



MLB Players STEM League

Stephen Cruse

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FRESH**

PRIME TIME PALM BEACH COUNTY AFTERSCHOOL SYMPOSIUM 2025

Empowering Young Minds, Engaging Communities, Creating Lasting Impact

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Learn Fresh is a nonprofit organization dedicated to empowering students with essential STEM skills that will equip them for success in a global economy. By leveraging students' passion for sports and entertainment, Learn Fresh programs inspire leadership, academic growth, and career exploration across industries. Our programs serve as an early intervention in career pipelines, preparing students for a future where STEM proficiency and problem-solving abilities are key to success.

Through engaging, fun, and impactful learning experiences, Learn Fresh programs like NBA Math Hoops, MLB Players STEM League, MLS STEM Goals, and EcoTour help students develop critical thinking, teamwork, and leadership skills. To date, we have reached over 1 million students across the US and internationally, making a lasting impact on their academics and personal growth.

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Learn Fresh programs include MLB Players STEM League, NBA Math Hoops, and MLS STEM Goals.





MLB PLAYERS
IN LEAGUE
BY LEARN FRESH & MLB PLAYERS TRUST



THE PROGRAM

#AfterschoolSYM2025



MLB PLAYERS STEM LEAGUE SEASON-AT-A-GLANCE

SPRING TRAINING January - February

Training

Learn Fresh hosts in-person or virtual educator trainings throughout the year.

Contracts

Students begin the experience by signing a sportsmanship contract committing to a set of shared values as they enter the “MLB Players STEM League” Season.

Draft

Students work in teams of two and draft real world MLB professional athletes.

PLAY BALL! February - March

Practice

The MLB Players STEM League in-season schedule begins! Educators and students work through a 8 lesson curriculum focused on building grade-level math fluency, stats analysis and social emotional competency.

Gameplay

Students compete in the MLB Players STEM League board game.
Students who compete in at least 25 games per season are eligible for a bid to attend the MLB Players STEM League Global Championship.

ALL-STAR TOURNAMENT SERIES March

Classroom Tournaments

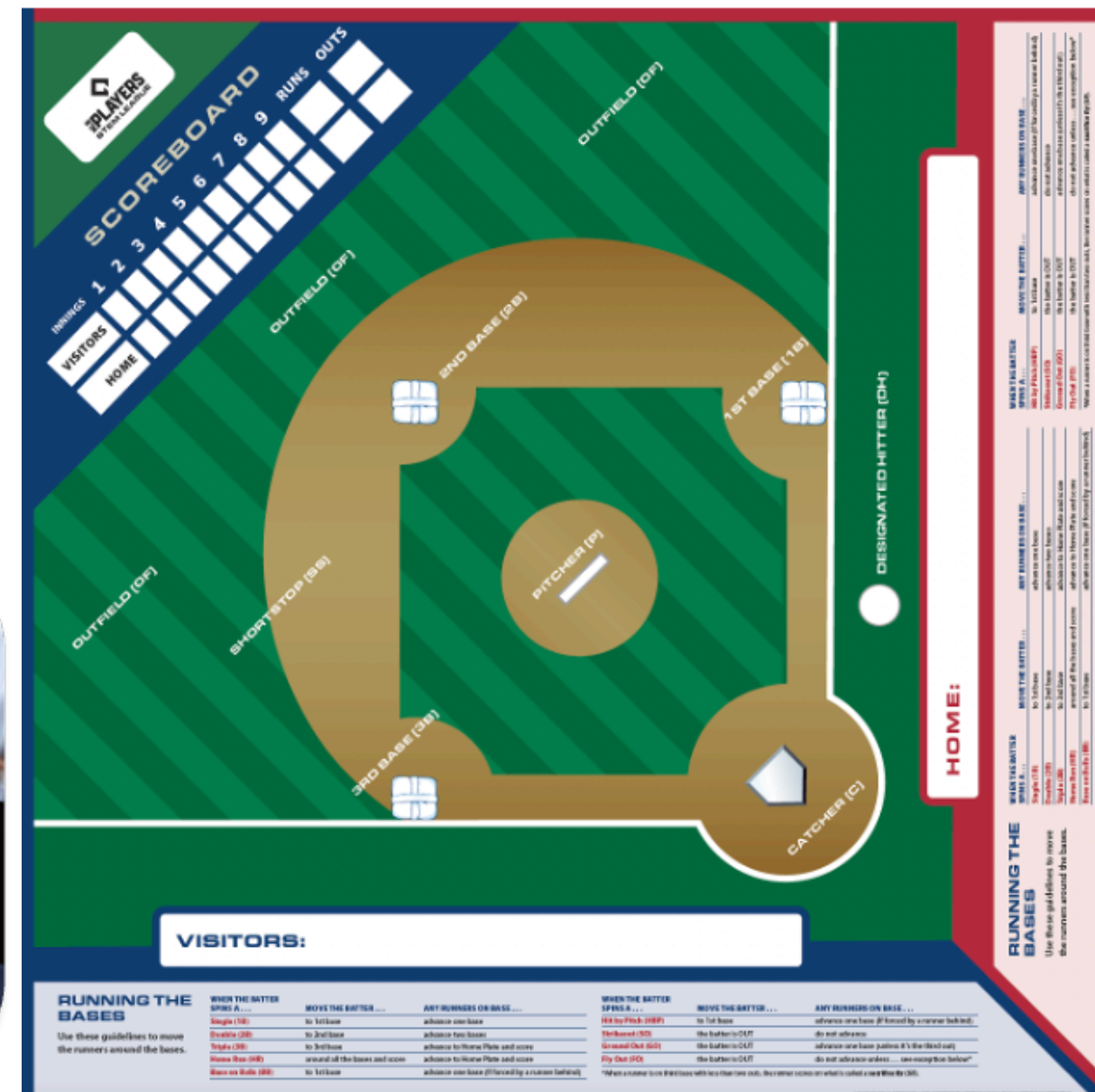
Leading up to MLBPSL Globals nomination, we recommend hosting a classroom tournament to help identify student nominations.

MLB Players STEM League Global Championship

Each year a select group of students from across the globe are selected to participate in the Global Championship Series. In 2025, Globals will take place in Scottsdale, AZ. Selected students can expect an experience filled with competition, sports, & culture.



BOARD GAME & CURRICULUM





COMMUNITY EVENTS



#AfterschoolSYM2025



LFCA REGISTRATION

CHECK IN

- Available at: mylfca.com/training/check-in
- ACCESS CODE: stemleague



CHECK IN

Thank you for checking in!

You have an account registered with the MyLFCA, so n

Confirm Training Date

08/19/2024

Confirm Email

Email

Check In

Thank you for checking in!

Since you don't have an account with the submitted email, click below to register your account!

Register

Confirm Training Date

08/19/2024

Confirm Email

Email

Check In

CHECK IN

Please complete your RSVP below!

Since you don't have an account with the submitted email, click below to register your account!

Register

Select Your Training Session

Select Your Training Session

School/Program Name *

School/Program Name

Name *

Name

Email *

test12@test.com

Phone

Phone

City *

City

State

State

How did you hear about this Learn Fresh Program? *

- ☐ Returning Educator
- ☐ Conference (i.e. Hawaii Afterschool Alliance, BGC Conference, NCTM, CA STEAM, Beyond School Hours, Schools Out Make It Count, Jump Start, BOOST)
- ☐ Social Media (Personal Network)
- ☐ Instagram Ad
- ☐ Facebook Ad
- ☐ Educator Network
- ☐ Professional Sports Team / Corporate Sponsor
- ☐ Other

Submit

#AfterschoolSYM2025



LFCA REGISTRATION

- **ACCESS CODE: stemleague**

Registration

Contact Information

First Name *

Last Name *

Email *

Estimated number of participating students *

Phone Type *

Phone Number *

I'd like to receive text updates *

Preferred Contact Method *

Language Preference *

Program Information

Program Name *



Choose Your Program

Have an access code? Enter it here:



