ON BASE

ADVANCED

On Base Advanced (OBA) is the advanced version of the sabermetric-driven game, *On Base Baseball*. In the advanced version each outcome is derived from the previous outcome. *OBA* uses the most granular data available to recreate the look and feel of each at bat at the pitch level, not just the outcome level. This means you'll get computer game detail on the tabletop. Once you get used to the mechanics of the game you should be able to play a game in about an hour.

Dice

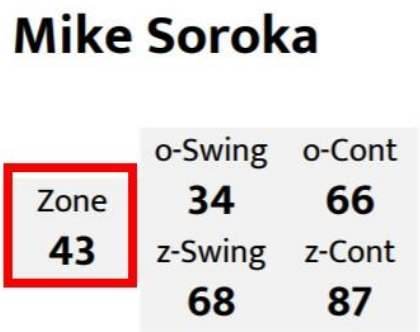
OBA uses 2 D10 dice of different colors. The dice are always rolled together. The game is built on a base 10 system with roll results ranging from 1-100. It is necessary to designate one die as the die you will read first and the other you will read second. This is a matter of personal choice for the gamer. There is no right or wrong color to designate as the first die.

How to Play

There are 6 possible rolls for an at bat to be resolved. Not every at bat will need all 6 rolls, however. Don't worry too much about the number of rolls. You'll begin to recognize when the different events occur and things will move more quickly as you roll more at bats. Let's take a look at each roll.

Roll 1

The first roll of the 2 D10 dice determines if the pitcher throws the ball in the strike zone or not. We determine this by looking on the pitcher card:



Each pitcher card has a value labeled Zone. This is the percentage of balls the pitcher threw in the strike zone for the given season. In the example above, Mike Soroka threw 43% of his pitches in the zone in 2019. Roll 1 is rolled against this value to determine if the pitch is in the strike zone or out of the zone. For the card above, if the result of Roll 1 is 1-43 then the ball is in the strike zone. If the result of Roll 1 is greater than 43 then the ball is thrown out of the zone.

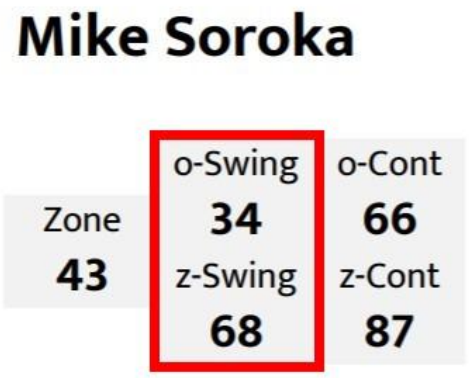
Note: OBA is a pitch-by-pitch game. Balls and strikes should be noted on the scorecard. If the pitcher throws four balls then the result is a walk for the batter. If the batter gets three strikes then he is out.

Super Advanced Option

If the roll result of Roll 1 is 100, then the result of the play is a wild pitch or a passed ball. To find out which to mark on the scorecard, roll both dice and evaluate the roll result against the catcher's Def value. If the roll result is less than or equal to the catcher's Def value then the play result is a wild pitch. If the roll result is greater than the catcher's Def value then the play result is a passed ball. If there are no runners on base then there is no need to roll again. The result of the play is a ball.

Roll 2

Roll 2 determines whether or not the batter swung at the pitch and uses the o-Swing (swing percentage on pitches out of the strike zone) and z-Swing (swing percentage on pitches in the strike zone) values. Batters swing at pitches both in the zone and out of the zone so a pitch out of the zone is not necessarily a ball. If the pitch is in the strike zone, use the z-Swing value for Roll 2. If the pitch is not in the zone, use the o-Swing value. Compare the result of Roll 2 with the appropriate swing percentage.



If the result of Roll 2 is *equal to or less than* the swing percentage value then the result is that the batter has swung at the pitch. If the result of Roll 2 is *greater than* the swing percentage

value on the pitcher card then the batter has not swung at the pitch. If the pitch is swung on then the at bat moves onto Roll 3. If there is no swing and the pitch is in the zone, then the result is a strike. If there is no swing and the pitch is not in the zone then the result is a ball. The at bat then goes back to Roll 1.

Automatic Strikeouts

In an effort to normalize strikeouts and walks an automatic K and BB rule has been added to Roll 2. If the pitch is in the zone then you will look at the pitcher's K% (located below on the last line of the player card). Round down the K%. If the roll result is equal to or less than the pitcher's K% then the result of the at bat is a strikeout. Go on to the next batter.

If the roll result is greater than the pitcher's K% but equal to or less than the z-Swing value then the result of the pitch is a swing. Proceed to Roll 3.

If the roll result is greater than the z-Swing value then the result of the pitch is no swing, and the pitch results in a called strike. Go back to Roll 1 and throw the next pitch.

Automatic Walks

If the pitch is out of the zone then you will look at the pitcher's BB% (located next to the K% on the player card). To find the automatic BB range, round the BB% down then subtract that from 100. For example, if the BB% of the pitcher is 7% then you would subtract 7 from 100 (93). The automatic BB range is from 93-100. If the roll result is equal to or greater than the automatic BB range then the result of the at bat is a walk. Go on to the next batter.

