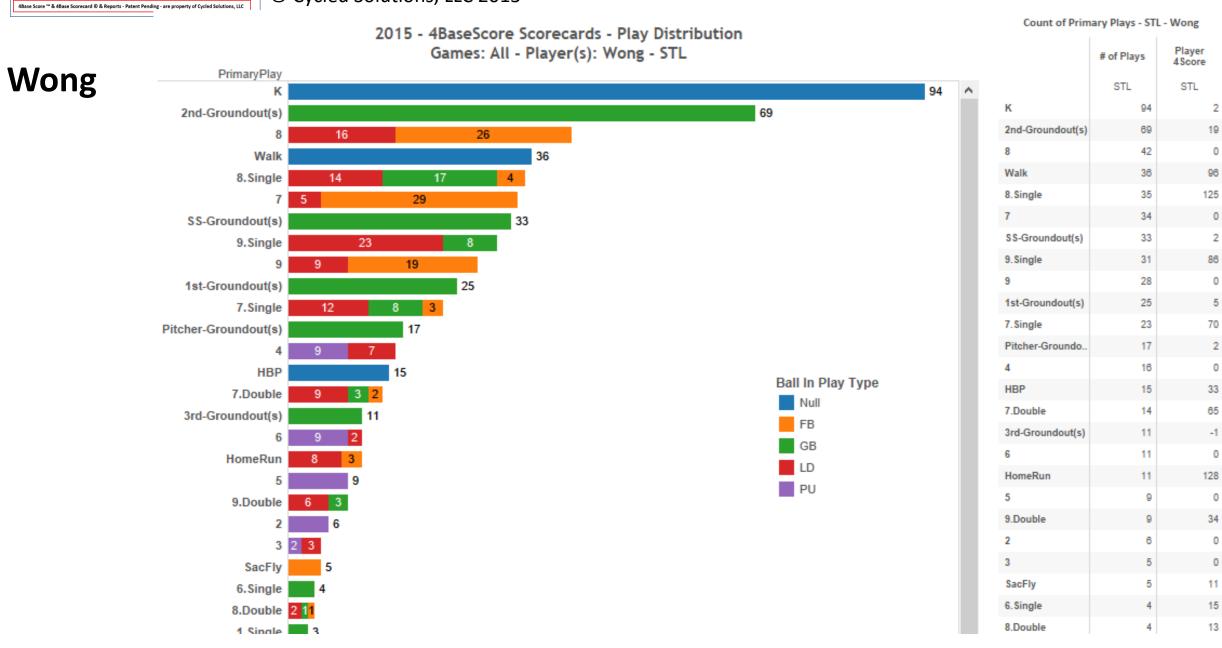
Base Score

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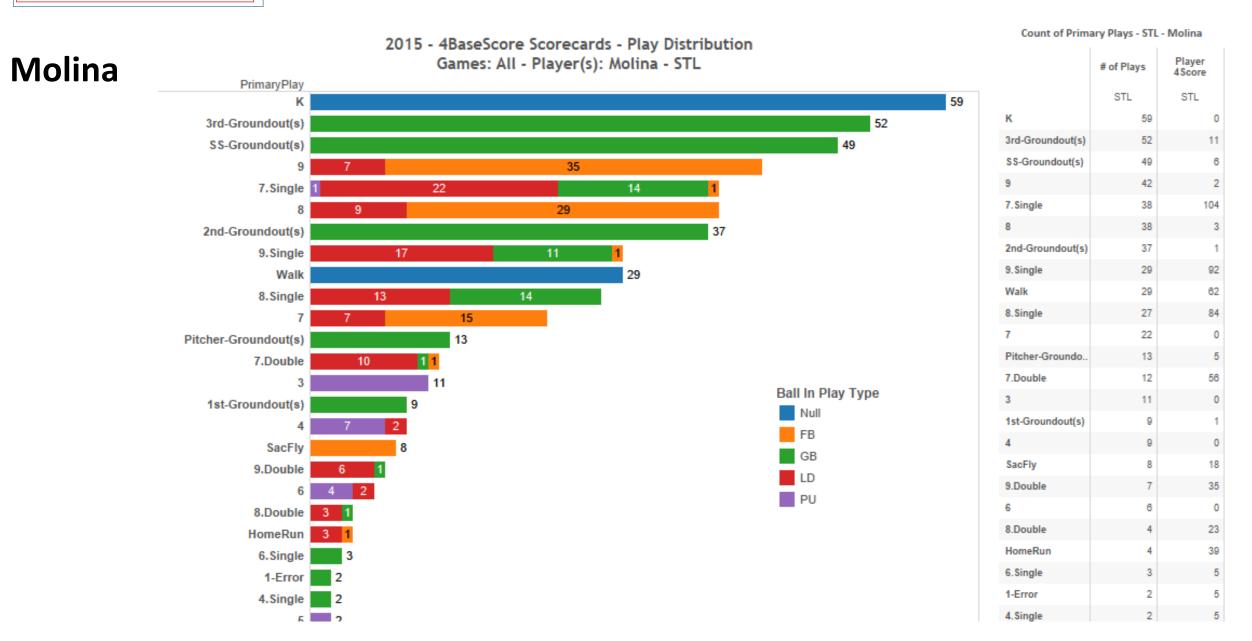
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Base Score Baseball/Softball Scoring System