\$250

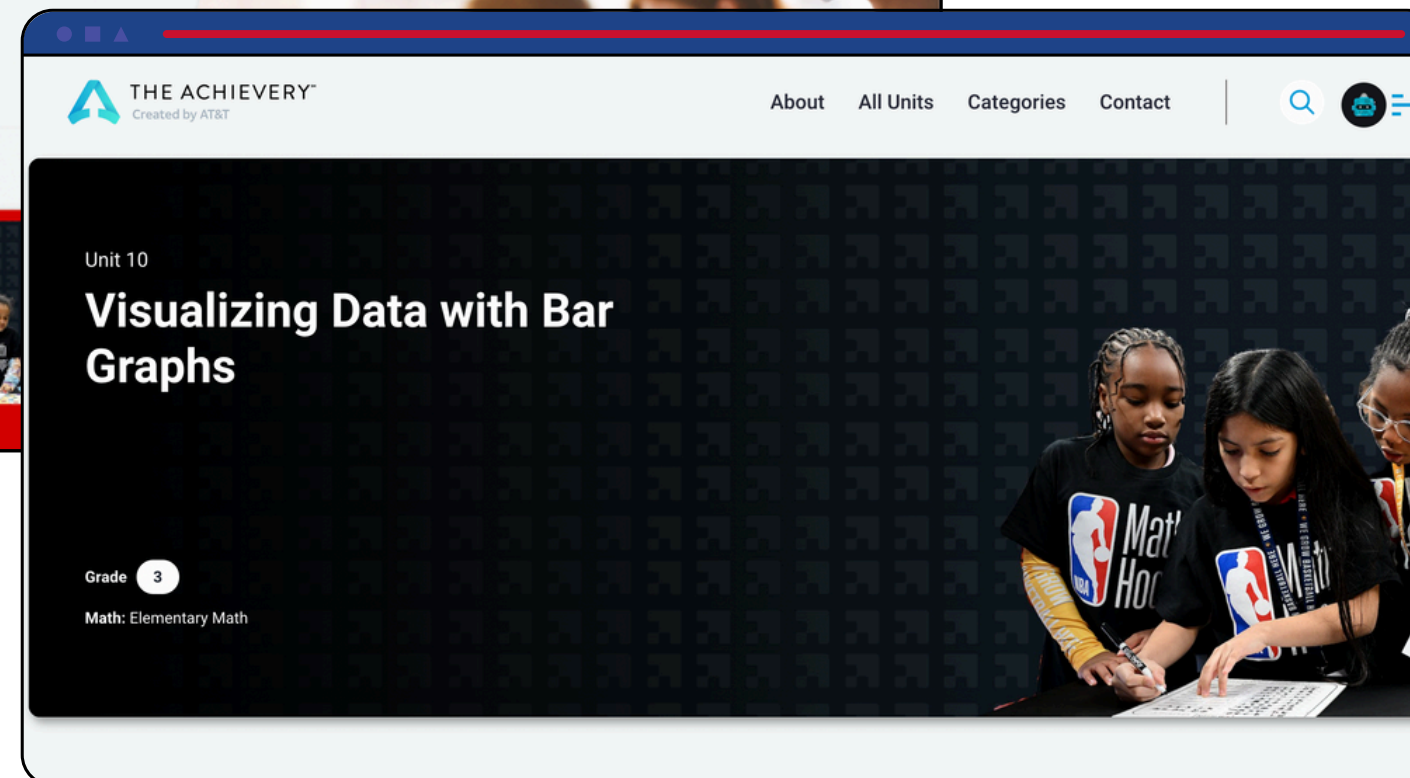
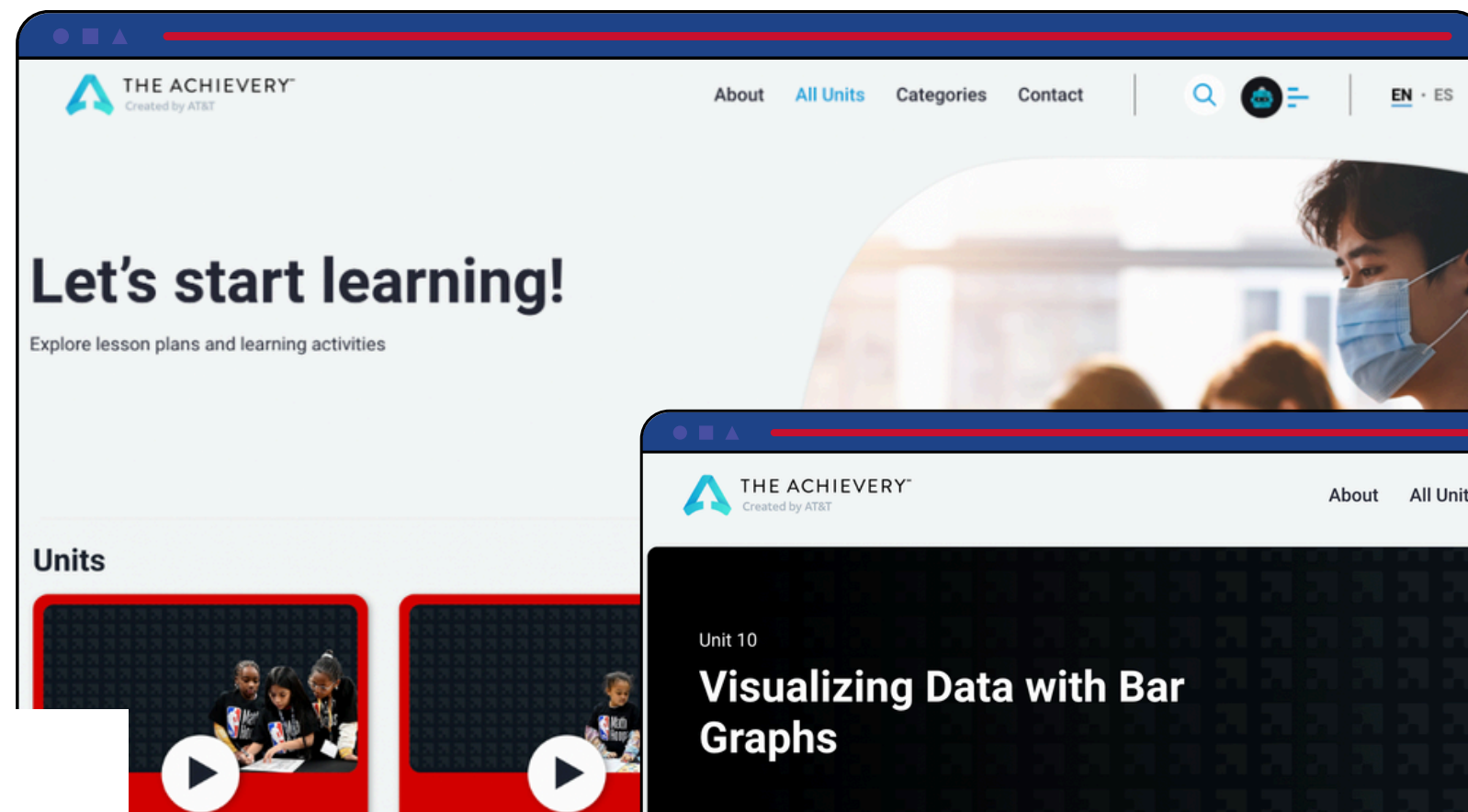


Submit



SUPPLEMENTS

We have partnered with AT&T and NBA Cares to publish 30 STEM video lessons on The Achievery!



Visit www.theachievery.com to create a free account and access content.





Events Calendar

JUN 5	MLB PLAYERS STEM LEAGUE TRAINING CAMP - SUMMER EDITION	VIRTUAL
JUN 11	NBA MATH HOOP TRAINING CAMP - SUMMER EDITION	VIRTUAL
JUN 11	NBA MATH HOOP TRAINING CAMP - SUMMER EDITION	VIRTUAL

View All Events

Purchase Additional Games

Need additional games? Click here to order more!

Purchase Games

MLB STEM League

Lesson 1 / 6

Sportsmanship Contract

As the MLB STEM League experience begins, all student participants are asked to sign a Sportsmanship Contract! Just like a professional MLB player, this affirms their commitment to their teammates and peers.

Once the contract has been signed, the lesson continues to explain some baseball basics to provide some base level knowledge.

Please use the provided link and access code for your students to participate in their pre-season combine.

Get Access Code

Download Lesson

Start Program

Program Resources and Media





**MLB PLAYERS
STEM LEAGUE**

PROGRAM BY LEARN FRESH & MLB PLAYERS TRUST



LEARNING

#AfterschoolSYM2025



LEARNING OBJECTIVES

- ✓ **Academic Achievement**
- ✓ **Social & Emotional Growth**
- ✓ **Increased Engagement in STEM**



SEASON GUIDE

Lesson 1

- Sportsmanship Contract

Lesson 5

- Tracking Player Performance

Lesson 2

- Baseball Basics

Lesson 6

- Wild Cards

Lesson 3

- Drafting Your Team
- Bonus Lesson: Teamwork

Lesson 7

- Trade Deadline
- Bonus Lesson: Compromise

Lesson 4

- Building Your Lineup
- Bonus Lesson: Integrity

Lesson 8

- Playoffs and Championship
- Bonus Lesson: Resilience





LESSON 1: SPORTSMANSHIP CONTRACT

PARTICIPANTS AGREE TO:

- 1. POSITIVELY ENCOURAGING MY TEAMMATES AND OPPONENTS.**
- 2. WORKING TO IMPROVE MY OWN LEARNING EVERYDAY SO THAT OTHERS CAN IMPROVE AROUND ME.**
- 3. CELEBRATING EVERYONE AS “WINNERS AND LEARNERS.”**



LESSON 1

MLB PLAYERS STEM LEAGUE SPORTSMANSHIP CONTRACT

In the upcoming season, numerous games will be played, countless math problems will be solved, and victories will be shared with your team. Challenges and setbacks will inevitably arise along the journey, but it is essential to uphold sportsmanship, regardless of the outcome

Sportsmanship entails playing fair, respecting opponents, and maintaining positivity throughout the season. Embracing these principles amidst the highs and lows is crucial to becoming a STEM League Champion!