If the roll result is less than the automatic BB range but greater than the o-Swing value then there is no swing and the result of the pitch is a ball. Go back to Roll 1 and throw the next pitch.

If the roll result is equal to or less than the o-Swing value then the result is a swing. Proceed to Roll 3.

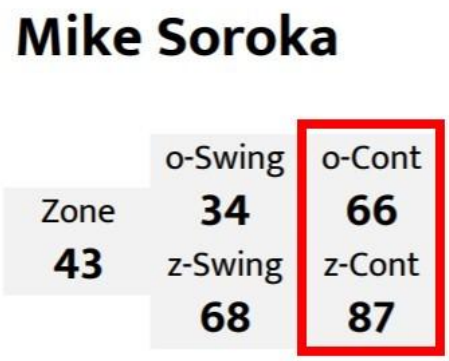
Super Advanced Option

If the result of Roll 2 is 100, then the result of the play is a hit by pitch. The batter takes first and all other runners move up 1 base.

Roll 3

Roll 3 determines whether or not the batter makes contact with the ball. If the result of Roll 2 is a swing then we need to check whether or not the batter made contact on the swing. Generally, batters make more contact with pitches in the zone than out of the zone. If the pitch is out of the zone then the o-Cont (contact percentage on pitches outside the zone) value should be rolled

against. If the pitch is in the zone then the z-Cont (contact percentage on pitches inside the zone) value should be used for Roll 3.



If the result of Roll 3 is *equal to or lower than* the contact percentage then the result is that the batter makes contact with the pitch. The at bat then moves on to Roll 4. If the result of Roll 3 is *higher than* the contact percentage value then the result is a swing and miss. The batter takes a strike and the at bat goes back to Roll 1.

Super Advanced Option

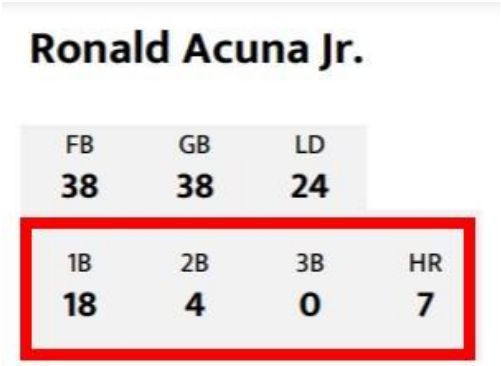
In a baseball game ach change of the count increases or decreases the odds of getting a hit in a game. It is no different in *On Base Advanced*. For every ball thrown add 5 to the contact %. For every strike thrown, subtract 5 from the contact %.

For the pitcher in our example on an 0-2 count the o-Cont value would be 56 and the z-Cont value would be 77. This gives the hitter less of a chance to hit the ball down in the count.

If you would like to allow foul balls then this is the roll to add them. If the roll result is greater than the contact % but the roll result is doubles then the result of the pitch is a foul ball. This is a way for the batter to "stay alive" in the at bat. A strike is added to the count if the batter has fewer than 2 strikes against him. Go back to Roll 1.

Roll 4

For Roll 4 we shift over to the batter card. This roll determines whether the contact that the batter made will result in an automatic safe hit. Evaluate the result of Roll 4 against this set of numbers on the batter card:



These numbers represent the player's percentage of at bats that season for each type of safe hit. The types of hits are:

1B = Single
2B = Double
3B = Triple
HR = Home Run

For the batter above there is a 29% chance of an automatic safe hit. If the roll result is 1-18 then the batter hits a single. If the roll result is 19-22 (18+4) then the batter hits a double. There is no chance for a triple. If the roll result is 23-29 (22+7) then the batter hits a home run.

If the batter hits safely the you can continue rolling to see what type of hit it was and where the it was hit or simply end the at bat and move to the next batter.

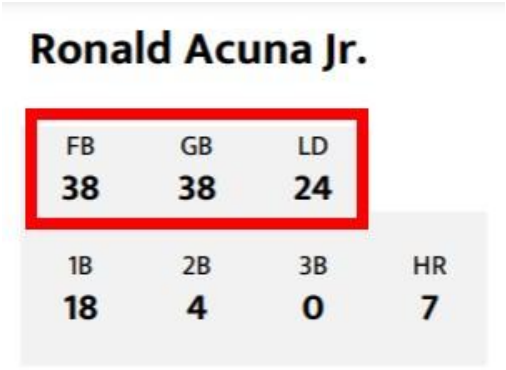
Super Advanced Option

You can bring in advanced baserunning options, such as taking extra bases, by continuing to rolls 5 and 6. They will tell you what sort of contact type the batter made and which fielder received the ball. You can use this information to determine if the ball was fielded cleanly and/or the runners try for extra bases.

Roll 5

Roll 5 determines the type of contact the batter makes. There are three types of contact: Fly Ball (FB), Ground Ball (GB), and LIne Drive (LD).