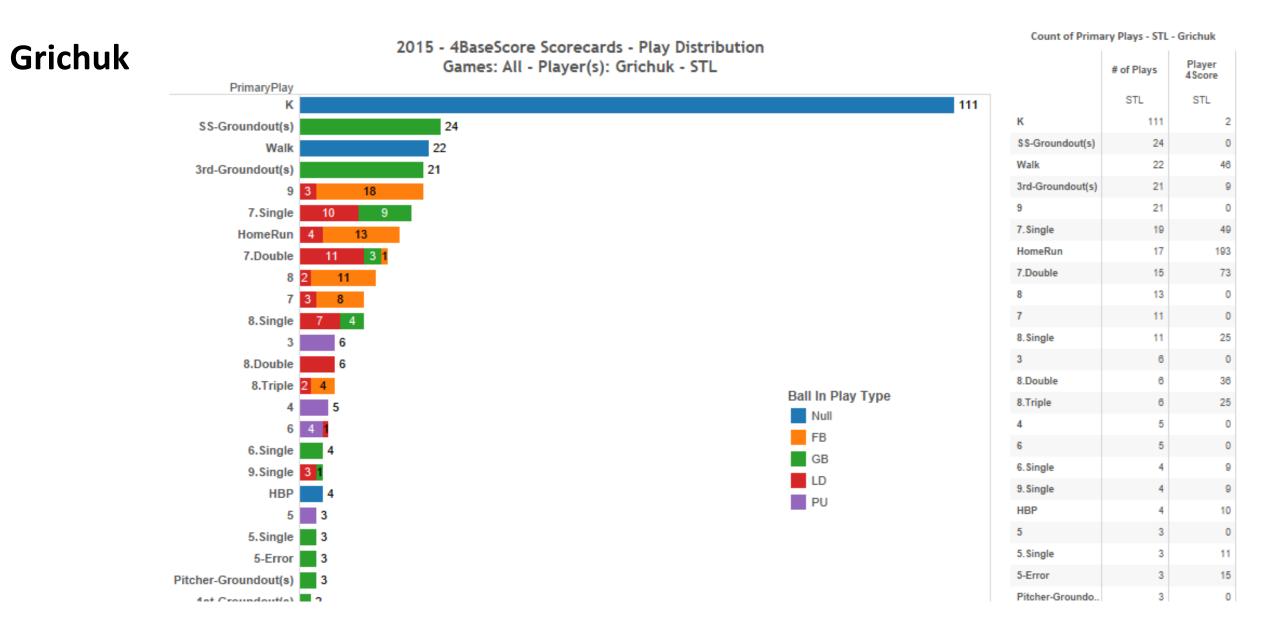
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4 Base Score Baseball/Softball Scoring System