AS A PARTICIPANT IN THE MLB PLAYERS STEM LEAGUE SEASON, I AGREE TO DISPLAY SPORTSMANSHIP BY:

1

Positively encouraging my teammates and opponents.

2

Working to improve my own learning everyday, so that others can improve around me.

3

Celebrating everyone as “Winners and Learners.”

Signature:

Date:

For educator's use only

Educator Signature:

Date:





LESSON 2: BASEBALL BASICS



LESSON 2

WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

Baseball Basics

Before we get started with the season, let's review some terms and rules used in the game of baseball!

Game Structure

- 1 Baseball is not a timed sport! Instead, every game is divided into _____. In each STEM League game, there are at least seven of these.
- 2 Each inning is divided into two halves, called the top and bottom of the inning. The _____ team pitches in the first half (or top) of the inning and the _____ team pitches in the second half (or bottom) of the inning.
- 3 If your STEM League game is tied after seven innings, you will play an unlimited number of innings to determine the winner. It's important to remember that the _____ team always has the last chance to score if they're not already in the lead.

Pitching and Hitting

- 4 The pitcher's goal in each half inning is to get _____ outs. The batting team's goal is to get as many hits as possible!
- 5 A batter can get four types of hits, which allow them to get on base. The four types are called:

A. _____ (advance one base)	C. _____ (advance three bases)
B. _____ (advance two bases)	D. _____ (advance four bases)
- 6 If your batter earns a walk (BB) or a hit-by-pitch (HBP), they automatically advance _____ base.
- 7 In baseball, the score is tracked by _____, not points. Every time a player passes home plate (where the batter starts), a _____ is scored. The team with the highest score wins!



LESSON 3: DRAFTING YOUR TEAM

- **DRAFT 9 POSITION PLAYERS, 3 PITCHERS**
- **LEARN FRESH RECOMMENDS A SNAKE DRAFT, DRAFTING 1-3 PLAYERS PER ROUND**



LESSON 3

WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

Drafting Your Team

Positions on the Team

In MLB Players STEM League, you will draft 12 total players for your team. 10 of them will play at any given time during the game, and the other two will remain on your "bench." As you complete your draft, record the names of the players you select in the "Draft Selections" box below.

Draft Stats

Before drafting your team, it will be important to understand a few key statistics:

Batting Average: Represents the odds that a player will reach base on a hit.

On-Base Percentage: Represents the odds that a player will reach base in any way, including hits, walks, and times hit by pitch.

Slugging Percentage: Represents the relative size of a player's hits. Players who hit more home runs, triples, and doubles have higher slugging percentages.

Batting Against: Represents opposing batters' averages in the categories listed above. For pitchers, you will want to find players with the lowest possible "Batting Against" stats.

How to Draft a Team!

- 1 The game features player cards including athletes from all teams and countries represented in the league! Lay out all player cards, by position, on a table in your class.
- 2 Determine a draft order based upon random selection, attendance, grades, or any other measure!
- 3 Each student team should select one player at a time until they have a full roster. Begin with the first team in the draft order and flip the order each round, so that the last team doesn't pick last every time. Record your picks on this sheet.
- 4 Don't forget to use each player's stats to help you draft the best team possible! You'll use these players for the rest of the season.

Draft Selections

Catcher (C): _____

First baseman (1B): _____

Second baseman (2B): _____

Third baseman (3B): _____

Shortstop (SS): _____

Outfielder (OF): _____

Outfielder (OF): _____

Outfielder (OF): _____

Designated Hitter (DH): _____

Pitcher (P): _____

Pitcher (P): _____

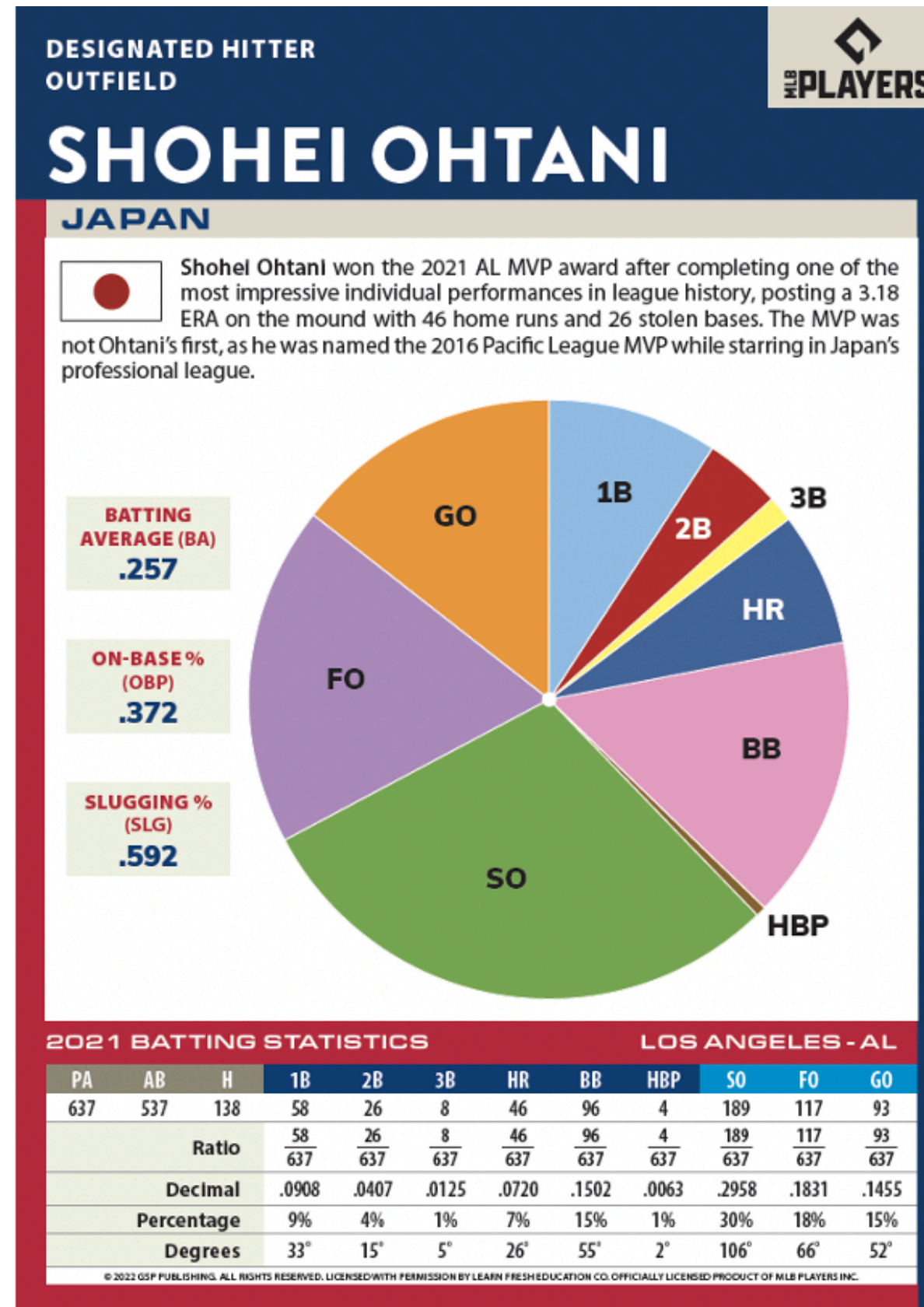
Pitcher (P): _____







Dedicated to Quality Out-of-School Time





Dedicated to Quality Out-of-School Time



PITCHER

MLB PLAYERS

CORBIN BURNES

UNITED STATES – CALIFORNIA

Originally from California, **Corbin Burnes** has spent his entire professional career with one organization. In 2021, Burnes struck out 40 batters without issuing a walk in his first four starts and also struck out 10 straight opponents in a game. He was subsequently awarded the NL's Cy Young Award for his dominance.