Reading the outcomes for hit types can be a little tricky at first but you'll get the hang of it. Let's take a look at Ronald Acuna's batter card:



We take the result of Roll 5 and compare it against the FB, GB, and LD values. These numbers represent the actual percentages of each contact type for the hitter that season.

Note: The three values should add up to exactly 100. If they do not (which occasionally happens because of rounding) then adjust the LD value so that the total equals 100. Do not adjust the FB or GB values.

For Acuna's card above, if the result of Roll 5 is 1-38 then the type of contact is a fly ball. If the result of the roll is 39-76 then the outcome is a ground ball. Finally, if the roll result is 77-100 then the outcome is a line drive. It might help to envision the three numbers on a line with 100 marks. Marks 1-38 are fly balls. Marks 39-76 are ground balls. And every mark from 77-100 is a line drive.

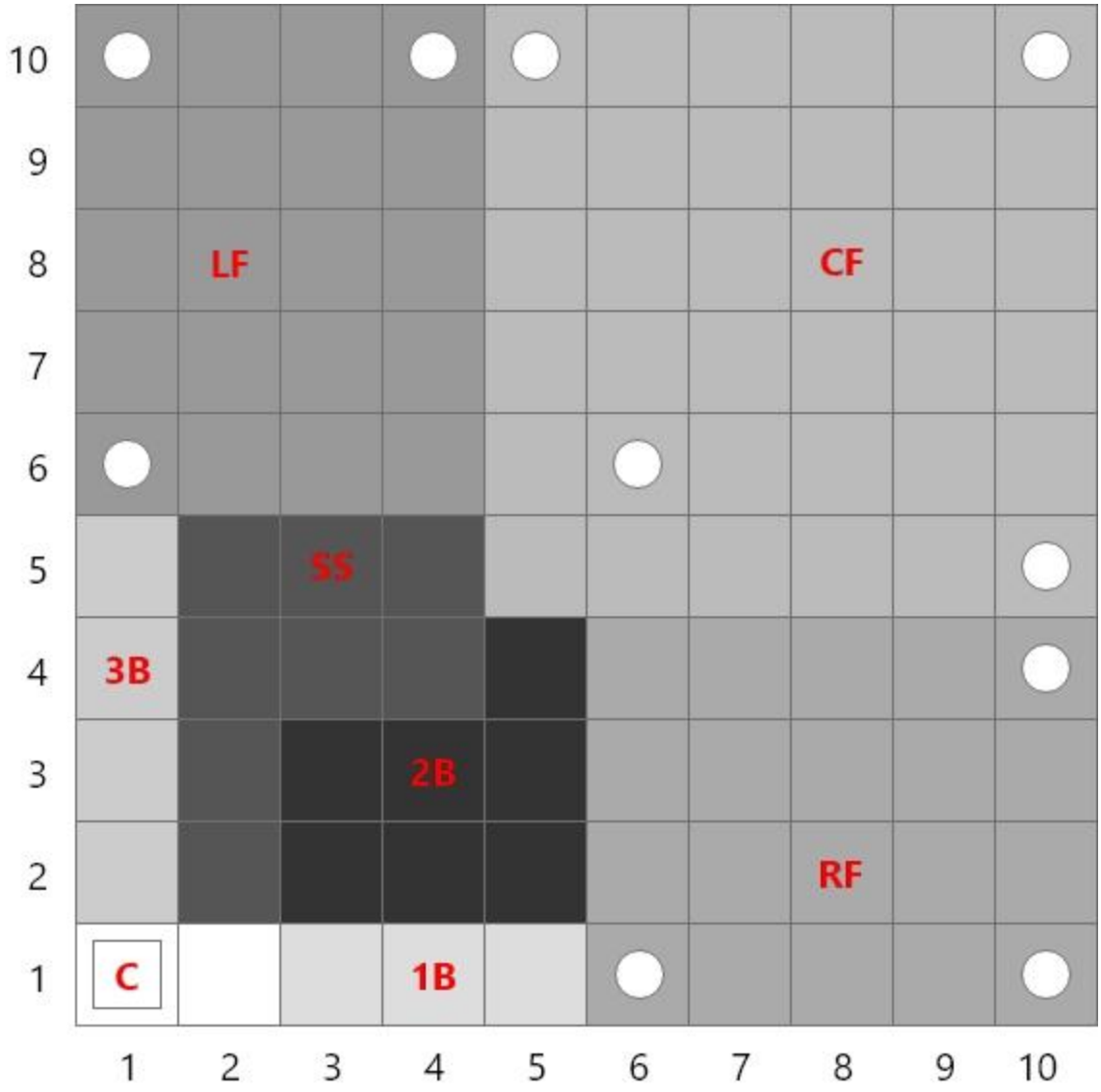
One you have determined the contact type proceed to Roll 6 and the fielding matrices.

Roll 6

The final roll of the at bat is Roll 6. This roll determines what part of the field the ball is hit to and if we need to perform an error check, range check, HR check, or if the player in the field makes the play outright.

