



MISSION *MANUAL*

26-27 indi Missions: Smart City



 A note about this Mission Manual

This Mission Manual receives ongoing updates (major and minor). Each published version is official and mandatory for all Sphero Robotics Competition Events. New versions immediately supersede the preceding ones.

For any questions related to this Mission Manual, please email support@teamalliance.org.

Version History:

Version 1.0 - May 11, 2026 - initial release

Version 2.0 - July 15, 2026 - Major Update

- Changed page numbering to match PDF numbering
- Added hyperlinks to TEAM Alliance Student-Powered Policy and Code of Conduct
- Added clarification to INDI-MFR1 related to In-Person Mission Field
- Changed Mission Objective 3 to Championship Mission
- Added Tile definition to Season Specific Terms
- Changed Remote Submission to Online Submission
- Clarified that Fouls cannot result in a score below 0

Version 2.1 - September 21, 2026 - Minor update

- Updated SRM-CR1 - Expanded Student-Powered enforcement
- Updated SRM-CR3 - Expanded Code of Conduct requirements
- Implementation Scoring - Removed "Online Submission Only" documentation
- Fixed typos

Version 2.2 - October 14, 2026

- Added INDI-MR3, INDI-MR4, INDI-MR5 regarding Mission Objective completion
- Updated submission directions for INDI-MR3, INDI-MR4, INDI-MR5
- Updated qualifying criteria for Qualifying Online Submission Events

Sphero Robotics Mission Common Rules

SRM-CR1	<u>Student-Powered™</u>: Mission solutions are designed, built, coded, and executed by students. If competition work was designed, built, or coded by an adult instead of the Students, the Team will first be given an opportunity to remove the adult contribution and make corrections using only Student work. If the Team can make the necessary corrections, they may continue participating in the Event. If the adult contribution cannot reasonably be removed or corrected, the Team will not be able to continue competing at that Event. The Head Evaluator makes the final on-site determination and may work with the Event Host or TEAM Alliance when needed.
SRM-CR2	<u>Single Participation</u>: A Student can only be on one Team per Program per Season.
SRM-CR3	<u>TEAM Alliance Code of Conduct</u>: Students, Team Coordinators, volunteers, and spectators are expected to treat others with kindness and respect and follow the TEAM Alliance Code of Conduct and any additional Event or venue policies. The Event Host is responsible for addressing conduct or behavior concerns. Serious or continued behavior that does not meet these expectations may result in a Student, adult, or Team being asked to leave the Event. TEAM Alliance may be contacted for assistance when needed.
SRM-CR4	<u>Iterative Excellence</u>: Celebrate learning from failure.
SRM-CR5	<u>Creative Autonomy</u>: Teams are encouraged to interpret the Mission Objectives through the lens of their own unique strategy. The Mission Manual provides the "What" (the objective) and the "Constraints" (the kit limits), but the "How" is entirely up to the Students. The rules in this Mission Manual are the only rules.
SRM-CR6	3D printing is allowed as long as it follows Student-Powered <SRM-CR1>
SRM-CR7	<u>Autonomous Solutions</u>: Once a robot's program has started, no Student interaction is permitted with the robot until the Mission is complete unless a specific rule in a Mission Manual allows it. An unpermitted Student interaction voids the results of that Mission.

Safety Rules

SRM-SR1	<u>Signed Waivers</u> : Any Student participating in the Sphero Robotics Missions must have a signed waiver.
SRM-SR2	<u>Adult Supervision</u> : A Team Coordinator must accompany a Team at all times.