Choose one operation and then...

ROLL THE DICE

MULTIPLY

4 5

12 18 24

36 48

54 70 90

If the **PRODUCT** of the roll is shown above, you can move the spinner arrow one place to the right or left of where it landed.

ADD

2

6 10 13

16

If the **SUM** of the roll is shown above, you can move the spinner arrow one place to the right or left of where it landed.

2023 PITCHING STATISTICS

MILWAUKEE

				Batting Against				Pitching Ratios		
W	L	W-L%	ERA	BA	OBP	SLG	OPS	HR%	SO%	BB%
10	8	.556	3.39	.200	.274	.324	.598	2.8%	25.5%	8.4%

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LESSON 4: BUILDING YOUR LINEUP

LESSON 4

WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

Building Your Lineup

Positions on the Team

Remember that you'll have ten players involved in every game! This includes the nine offensive positions listed on your draft sheet and your starting pitcher.

As you decide where to put your players in the lineup, consider the suggestions included on the Batting Tips card to best use their stats! Record your first lineup below to organize your team before the game.

Name	Position
1) _____	_____
2) _____	_____
3) _____	_____
4) _____	_____
5) _____	_____
6) _____	_____
7) _____	_____
8) _____	_____
9) _____	_____
_____	Starting Pitcher

REMEMBER: Teams often put players with high on-base percentages at the top of their lineup so that they can get on base. The players with high slugging percentages then have a better chance of scoring them!

Once you've completed your lineup, you are ready to compete in your first MLB Players STEM League game! Head over to the field to get started.

BATTER TIPS CARD

BATTING ORDER GUIDE

Consider the tips below when creating your batting lineup.

For Batting Position...	Use a Player with...
1	High BA and/or OBP
2	Medium/High BA and/or OBP
3	Medium/High BA and/or OBP plus Medium/High SLG
4	Highest SLG
5	Second highest SLG
6	Balance of BA , OBP , and SLG
7	Mid-range BA and/or OBP
8	Lowest BA and/or OBP
9	Mid-range BA and/or OBP

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DESIGNATED HITTER
OUTFIELD



SHOHEI OHTANI

JAPAN

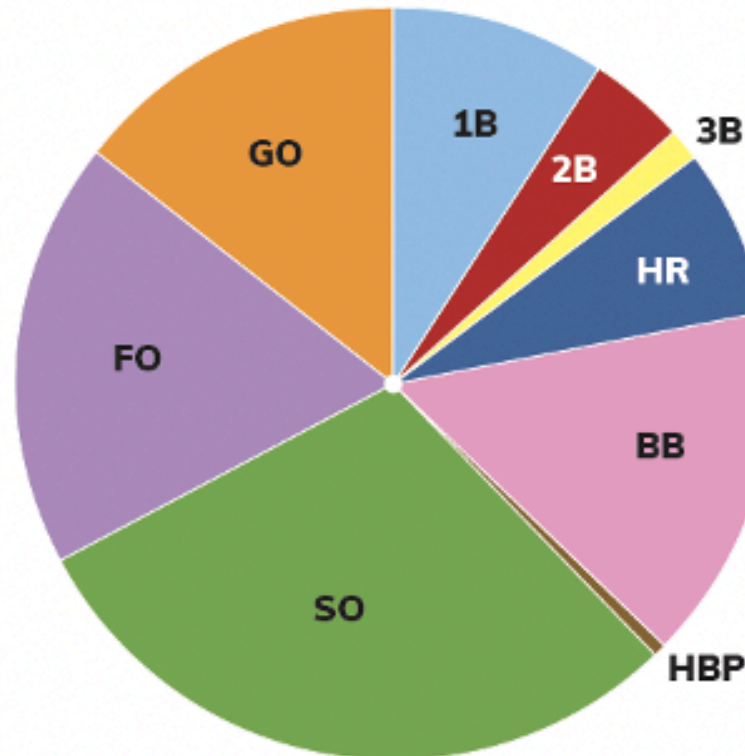


Shohei Ohtani won the 2021 AL MVP award after completing one of the most impressive individual performances in league history, posting a 3.18 ERA on the mound with 46 home runs and 26 stolen bases. The MVP was not Ohtani's first, as he was named the 2016 Pacific League MVP while starring in Japan's professional league.

BATTING
AVERAGE (BA)
.257

ON-BASE %
(OBP)
.372

SLUGGING %
(SLG)
.592



2021 BATTING STATISTICS

LOS ANGELES - AL

PA	AB	H	1B	2B	3B	HR	BB	HBP	SO	FO	GO
637	537	138	58	26	8	46	96	4	189	117	93
Ratio			$\frac{58}{637}$	$\frac{26}{637}$	$\frac{8}{637}$	$\frac{46}{637}$	$\frac{96}{637}$	$\frac{4}{637}$	$\frac{189}{637}$	$\frac{117}{637}$	$\frac{93}{637}$
Decimal			.0908	.0407	.0125	.0720	.1502	.0063	.2958	.1831	.1455
Percentage			9%	4%	1%	7%	15%	1%	30%	18%	15%
Degrees			33°	15°	5°	26°	55°	2°	106°	66°	52°

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OUTFIELD



MAX KEPLER

GERMANY

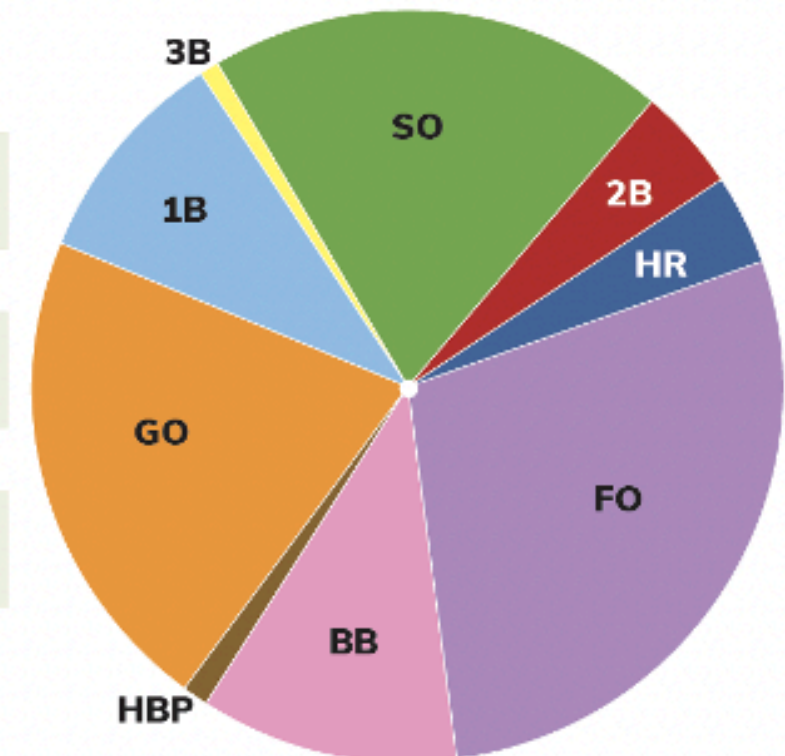


Born in the historic city of Berlin, Max Kepler has become one of the more successful German-born players in major league history. The son of professional ballet dancers, Max demonstrated diverse athletic skill as a child, competing in soccer and tennis before committing to professional baseball.

BATTING
AVERAGE (BA)
.211

ON-BASE %
(OBP)
.306

SLUGGING %
(SLG)
.413



2021 BATTING STATISTICS

MINNESOTA

PA	AB	H	1B	2B	3B	HR	BB	HBP	SO	FO	GO
486	426	90	46	21	4	19	54	6	96	138	102
Ratio			$\frac{46}{486}$	$\frac{21}{486}$	$\frac{4}{486}$	$\frac{19}{486}$	$\frac{54}{486}$	$\frac{6}{486}$	$\frac{96}{486}$	$\frac{138}{486}$	$\frac{102}{486}$
Decimal			.0947	.0432	.0082	.0391	.1111	.0123	.1975	.2840	.2099
Percentage			9%	4%	1%	4%	11%	1%	20%	28%	21%
Degrees			34°	16°	3°	14°	40°	4°	71°	102°	76°

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BONUS LESSON | TEAMWORK

When building your roster, teamwork is very important. The ability to make collaborative decisions and pursue a common goal will be critical to becoming a champion in the MLB Players STEM League. Below you will find the definition of teamwork.

Team-work: The combined action of a group of people working toward the same goal.
Ex. "They displayed teamwork throughout the game."