The image below is called a fielding matrix. It consists of 1-10 on the x-axis and 1-10 on the y-axis. Roll 6 should be read as two numbers. For example a roll of 2 and 9 should be read as 2 and 9, not 29. In this example 2 would be the number on the y-axis and 9 would be the number on the x-axis. We have a separate matrix for each contact type. They can be downloaded and printed with the other game components.

Let's look at the fly ball (FB) matrix:



In our example of a 2 and 9 the ball would go to the right fielder. You can remember it as “up and over” which should help you know how to read each matrix. A roll of 2 and 4 would be a pop up (fly ball) to the first baseman.

Error checks are performed only when the ball is hit to a square on the matrix that has a square inside it. You can find them easily by looking for the position label inside a white square (the C position on the matrix above). If there is no white square for the result then there is no error check.

To perform an error check roll both dice and compare the result to the fielder’s Def value. If the roll result is equal to or lower than the Def value then the player makes the play. If the roll result is higher than the player’s Def value then the result of the play is an error.

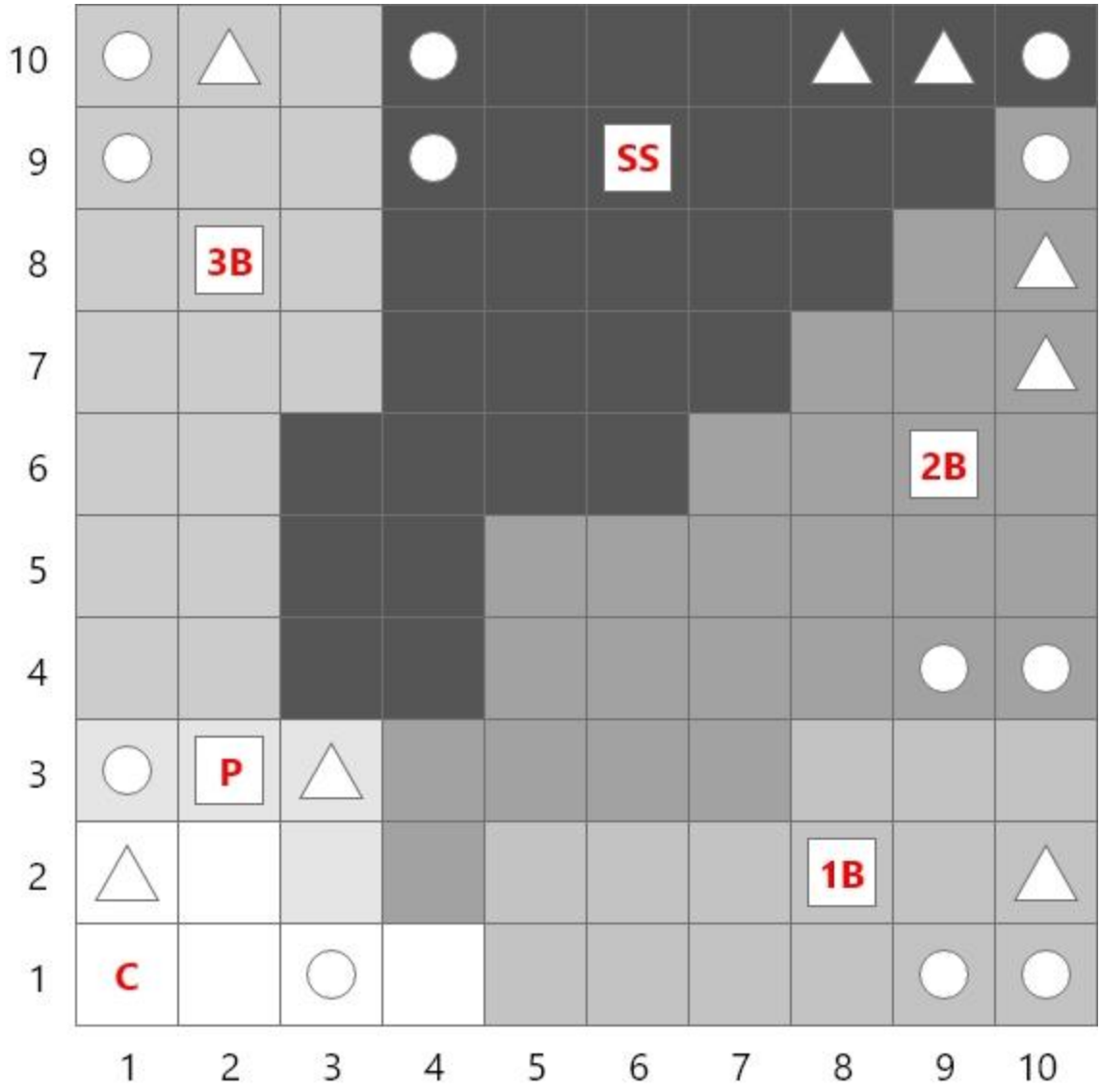
If the play result is an error, check to see if the runners get an extra base or not. Roll the dice again and evaluate the roll result against the *slowest* runner's BsR value. If the roll result is equal to or lower than slowest runner's BsR value then each player takes an extra base on the error (a two-base error). If the roll result is higher than the slowest runner's BsR then the error is only a one-base error. Each runner moves up one base on the play.