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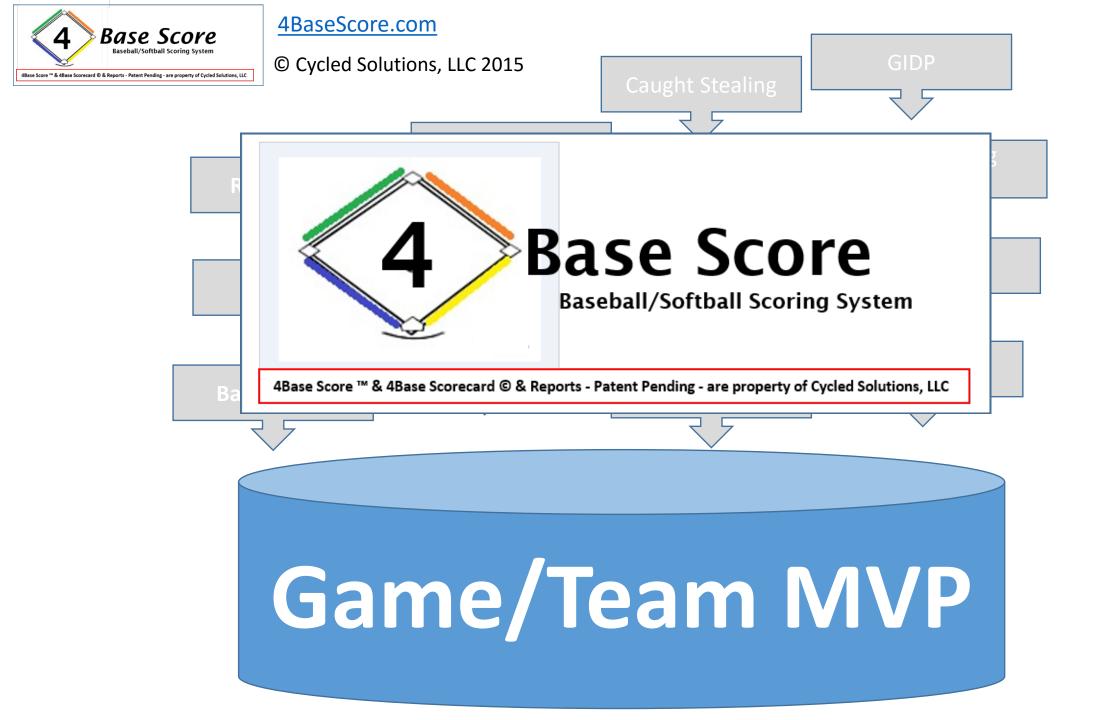


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STL

Player 4Score – spread by game – Top 6 Cardinal players







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What's next ?



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What's next ?

• Find help improving the 4Base Scoring tool – MS Access and/or other programming expertise



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What's next ?

- Find help improving the 4Base Scoring tool MS Access and/or other programming expertise
- Find help making the 4Base Scorecard completely interactive (see current demo on my website:

4BaseScore.com-Interactive-Views-Page



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What's next ?

- Find help improving the 4Base Scoring tool MS Access and/or other programming expertise
- Find help making the 4Base Scorecard completely interactive (see current demo on my website:

4BaseScore.com-Interactive-Views-Page

* Find help scoring all 30 teams next year



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What's next ?

• Find help improving the 4Base Scoring tool – MS Access and/or other programming expertise.

* Continue work on manual 4Base scoresheet



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Looking for others to join me.

Would need 29-30 other 4Base Scorers

By the end of the 2016 season we'd have a complete body of work

We'd know who each team's MVP is and how they stack up against each other



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Please visit 4BaseScore.com

Note May 2018 - the system has evolved and grown and I've now scored more games than I care to count --> multiple teams from 2013 to current. This has resulted in an extremely large data set from which I glean a lot of insight. Elements of it have been favorably reviewed by a former player, a former coach, Derrick Goold (STL Post Dispatch) and Brian Kenny (MLB Network).

This presentation originated in August 2015 and won the local STL chapter - analytics award that year.

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