Discuss the following questions in groups of four and record your answers below.

- 1 After reading the definition above, can you describe what teamwork means to you?

- 2 How can you be a great teammate at school? How about outside of school?

- 3 What are some challenges that can divide a team?

- 4 What does the saying "there is no I in team" mean to you?

Now that you've heard from your classmates, consider the following on your own:

- 5 List three actions that you can take to be a great teammate while playing MLB Players STEM League:
A. _____
B. _____
C. _____
- 6 Why is teamwork important for success in life beyond sports?



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BONUS LESSON | INTEGRITY

Integrity plays a major role in life and can determine your path to success. You can show integrity by doing the right thing at all times. Throughout this lesson, you will explore some of the qualities needed to be an honest and fair competitor.

In-teg-ri-ty: The quality of being honest and having strong moral principles; moral uprightness.
Ex. "She is known to be a woman of integrity."

Discuss the following questions in groups of four and record your answers below.

- 1 Now that you know the definition, what does integrity mean in your own words?

- 2 How can you can show integrity at school? How about outside of school?

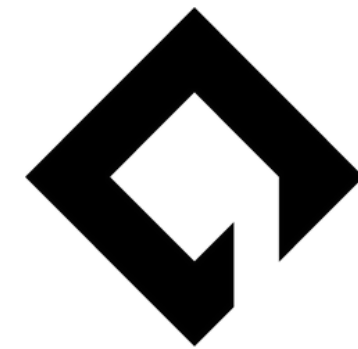
- 3 Describe a challenging situation in which you showed integrity.

Now that you've heard from your classmates, consider the following on your own:

- 4 List three actions that you can take to show integrity while competing in an upcoming game.
A. _____
B. _____
C. _____
- 5 Name a role model who displays integrity and describe how this person is important in your life.

- 6 For the last question, consider the following as a full class:
Synonyms are words with the same or similar meanings. **Antonyms** are words with opposite meanings. Identify three synonyms of the word integrity and write them below:





**MLB PLAYERS
STEM LEAGUE**

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GAMEPLAY

#AfterschoolSYM2025







MLB Players STEM League Lesson 2: Baseball Basics

VIDEO #2

BASEBALL BASICS



MLB PLAYERS STEM LEAGUE
A PROGRAM BY LEARN FRESH & MLB PLAYERS TRUST

Watch on  YouTube

 Share





STARTING A GAME

TO START A GAME EACH TEAM TAKES ONE DIE AND ROLLS THEM AT THE SAME TIME

-HIGHEST NUMBER ROLLED WILL CHOOSE IF THEY WANT TO BE THE HOME OR THE AWAY TEAM, OPPOSING TEAM IS OPPOSITE OF WHAT THEY CHOOSE.

****HOME TEAM BATS IN THE SECOND HALF (BOTTOM) OF EACH INNING, AWAY TEAM BATS IN THE FIRST HALF (TOP) OF EACH INNING**

COMPLETING A TURN

COMPLETE ROLES AS IF IT WERE A REAL BASEBALL GAME

- 1. PITCHER THROWS PITCH (ROLLS BOTH DICE) AND COMPLETES THE OPERATION(S) BASED ON THE NUMBERS ROLLED**
- 2. BATTING TEAM SWINGS THE BAT (SPINS THE SPINNER)**
- 3. PITCHING TEAM ANNOUNCES IF THEY CAN AFFECT THE OUTCOME OF THE SPIN**
- 4. BATTING TEAM MOVES THE TOKENS AROUND THE BASES AS DESIGNATED**

3 OUTS - BATTING TEAM MOVES TO PITCHING TEAM





RUNNING THE BASES

RUNNING THE BASES

Use these guidelines to move the runners around the bases.

WHEN THE BATTER SPINS A ...	MOVE THE BATTER ...	ANY RUNNERS ON BASE ...
Single (1B)	to 1st base	advance one base
Double (2B)	to 2nd base	advance two bases
Triple (3B)	to 3rd base	advance to Home Plate and score
Home Run (HR)	around all the bases and score	advance to Home Plate and score
Base on Balls (BB)	to 1st base	advance one base (If forced by a runner behind)



WHEN THE BATTER SPINS A ...	MOVE THE BATTER ...	ANY RUNNERS ON BASE ...
Hit by Pitch (HBP)	to 1st base	advance one base (If forced by a runner behind)
Strikeout (SO)	the batter is OUT	do not advance
Ground Out (GO)	the batter is OUT	advance one base (unless it's the third out)
Fly Out (FO)	the batter is OUT	do not advance unless ... see exception below*

*When a runner is on third base with less than two outs, the runner scores on what is called a **sacrifice fly (SF)**.



LESSON 5: TRACKING PLAYER PERFORMANCE



LESSON 5

WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

TRACKING PLAYER PERFORMANCE

How well is your team performing?

By now, you've had the chance to play a few MLB Players STEM League games—but how can you measure how well your team is actually performing? The better your team's individual and overall stats, the better your chances of winning a championship. Tracking performance allows you to make strategic adjustments before the season ends.

As you play, track your players' stats using the Stat Tracking Worksheet found below. After each game, record key data points for your batters and pitchers. In the final part of this lesson, you'll use these stats to calculate performance metrics that will help you evaluate your team's strengths and weaknesses.

Once you've completed all your regular season games, total the stats for each player and move on to the final page of lesson 5 to begin calculating your team's performance.

Note: At-bats (AB) are determined by subtracting walks (BB) and hit-by-pitches (HBP) from a player's total plate appearances.

Co-Manager		Co-Manager		Team Name			Game #	Date	
Batting Statistics									
Player Name	Position	Hits (H)	At-Bats (AB)	Walks and Hit By Pitch (BB/HBP)	Singles (1B)	Doubles (2B)	Triples (3B)	Home Runs (HR)	Totals
Player 1	C								
Player 2	1B								
Player 3	2B								
Player 4	SS								
Player 5	3B								
Player 6	OF								
Player 7	OF								
Player 8	OF								
Totals	—								
Pitching Statistics									
Player Name	Position	Hits (H)	Innings Pitched (IP)	Walks (BB)	Strikeouts (K)	Home Runs (HR)	Totals		
Player 1	SP								
Player 2	SP								
Player 3	SP								
Totals	—								



LESSON 5

WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

TRACKING PLAYER PERFORMANCE

LET'S CALCULATE!

Using your team totals, let's figure out how well your team is performing in a few statistical areas that you've seen before in the curriculum, and on your player cards. Using a calculator, take the stats you recorded for each player and plug them into the formulas below to calculate their performance metrics. Follow each step carefully to get accurate results for both batters and pitchers.

Batting Statistics

Slugging Percentage:

$$\text{Slugging Percentage} = \frac{1B + (2 \times 2B) + (3 \times 3B) + (4 \times HR)}{AB}$$

On-base Percentage:

$$\text{On-base Percentage} = \frac{H + BB/HBP}{AB + BB/HBP}$$

Pitching Statistics

WHIP:

$$\text{WHIP} = \frac{BB + H}{IP}$$

Rate Statistics:

$$\text{Walks per 9 innings} = \frac{BB}{IP} \times 9$$

$$\text{Strikeouts per 9 innings} = \frac{K}{IP} \times 9$$

$$\text{Home Runs per 9 innings} = \frac{HR}{IP} \times 9$$

Now you can assess how powerful your hitters are (SLG), how frequently your players get on base (OBP), how many walks/hits your pitchers give up per inning (WHIP), and how many walks, strikeouts and homeruns your pitchers allow per nine innings!

Let's Compare!

Compare the stats that you calculated to the real stats on your player cards. You will be referring back to the stats that you calculate in a future lesson.





LESSON 6: WILD CARDS



LESSON 6

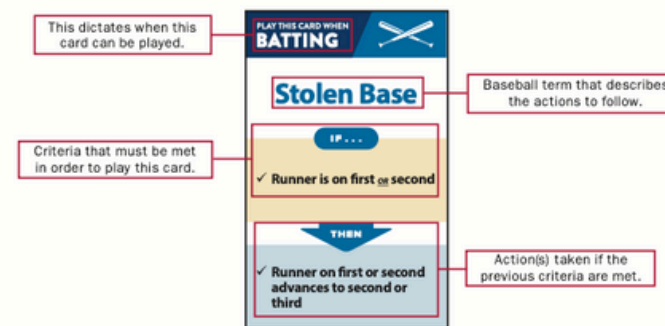
WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

Wild Cards

Now that you have played MLB Players STEM League and had time to familiarize yourself with the rules, it's time to introduce a new set of variables into gameplay.