Home run checks should be made when a player hits the ball to the wall. In other words, if one of the Roll 6 die values is a 10 then a HR check should be made. Roll both dice and compare that number against the player's HR percentage on his card. If the result of the roll is equal to or less than the HR value on the player's card then the result is a HR. If the roll result is higher than the HR value on the player's card then the result is either an out or a range check. In the case where there is a white circle in the square (such as 10 and 10 above) then the HR check should be made first then the range check can be made if there is no HR.

The white circles on the fielding matrix indicate that a range check must be made. If our Roll 6 result was 7 and 1 then a range check needs to be made on the left fielder since the ball is hit into his zone. Range checks are completed just like error checks. Roll the dice and compare the roll result against the player's Def value. If the roll result is equal to or lower than the Def value then the player makes the play. If the roll result is higher than the player's Def value then the result of the play is a safe hit.

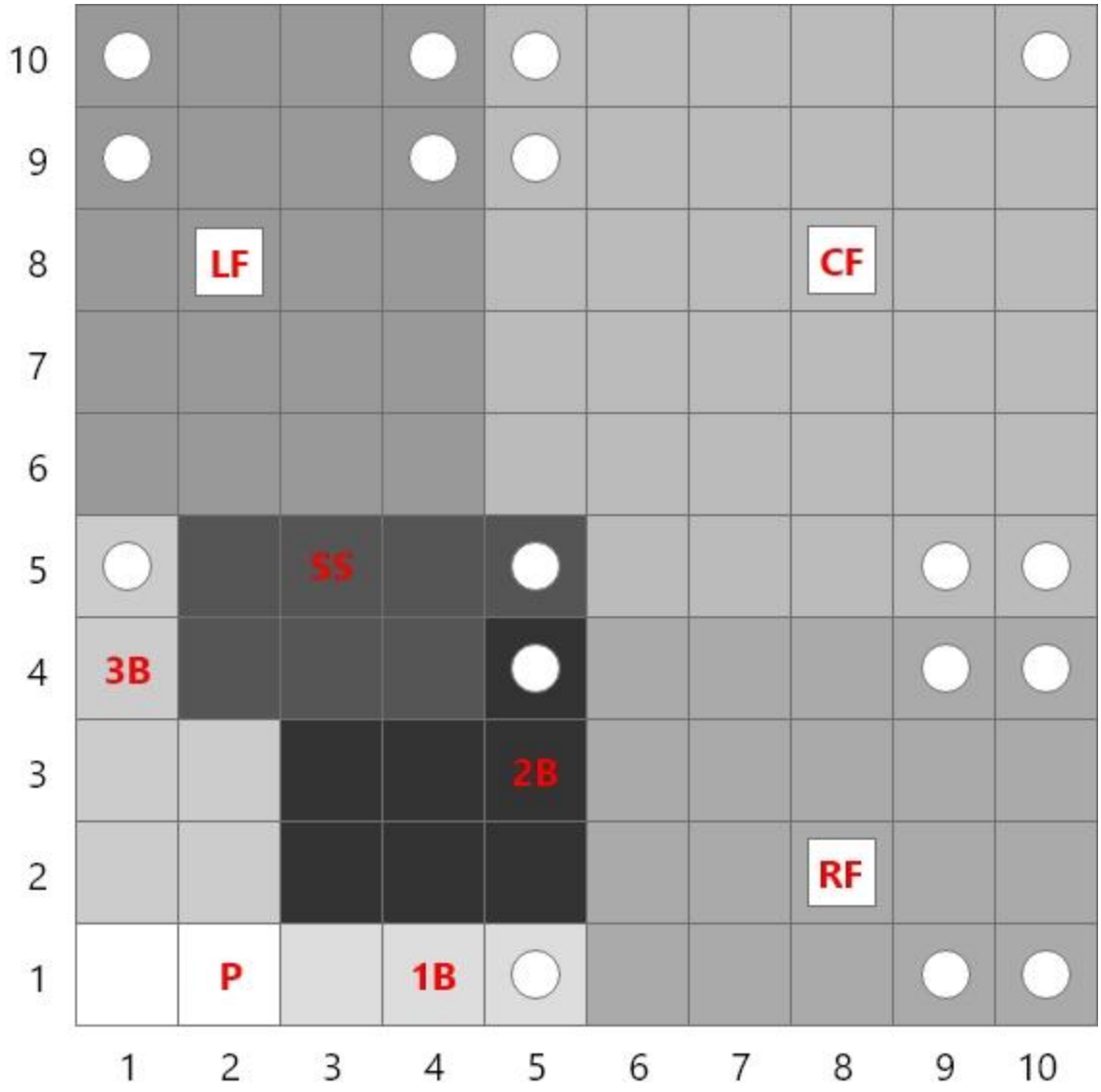
If the result of a range check is a safe hit then you can check for an extra base by rolling against the batter's BsR value. If the roll is equal to or lower than the batter's BsR value then the batter gets an extra base (e.g., a single stretched to a double). If the roll result is higher than the batter's BsR value then the result is no extra base on the play.