In-Person Event Rules

SRM-IPE1	At all In-Person Events or Live Remote Events , Teams have timed rounds to attempt a Mission Objective as many times as desired. Teams must tell the Evaluator which attempt to record for their Individual Mission Score .
SRM-IPE2	If a Team has begun their code before the round time is called, the Team will be allowed to let their code finish.
SRM-IPE3	A Team may only challenge the results of an Individual Mission Score before they leave the Mission Field area.
SRM-IPE4	All rounds of Mission Objectives remain Student-Powered. Team Coordinators may not provide assistance to a Team during Mission Objectives .

indi Mission Rules:

INDI-MR1	Teams in indi Missions are classified as U9 Student
INDI-MR2	There are three (3) Mission Objectives in the indi Missions . Each Mission Objective is scored according to the respective points outlined in this document.
INDI-MR3	Teams will conduct Mission Objectives 1 - 2 for In-Person and Online Submission Qualifying Events .
INDI-MR4	Teams will conduct Mission Objectives 1 - 3 for In-Person Championship Events .
INDI-MR5	Online Submission Finalists will conduct Mission Objective 3 only for the Online Submission Championship Event .

Robot and Hardware Rules

INDI-RHR1

A **Team** must have two (2) Sphero indi Student Kits to fully complete the **Mission Objectives**.

Mission Field Rules

INDI-MFR1

The **Mission Field** is two (2) indi Folding Code Mats side by side. The total size is 160 cm × 129 cm (5' 3" x 4' 3")

In-Person Events must use the indi Folding Code Mats as the **Mission Field** for the indi Missions. **Event Hosts** will supply the **Mission Fields** at **In-Person Events**. Teams may not write on, mark, alter, damage, or permanently modify the **In-Person Mission Field**. Any Missions that require to designate areas on the field must be done using removable items that can be quickly placed and removed from the Code Mat without leaving noticeable residue or causing damage. Any tape used must be painters tape to minimize leaving residue. Teams that cause permanent damage to an In-Person Mission Field receives a score of 0 Points for that Mission, and may be responsible for replacing the Field. Note: **Teams** may place anything on the **Mission Field** as long as the **Mission Field** grid lines are visible along all four sides of the indi Folding Code Mats.

Live Remote Events and **Online Submissions** can use any indi Code Mat or a homemade **Mission Field** with the correct dimensions.

Mission Participation Guidelines

In-Person & Live Remote Events

In-Person Events provide an opportunity for **Teams** to work on their **Mission Objectives** at home, school, or in their extracurricular club and then showcase their completed **Mission Objectives** in an **In-Person Event** format.

Teams will be given three (3) minutes to set up for their **Mission Objective**. During these three (3) minutes adults may assist with set up. **Teams** will be given five (5) minutes to attempt their best run of their prepared **Mission Objective** for an **Evaluator**. Adults must leave the area prior to the **Mission Objective** runs. This **Evaluator** will award an **Individual Mission Score** based on the **Team's** best attempt

	during the round and the Team's ability to thoroughly articulate an understanding of code and strategy with the Evaluator
Online Submission	OnlineSubmission is where Teams work on their Mission Objectives at home, school, or in their extracurricular club and submit them to be evaluated virtually. Each Event submission will be scored by the Sphero Robotics Missions Evaluators based on the scoring rubric. See Rules INDI-MR3 and INDI-MR5 to review which Mission Objectives to submit. For each Mission Objective, Teams must prepare the following deliverables for an Online Submission: • Submit the following evidence of completion in the Google Slide Submission template (sphero.cc/SRM-indi-template). ○ VIDEO: Submit a publicly viewable video of the Mission Objective. The video must: i. be submitted in a .mp4, .mov, or .avi format ii. be captured from top down perspective iii. show both indis for the entire Mission Objective ○ DOCUMENTATION: Describe your Team's process and strategy. Online Submission Scores: Individual scores from Online Submission events are not shared with teams or displayed publicly. After all submissions have been reviewed, TEAM Alliance will announce the finalists from each region. These teams will receive an invitation to compete at the Championship Event.