In baseball, there are often situations where a player or manager needs to make a quick decision based on the result of a play. Wild Cards introduce various benefits that can be played as either a pitcher or batter when certain situations arise. Before we explore some example situations where a Wild Card may be useful, let's review the components of a Wild Card.



Batting Example

You're up to bat. It's the top of the third inning and there are runners on first and third. What's an example of a wild card you could play to score a run?

A.
Stealing Home
 IF...
 ✓ Runner is on third
 THEN
 ✓ Runner on third scores

B.
Force Out
 IF...
 ✓ Runner is on first as first and second as bases are full as
 ✓ Batter spin is GO
 THEN
 ✓ Lead runner is called out

C.
Suicide Squeeze
 IF...
 ✓ A runner is on third as
 ✓ Less than 2 outs
 THEN
 ✓ Batter is out
 ✓ Runner on third scores

There are actually two options that would result in a run scored. Depending upon the number of outs you have, you could choose to play either **Stealing Home** or **Suicide Squeeze** in this scenario.

Pitching Example

You are pitching. There is a runner on third with one out. The next batter you face spins a **FO**. What card you could use to prevent the batting team from scoring a run?

A.
Outfield Assist
 IF...
 ✓ Runner is on third as
 ✓ Less than 2 outs as
 ✓ Batter spin is FO
 THEN
 ✓ Runner attempting to score from third is called out

B.
Wild Pitch
 IF...
 ✓ Runner is on first as first and second
 THEN
 ✓ Runner(s) advance one base

C.
Force Out
 IF...
 ✓ Runner is on first as first and second as bases are full as
 ✓ Batter spin is GO
 THEN
 ✓ Lead runner is called out

In this example, playing the **Outfield Assist** card is the best option available. This enables you to prevent any runs from scoring by calling the runner from third out.



LESSON 6

Wild Cards

Now that you've seen some examples of when to play certain types of Wild Cards, complete the following practice problems to learn about some additional scenarios.

Question 1

You are pitching. The bases are loaded and the next batter has a SLG% above .500. Should you walk the batter or try for a strikeout?

A.
Wild Pitch
 IF...
 ✓ Runner is on first as first and second as bases are full as
 THEN
 ✓ Runner(s) advance one base

B.
Intentional Walk
 IF...
 ✓ Batter comes up to bat but before player spins
 THEN
 ✓ Batter advances to first
 ✓ Runners advance only if forced to

C.
Force Out
 IF...
 ✓ Runner is on first as first and second as bases are full as
 ✓ Batter spin is GO
 THEN
 ✓ Lead runner is called out

Write 1-2 sentences explaining which Wild Card you selected and why.

Question 2

You're up to bat. There is a runner at first base with no outs.

A.
Sacrifice Bunt
 IF...
 ✓ Runners are on first as first and second as
 ✓ Less than 2 outs
 THEN
 ✓ Batter is out
 ✓ Runner(s) advance one base

B.
Stolen Base
 IF...
 ✓ Runner is on first as second
 THEN
 ✓ Runner on first or second advances to second or third

C.
Stealing Home
 IF...
 ✓ Runner is on third
 THEN
 ✓ Runner on third scores

Write 1-2 sentences explaining which Wild Card you selected and why.

Question 3

You're on the mound with two outs and bases loaded. If the batter spin is **GO**, which of the following wild cards should you use?

A.
Intentional Walk
 IF...
 ✓ Batter comes up to bat but before player spins
 THEN
 ✓ Batter advances to first
 ✓ Runners advance only if forced to

B.
Double Play
 IF...
 ✓ Runner is on first as
 ✓ Less than 2 outs as
 ✓ Batter spin is GO
 THEN
 ✓ Both runner and batter are called out

C.
Force Out
 IF...
 ✓ Runner is on first as first and second as bases are full as
 ✓ Batter spin is GO
 THEN
 ✓ Lead runner is called out

Write 1-2 sentences explaining which Wild Card you selected and why.

Question 4

You're called in from the bullpen with no outs and runners on first and second base, if the batter spin is **GO**, which of the following Wild Cards should you play?

A.
Outfield Assist
 IF...
 ✓ Runner is on third as
 ✓ Less than 2 outs as
 ✓ Batter spin is FO
 THEN
 ✓ Runner attempting to score from third is called out

B.
Wild Pitch
 IF...
 ✓ Runner is on first as first and second
 THEN
 ✓ Runner(s) advance one base

C.
Triple Play
 IF...
 ✓ Runners are on first and second as
 ✓ No outs as
 ✓ Batter spin is GO
 THEN
 ✓ Batter and both runners are out

Write 1-2 sentences explaining which Wild Card you selected and why.





WILD CARDS



Wild Cards describe situations or strategic managerial calls (for example, Double Plays or Stealing Bases) that occur in baseball but aren't part of the basic rules of the board game.

40 Wildcards in each game box

- 20 Red - benefit Pitching Team
- 20 Blue - benefit Batting Team





WILD CARDS - RULES

- 1. Shuffle the deck of cards before the start of each game.**
- 2. Starting with the Visitors, each team selects three Wild Cards at random before beginning the game.**
- 3. Starting with the 2nd inning, each team selects a new Wild Card before the inning starts and adds it to whatever cards they still have.**





WILD CARDS - RULES

For each full inning, you can play up to three Wild Cards.

You can use your cards in either (or both) the top or bottom half of the inning.

For instance, you can play 2 cards when you're batting and 1 card when you're pitching. You would then need to wait until the next inning before playing any new cards.



Once a card is played, it's set aside and can't be used again in the game.





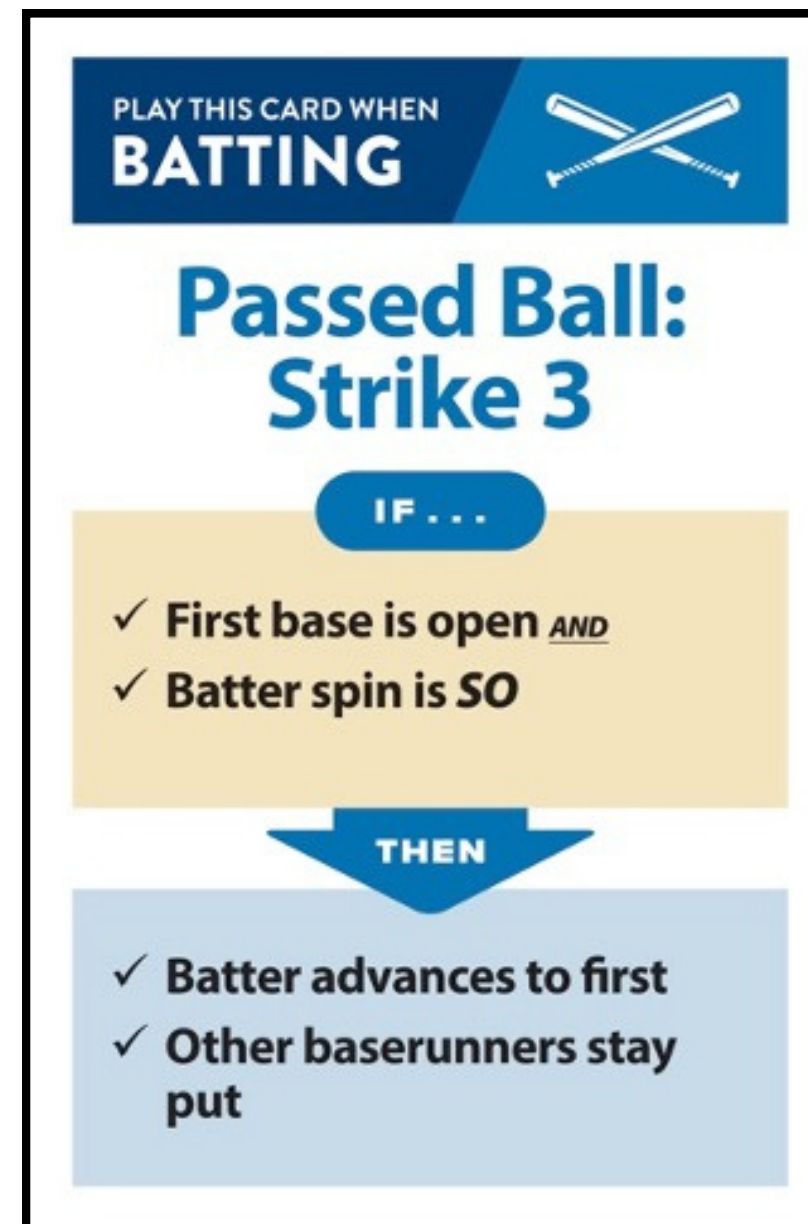
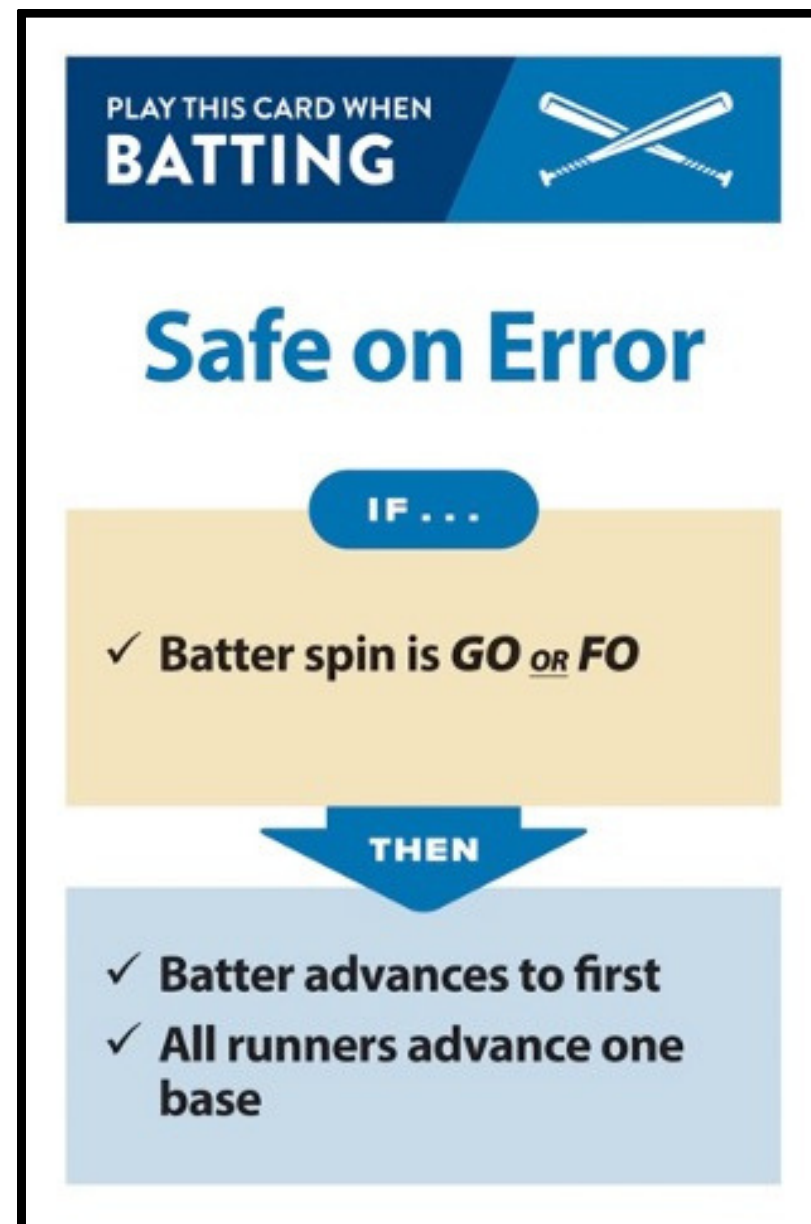
WILD CARDS