Here is the ground ball fielding matrix that is to be used when the contact type is a ground ball:



Notice the triangles on the ground ball chart. This indicates an automatic double play. If the ball is hit to a square with a triangle (and there is an opportunity for a double play) then the two lead runners are automatically out. If no double play situation exists then the result is an out at first base.

This is the fielding matrix for line drives:

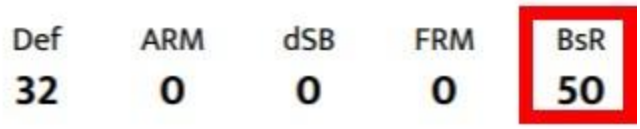


Once all 6 rolls have been resolved the at bat is resolved. If there are three outs then the teams change sides. If not then the next batter begins his at bat with Roll 1.

Baserunning

Stealing Bases

To steal a base, declare the intention to steal and then roll the dice. Compare the roll result with the BsR value on the batter card:



The BsR value is a baserunning metric created by Fangraphs that takes into account multiple aspects of baserunning and stealing and condenses that down to one number. The number is called Baserunning Runs Above Average. For *On Base Advanced* league average is 50. Any number higher than that means the player is a better than average baserunner. Anything below 50 means he is a below-average baserunner. Our example runner here is an average baserunner.

To steal with this player, roll the dice and compare the number to the runner's BsR value. If the roll result is *equal to or lower than* the BsR value then the player successfully steals the base. If it is *higher than* the BsR value then the batter is out.

Two other values have an effect on the baserunner's ability to steal bases. The first is the catcher's and/or pitcher's dSB value. This represents how well the catcher or pitcher controls the running game, including figuring in caught stealing. To use this number you will add or subtract it from the baserunner's BsR value.

This catcher's dSB rating is -5, which means he is worse than average at controlling the running game. Therefore, 5 is *added to* the baserunner's BsR value. A catcher who does not control the running game well should give the baserunner an advantage. If the dSB was +5 then 5 would be *subtracted from* the baserunner's BsR value. A catcher with a positive value controls the running game better than the average catcher so the baserunner should have less of a chance to steal the base.

Pitchers also have an opportunity to affect the running game. If a pitcher has a dSB rating that is not equal to 0 then that should also be added to or subtracted from the baserunner's BsR. These additions and subtractions should happen before the roll is made to determine the stolen base. The final BsR value is one that has been adjusted according to the pitcher's and catcher's dSB rating.

Extra Bases and Tagging Up

Like stolen bases, taking extra bases and tagging up is straightforward. First, declare the intention to take an extra base or tag up then roll the dice. Compare the roll result against the outfielder's ARM value. If the roll result is equal to or lower than the fielder's ARM value then the runner is out. If it is higher than the fielder's ARM value then the runner's are safe.

Double Plays

Double plays are not always automatic in *On Base Advanced.* The BsR value that will help to determine the results of a double play. When there is a double play situation (a force out) and a ground ball is hit to an infielder then the first force out can be assumed. Then roll against the batter's BsR to see if he beats out the throw to first base.

For example, if a ground ball has been hit to shortstop with a runner on first base then the out at second base can be assumed. At the very least the play will result in a 6-4 fielder's choice. However, we can try for a double play by rolling the dice again and comparing them with the batter's BsR value. If the roll result is *less than or equal to* the batter's BsR value then the runner is safe. If the roll result is *greater than* the batter's BsR value then the runner is out. The faster the batter the more difficult it will be to double him up.

If the ball goes to a square on the fielding matrix that has a triangle, a double play is automatically turned. The two lead runners are automatically out on the play.

Pitcher Stamina

There are multiple ways to handle pitcher stamina. Each pitcher card has a Stamina value.

The Stamina value is the pitcher's average batters faced for that season. It is figured as Total Batters Faced / Games. All starting pitchers should have a stamina value of at least 20.

If a pitcher begins an inning below his stamina value but goes over his stamina rating in that inning he can continue to pitch that inning without being pulled. He must be replaced if he will start the next inning *over* his stamina value.