Awards

In-Person & Live Remote Events	The following awards will be given at In-Person and Live Remote SRM Events: Mission Mastery Awards: Recognizes the three teams that achieved the highest scores on each individual Mission. These awards are not ranked, and all recipients are recognized equally. • Mission 1 Mastery Award - 3 Teams • Mission 2 Mastery Award - 3 Teams • Mission 3 Mastery Award (Championship Events only) - 3 Teams If a tie would result in more than three teams receiving a Mission Mastery Award, ties are broken using scores from that Mission in the following order: 1. Highest Implementation Points 2. Highest Theme Story Points
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	3. If a tie still remains, all tied teams will receive the Mission Mastery Award, even if there are more than three recipients. Overall Event Mission Awards: Recognizes the top three teams that have achieved the highest Total Scores at that event. • Overall Event Champion - Team with the highest Total Score • Overall Event 2nd Place Award - Team with the second highest Total Score • Overall Event 3rd Place Award - Team with the third highest Total Score If there is a tie for the Overall Event Mission Awards, then ties will be broken in the following order: 1. Highest Mission 3 Score (Championship Events only) 2. Highest Mission 2 Score 3. Highest Mission 1 Score 4. If there is still a tie, then the teams will have the same rank
Online Submissions	Championship Events The following awards will be given for Online Submission Championship Events: Overall Event Mission Awards: Recognizes the top three teams that have achieved the highest Championship Mission Scores at that event. • Overall Event Champion - Team with the highest Championship Mission Score • Overall Event 2nd Place Award - Team with the second highest Championship Mission Score • Overall Event 3rd Place Award - Team with the third highest Championship Mission Score

Championship Event Advancement Criteria

In-Person & Live Remote Events	Teams may receive an invitation to a Championship Event in one of the following ways: 1. Earn a qualifying award at a Qualifying Event. 2. Receive an invitation from the Global Leaderboard if Championship Event spots remain available. 3. Receive an invitation from the Championship Event waitlist if Championship Event spots still remain available. Depending on Championship Event capacity and the number of Qualifying Events within a state or region, one or more of the following awards may qualify teams for a Championship Event: • Overall Event Champion Award* • Overall 2nd Place Award • Overall 3rd Place Award
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	*The Overall Event Champion Award is guaranteed to qualify at In-Person Events when the Qualifying Event meets the minimum registered team requirement. Additional awards may qualify to a Championship Event at the discretion of TEAM Alliance. Live Remote Events that have teams from multiple Championship event regions may only upload results to the Global Leaderboard. Teams are ranked in the Global Leaderboard using their highest Total Score from a single Qualifying or Championship Event. Ties are broken using the following criteria, in order: 1. Highest Mission 3 score from the most recent event 2. Highest Mission 2 score from the most recent event 3. Highest Mission 1 score from the most recent event 4. If there is still a tie, then the teams will have the same rank Global Leaderboard Deadline: Results must be uploaded to the Global Leaderboard by May 17, 2027, to be included in TEAM Alliance and Sphero's 2026–2027 Global Leaderboard recognition. Events held after this date may still upload results, but those scores will not be considered for global recognition. Championship Events must be posted by May 15th, 2027.
Online Submissions	Qualifying Online Submission Events The top 20 or 25% Teams (whichever is largest) from each region will be Online Submission Finalists and advance to their region's Online Submission Championship Event. Ties are broken by: 1. Highest Mission 2 score 2. Highest Mission 1 score 3. If there is still a tie, then the teams will have the same rank Qualifying Online Submissions must be submitted in myTEAMevents.org by March 5, 2027. Online Submission Finalists will be notified on or before March 15, 2027 and must submit their additional Championship Online Submission by April 16th. Regions will be defined by TEAM Alliance for the 2026-2027 season and will be posted in an upcoming manual update.