Each Wild Card shows the game conditions required to play it (in the IF section of the card) and the outcome for making or executing the call (in the THEN section of the card).

It will be up to the co-managers to decide how and when to use your Wild Cards to benefit your team.



WILD CARDS - BATTING EXAMPLE





WILD CARDS - PITCHING EXAMPLE





LESSON 7: TRADE DEADLINE



WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

The Trade Deadline

In the big leagues, the trade deadline provides urgency for teams that are looking to improve before the playoffs. These teams are allowed to trade players no later than July 31. As you prepare for the MLB Players STEM League playoffs, take advantage of one last opportunity to make adjustments to your team in this lesson.

Throughout this activity refer back to the statistics calculated in lesson 5 to inform your answers and develop a trade strategy.

Lets start by writing a few observations about your team below.

- 1 Based on your roster's performance, are there any specific needs that your team has? Maybe you need players who hit for more power, or pitchers who have a more significant impact on the offense?

- 2 Have you observed any other areas for improvement on your team while playing?

- 3 Which player would you most likely trade from your team? Why?

- 4 Which player would you most like to acquire for your team? Why?



The Trade Deadline

- 1 Coaches must trade at least one player from their team.
- 2 Coaches can trade up to three players from their team.
- 3 Coaches must complete the form below explaining why they want to trade a player or group of players. Then the Commissioner (educator) needs to approve the trade. Coaches should have time to investigate and analyze the player cards before making any decisions.

Directions:

In one paragraph, detail which player(s) you want to trade and which player(s) you want to acquire. Use statistical evidence to support your trade(s).

Coach's Signature:

Team Name #1

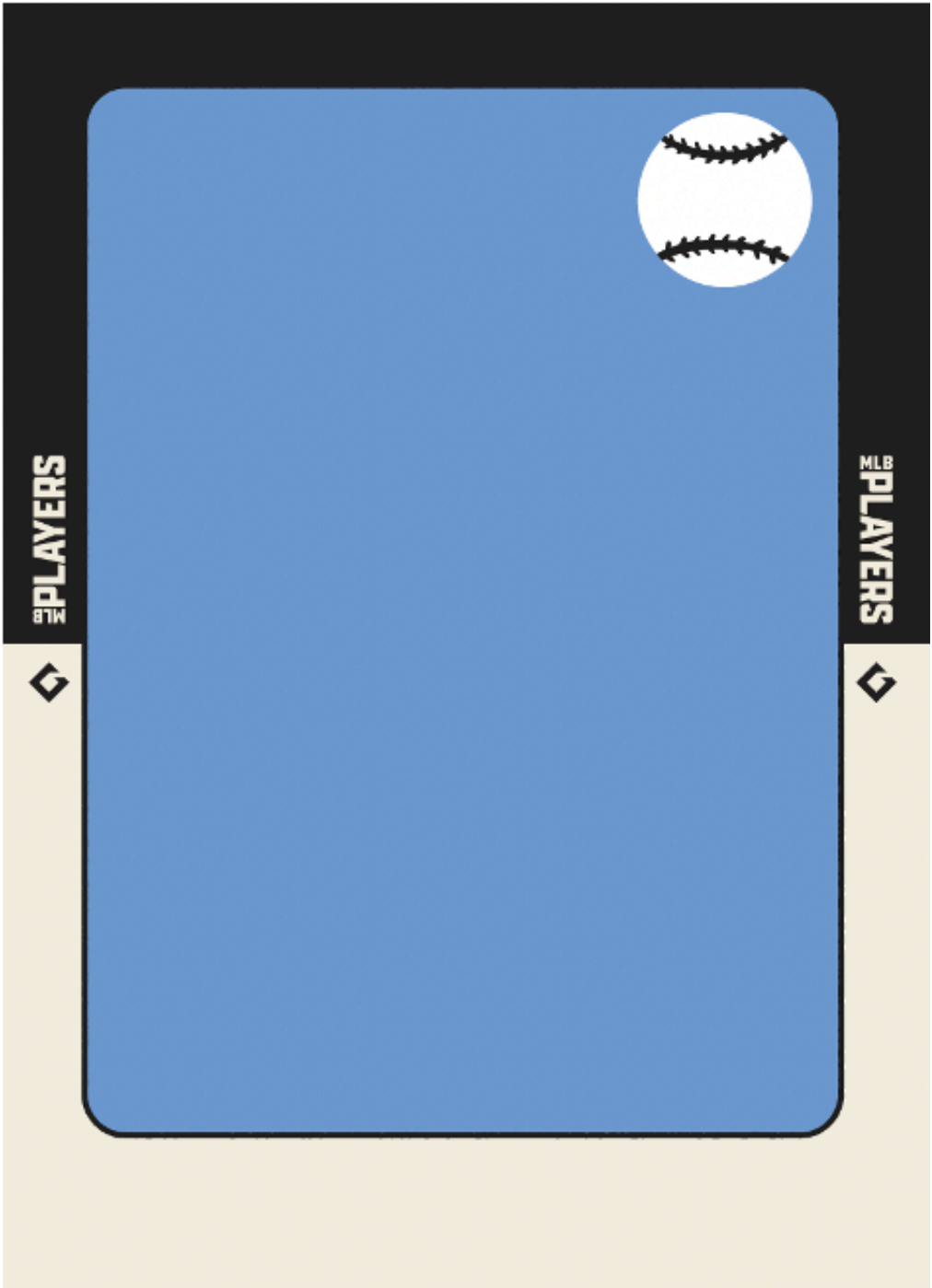
Coach's Signature:

Team Name #2

For Commissioner's use only

Commissioner's Signature:





NAME: _____

POSITION: _____

COUNTRY OF ORIGIN: _____

BATting AVERAGE (BA)

ON-BASE % (OBP)

SLUGGING % (SLG)

YEAR: _____

TEAM NAME: _____

PA	AB	H	1B	2B	3B	HR	BB	HBP	SO	FO	GO
Ratio											
Decimal											
Percentage											
Degrees											

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LESSON 8: PLAYOFFS AND CHAMPIONSHIP



WELCOME TO THE BALLPARK!