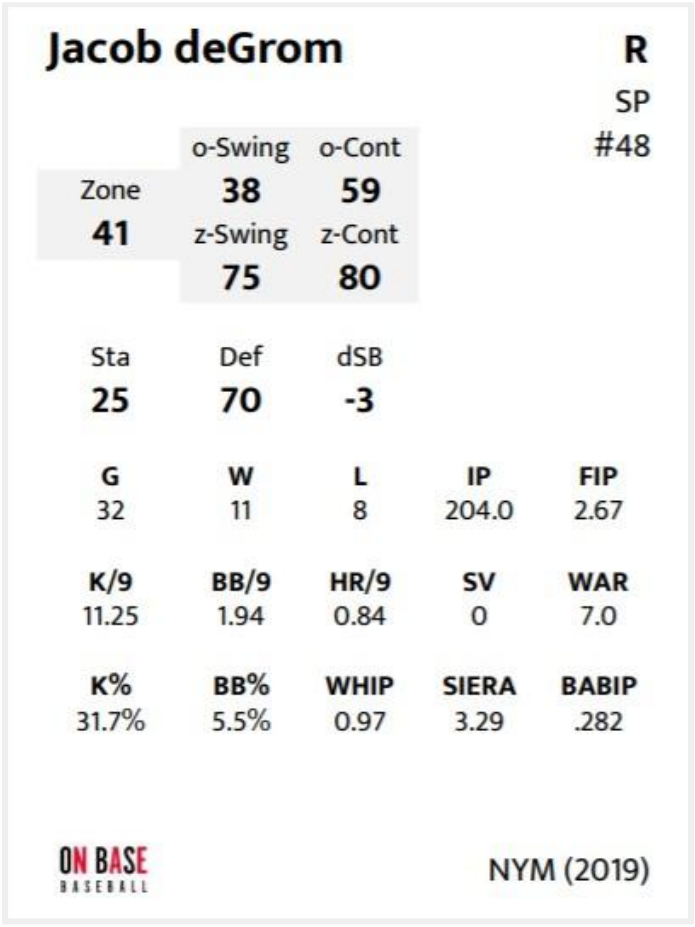
Super Advanced Option

Because *On Base Advanced* is a pitch-by-pitch game we can also make determinations on when to pull pitchers based on pitch counts. Most starters can throw 80-100 pitches before tiring. This will sometimes add 1-2 innings to a starter's endurance. You can also determine rest days for both starters and relievers based on pitches thrown.

OBA Player Cards

Pitcher Cards

This is what the pitcher cards look like for *OBA*:



Let's briefly look at each of the components of the card and what they mean, beginning from left to right, top to bottom.

Name: The player's name
Handedness: Which arm the pitcher uses to throw
Role: A pitcher's primary role. He can be listed as a starting pitcher (SP) or relief pitcher (RP)
Jersey Number: The pitcher's primary number

Zone: The percentage of pitches thrown in the strike zone for the given season. This is used as the value to evaluate in roll 1.
o-Swing: The percentage of swings the pitcher got on pitches thrown out of the strike zone. If Roll 1 is out of the zone this is used to evaluate Roll 2.
o-Cont: The contact percentage on balls thrown out of the strike zone for a given pitcher. If Roll 2 is a swing on a ball out of the zone this is used to evaluate Roll 3.
z-Swing: The percentage of swings the pitcher got on pitches thrown in the strike zone. If Roll 1 is in the zone this is used to evaluate Roll 2.
z-Cont: The contact percentage on balls thrown in the strike zone for a given pitcher. If Roll 2 is a swing on a ball in the zone this is used to evaluate Roll 3.

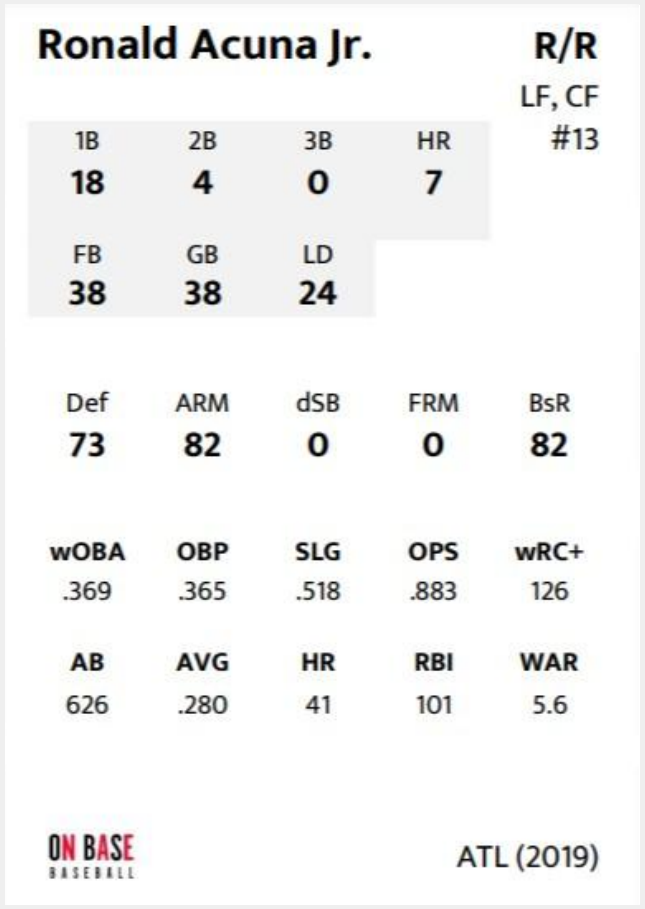
Sta: The stamina of the pitcher based on average batters faced. It is calculated as total batters faced for the given season / games.
Def: The defense value for the pitcher. Used to perform range and error checks.
dSB: The Defensive Stolen Bases value shows how well the pitcher controls the running game. Zero is average. Anything above 0 is above average, anything below 0 is below average. A positive value is subtracted from the baserunner's BsR before a stolen base attempt. A negative value is added to the baserunner's BsR.