26-27 indi Mission Specific Terms

Garage	A <i>Team</i> -created Ending Area for Mission Objective #3
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Number Markers	Team -created Field Elements for Mission Objective #3 - paper or other craft supplies that signify numbers 1-6
Ramp	A Team -created Field Object for indi to drive up and over for Mission Objective #2
Tile	The colored squares that indi uses for coding commands.
Tunnel	A Team -created Field Object for indi to drive through for Mission Objective #2
Waypoint	A Field Object that is a Tunnel or Ramp

Mission Objective 1: Route Planner

Overview: As the morning commute begins in a Smart City, the public transit network comes to life. To ensure residents reach their destinations without delay, the city utilizes a fleet of autonomous shuttles that must navigate busy intersections with perfect timing.

In this **Mission Objective**, **Teams** act as traffic controllers, coding two indi robots to depart from opposite ends of the city. The challenge is to orchestrate their paths so they pass each other closely within the city without ever making contact. Precision routing is required to ensure both indi robots reach their **Ending Area** safely and on schedule. Build up your city and let your indis traverse the streets in style!

MO ID	Objective	Possible Points
indi-M1-1	indi 1 and indi 2 begin in their Starting Areas on opposite sides of the Mission Field . (10 points per indi)	20
indi-M1-2	Code a path for indi 1: - The path should use at least 8 Tiles. (10 points) - indi 1 uses a red Tile as its Ending Area. (10 points) - The Ending Area for indi 1 is a Tile next to the Starting Area for indi 2. (20 points)	40
indi-M1-3	Code a path for indi 2: - The path should use at least 8 Tiles. (10 points) - indi 2 uses a purple Tile as its Ending Area. (10 points) - The Ending Area for indi 2 is a Tile next to the Starting Area for indi 1. (20 points)	40
indi-M1-4	The path for indi 1 and indi 2 must include a point where each indi is on a different Tile , and those two Tiles touch each other along an edge or at a corner. While in motion, indi 1 and indi 2 must pass each other without ever colliding.	60
indi-M1-5	“Theme Story Points”: Teams implement unique features beyond the Mission requirements that enhance the theme. Field Design Features (custom structures, Blueprint Engineering parts, improved zone designations, or other custom design elements) - None = 0 pts 1-3 = 5 pts 4-5 = 7 pts 6+ = 10 pts Robot Design Features (digital audio, and physical changes to the base robot) - None = 0 pts 1-3 = 5 pts 4+ = 10 pts	20

indi-M1-6	“Implementation Points”: <i>Teams</i> demonstrate understanding of the coding concepts and strategic decisions used to complete the Mission Objectives. <i>Teams</i> that use Sphero EDU Jr to customize code must show the code to the Evaluator. Mission Strategy Features (planning, testing, iteration, trade-offs, time-management, robot positioning, or other strategies to optimize performance) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts Coding Features (number of different colored Tiles, using custom sounds or LED Colors) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts	20
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Max Points: 200

Mission Objective 2: Delivery Dash

Overview: A Smart City thrives on speed. When a high-priority package is ordered, the autonomous delivery vehicles get to work ensuring that deliveries are handled accurately even through difficult terrain.

In this **Mission Objective**, **Teams** code their indis to navigate a route that includes at least four unique city **Waypoints**. Success depends on indi being able to traverse tunnels and ramps before returning back to its original location. In this dash for efficiency, make sure that indi hits all of the **Waypoints**!

MO ID	Objective	Possible Points
indi-M2-1	Using whatever craft materials you have available, create four Waypoints that indi 1 and indi 2 will travel to. You need to have two of each type of Waypoints : • Tunnel (10 points each; total of 20 points) • Ramp (10 points each; total of 20 points)	40
indi-M2-2	indi 1 and indi 2 begin at the same Starting Area . indi 2 begins its program shortly after indi 1 has started its program.	10
indi-M2-3	Code a path for indi 1: 1. The path should use at least 12 Tiles. (5 points) 2. indi 1 must travel to at least two of the specific Waypoints from indi-M2-1. (20 points each; total of 40 points) 3. The Ending Area is a Tile adjacent to the Starting Area. (10 points)	55
indi-M2-4	Code a different path for indi 2: 1. The path should use at least 12 Tiles. (5 points) 2. indi 2 must travel to at least two of the specific Waypoints from indi-M2-1. (20 points each; total of 40 points) 3. The Ending Area is a Tile adjacent to the Starting Area (10 points)	55
indi-M2-5	“Theme Story Points”: Teams implement unique features beyond the Mission requirements that enhance the theme. Field Design Features (custom structures, Blueprint Engineering parts, improved zone designations, or other custom design elements) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts Robot Design Features (digital audio, and physical changes to the base robot) • None = 0 pts • 1-3 = 5 pts • 4+ = 10 pts	20