You are on your way to becoming a Math Champion!

The Playoffs and Championship

All pro sports leagues hold end-of-the-year playoffs. Pre-season practices and regular season games all serve as preparation to compete for the championship and be the last team standing. Take a look at the 2021 championship bracket below to see an example of a playoff structure.



This bracket is an example of an elimination format with ten teams included, one play-in game to reach the round of eight, and a clear path for each winning team from round to round.

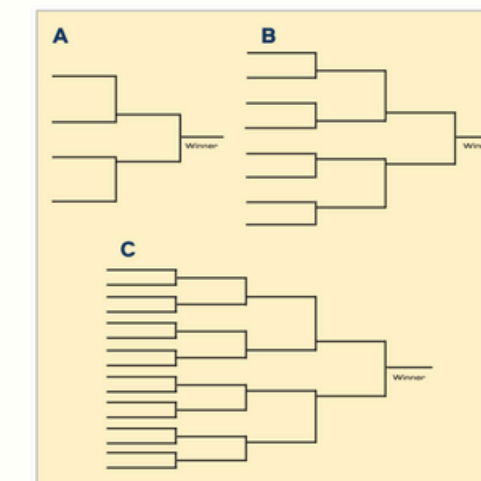
Build Your Bracket

To set up your class' playoff experience, follow along on the next page and explore how championship brackets are put together.



Building Your Bracket

1 Take a look at the elimination brackets below. What do you notice about each of them? Write your answer below.



In their simplest form, single elimination tournaments require that you start with an even number of teams. But not just any even number - that even number must be a power of 2.

Notice that bracket **A** pictured above starts with 4 teams, bracket **B** starts with 8 teams, and bracket **C** starts with 16 teams. 4, 8, and 16 are all powers of 2.

Here are the first five powers of 2:



$$\begin{aligned} 2^1 &= 2 \\ 2^2 &= 2 * 2 = 4 \\ 2^3 &= 2 * 2 * 2 = 8 \\ 2^4 &= 2 * 2 * 2 * 2 = 16 \\ 2^5 &= 2 * 2 * 2 * 2 * 2 = 32 \end{aligned}$$

2 Why do you think the big leagues use an elimination bracket with 10 teams?

3 Using the playoff bracket for inspiration, how could you craft a bracket for your class if you don't have the correct number of teams for a power of 2 bracket?







BONUS LESSON

|

COMPROMISE

At the Trade Deadline, you will have to compromise with your opponents to swap players fairly. When negotiating, remember that you will give a little and get a little. Let's explore how the ability to compromise is important for success.

com-pro-mise: An agreement or a settlement that is reached by each side making concessions.

Ex. "They had the ability to listen to two sides in a dispute and create a compromise acceptable to both."

Discuss the following questions in groups of four and record your answers below.

1

Now that you know the definition of compromise, describe it in your own words.

2

Why is it important to compromise while negotiating at the trade deadline?

3

Name a movie or book in which the main character had to compromise in a tough situation. Why was it important for the character to compromise?



Now that you've heard from your classmates, consider the following on your own:

4

Describe a situation in which you will need to make compromises, outside of sports.

5

For the last question, consider the following as a full class:
Synonyms are words with the same or similar meanings. **Antonyms** are words with opposite meanings. Identify three antonyms of the word compromise and write them below:



BONUS LESSON

|

RESILIENCE

We are nearing the end of the season! It's very challenging to win every game, but it's important to always be resilient when you don't. Resilience is the ability to adapt well in the face of adversity.

Re-sil-i-ence: The capacity to recover quickly from difficulties; toughness.

Ex. "She showed great resilience in the next game after a tough defeat."

Discuss the following questions in groups of four and record your answers below.

1

After reading the definition of resilience, what does it mean to you?

2

Why is it important to show resilience after losing a game?

3

What actions can a team take to show resilience after a tough defeat?

4

When might you need to be resilient in school?

Now that you've heard from your classmates, consider the following on your own:

5

Name three people in your life who have shown resilience.

A.

B.

C.

6

Choose one person listed above and write about how they have been resilient in their life.





**MLB PLAYERS
STEM LEAGUE**
A PROGRAM BY LEARN FRESH & MLB PLAYERS TRUST

CONCLUSION



#AfterschoolSYM2025





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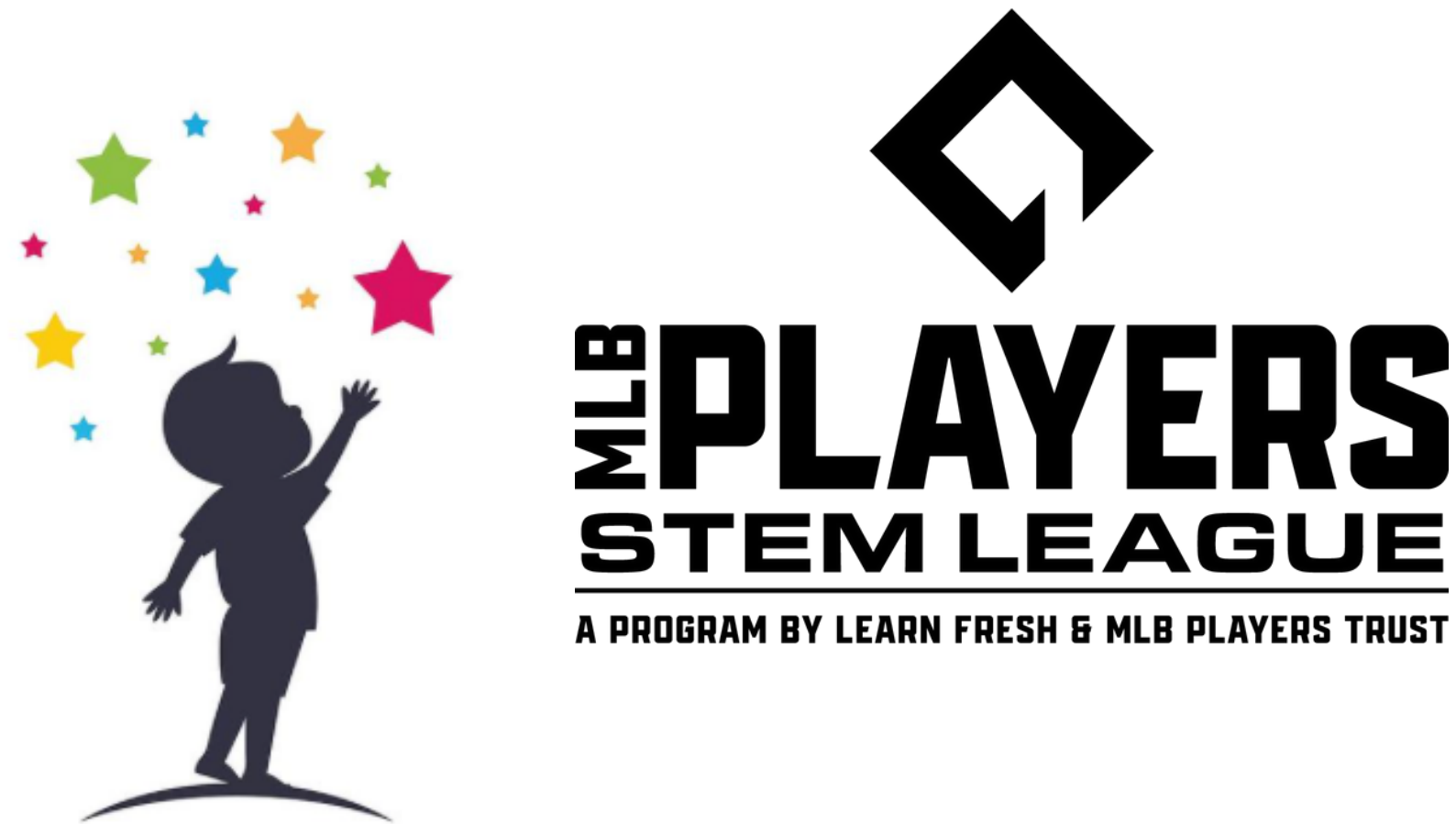


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