G: Games pitched in
W: Wins
L: Losses
IP: Innings pitched
FIP: Stands for *Fielding Independent Pitching*. FIP is a measurement of a pitcher's performance that strips out the role of defense, luck, and sequencing. Read more about FIP.
K/9: Strikeouts per 9 innings
BB/9: Walks per 9 innings
HR/9: Home runs allowed per 9 innings
SV: Saves
WAR: Wins Above Replacement. Measures a player's overall value compared to a freely available player who can be signed for the league minimum salary. This value attempts to answer the question, "If this player got injured and their team had to replace them with a freely available minor leaguer or a AAAA player from their bench, how much value would the team be losing?" A value of 0.0 is exactly equivalent to a minor leaguer or AAAA bench player. Learn more about WAR.
K%: Strikeouts per batters faced

BB%: Walks per batters faced
WHIP: A measurement of how many base runners a pitcher allows per inning. Figured using this equation: (Walks + Hits) / Innings Pitched
SIERA: Skill-Interactive ERA. An attempt to more accurately model what makes a pitcher successful by looking at the *how* and *why* of pitching. Similar to FIP but it does not ignore balls in play. Learn more about SIERA.
BABIP: Batting Average on Balls in Play. Measures how often a ball in play goes for a hit, with a ball "in play" being a plate appearance that ends in something other than a strikeout, walk, hit batter, catcher's interference, sacrifice bunt, or home run. Learn more about BABIP.

Batter Cards

This is what the batter cards look like for *OBA*:



Let's briefly look at each of the components of the card and what they mean, beginning from left to right, top to bottom.

Name: The player's name

Handedness: The batting and throwing hands for the player. Read it as Bats/Throws
Position(s): The main fielding position(s) played by the batter in the given season.
Jersey Number: The hitter's primary number

1B: Percentage of at bats that resulted in a single.
2B: Percentage of at bats that resulted in a double.
3B: Percentage of at bats that resulted in a triple.
HR: Percentage of at bats that resulted in a home run.
FB: Fly Ball %. Calculated as fly balls / balls in play.
GB: Ground Ball %. Calculated as ground balls / balls in play.
LD: Line Drive %. Calculated as line drives / balls in play.

Def: The defense value for the pitcher. Used to perform range and error checks.
ARM: Outfield Arm Runs. The amount of runs above average an outfielder saves with their arm by preventing runners from advancing. Used on some baserunning plays.
dSB: The Defensive Stolen Bases value shows how well a catcher controls the running game. Zero is average. Anything above 0 is above average, anything below 0 is below average. A positive value is subtracted from the baserunner's BsR before a stolen base attempt. A negative value is added to the baserunner's BsR.
FRM: Framing Runs Above Average. Shows how many runs above average a catcher's framing ability is worth. A positive value is added to the pitcher's Zone value, increasing the pitcher's possibility to throw pitches in the strike zone. A negative value is subtracted from the pitcher's Zone value, decreasing the pitcher's possibility to throw pitches in the strike zone.
BsR: Baserunning Runs Above Average. A single number that represents how good a baserunner the batter is. It takes into account baserunning, stolen bases, and caught stealing. The main baserunning number, used for multiple baserunning plays. A value of 50 represents an average speed baserunner.

wOBA: Weighted On-Base Average. Combines all the different aspects of hitting into one metric, weighting each of them in proportion to their actual run value. A modern replacement for AVG, OPS, and SLG. Learn more about wOBA.
OBP: On-Base Percentage. Measures the batter's ability to reach base safely via hit, walk, or hit by pitch.
SLG: Slugging Percentage. Average number of total bases per at bat, calculated as Total Bases/AB.
OPS: On-Base Plus Slugging. Combination of OBP and SLG, calculated as OBP+SLG.
wRC+: Weighted Runs Created Plus. A park- and league-adjusted measure of a player's ability to create runs. It attempts to credit a hitter for the value of each outcome instead of treating all hits or times on base equally. Learn more about wRC+.
AB: At bats
AVG: Batting Average
HR: Home Runs
RBI: Runs Batted In

WAR: Wins Above Replacement. Measures a player's overall value compared to a freely available player who can be signed for the league minimum salary. This value attempts to answer the question, "If this player got injured and their team had to replace them with a freely available minor leaguer or a AAAA player from their bench, how much value would the team be losing?" A value of 0.0 is exactly equivalent to a minor leaguer or AAAA bench player. Learn more about WAR.

Game Feedback

On Base Advanced is a brand new game. There are no doubt holes and things that can be improved in the game play. Please provide feedback about the game so those holes can be closed up and it can be made better or more complete.

You can email the game designer at:
onbasebaseball@gmail.com