indi-M2-6	“Implementation Points”: Teams demonstrate understanding of the coding concepts and strategic decisions used to complete the Mission Objectives. Teams that use Sphero EDU Jr to customize code must show the code to the Evaluator. Mission Strategy Features (planning, testing, iteration, trade-offs, time-management, robot positioning, or other strategies to optimize performance) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts Coding Features (number of different colored Tiles, using custom sounds or LED Colors) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts	20
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Max Points: 200

Mission Objective #3 - Championship Mission: Trash & Recycling

Overview: Maintaining a clean and sustainable environment is a core pillar of a Smart City’s design. To keep the streets pristine, the city employs vehicles to collect recyclable and landfill waste.

This **Mission Objective** requires **Teams** to coordinate a dual collection effort across six different pickup zones marked throughout the city. Because the waste and recycling plants have different processing speeds, the two robots must never follow the same collection sequence. To maximize efficiency and conserve energy, **Teams** are encouraged to share paths where possible before both units return to the **Garage** for offloading.

MO ID	Objective	Possible Points
indi-M3-1	Teams place six Number Markers in any spot and orientation on the Mission Field .	20
indi-M3-2	Teams build a Garage for the Ending Area that fits both indis.	20
indi-M3-3	indi 1 and indi 2 begin their program from the same Starting Area . (5 points each)	10
indi-M3-4	Code a Trash path for indi 1: 1. The path should use at least 12 Tiles. (10 points) 2. indi 1 must travel to all six Number Markers, but cannot go in the same order as indi 2. (20 points) 3. indi ends in the Ending Area from indi-M3-2. (10 points)	40
indi-M3-5	Code a different path for indi 2. (Recycling) 1. The path should use at least 12 Tiles. (10 points)	40

	- indi 2 must travel to all six Number Markers, but cannot go in the same order as indi 1. (20 points) - indi ends in the Ending Area from indi-M3-2. (10 points)	
indi-M3-6	After leaving the Starting Area , the indis can share Tiles as part of their path to each of the Numbered Markers to earn more points. (5 points each shared Tile : maximum 30 points)	30
indi-M3-7	“Theme Story Points”: Teams implement unique features beyond the Mission requirements that enhance the theme. Field Design Features (custom structures, Blueprint Engineering parts, improved zone designations, or other custom design elements) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts Robot Design Features (digital audio, and physical changes to the base robot) • None = 0 pts • 1-3 = 5 pts • 4+ = 10 pts	20
indi-M3-8	“Implementation Points”: Teams demonstrate understanding of the coding concepts and strategic decisions used to complete the Mission Objectives. Teams that use Sphero EDU Jr to customize code must show the code to the Evaluator. Mission Strategy Features (planning, testing, iteration, trade-offs, time-management, robot positioning, or other strategies to optimize performance) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts Coding Features (number of different colored Tiles, using custom sounds or LED Colors) • None = 0 pts • 1-3 = 5 pts • 4-5 = 7 pts • 6+ = 10 pts	20

Max Points: 200

Glossary:

Program	Sphero Robotics Missions comprises three unique Programs :
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	• indi Missions • BOLT Missions • RVR Missions
Student	Anyone born after May 1, 2007
Team	A group of Students
U9 Student	Any Student born on or after Sept 1, 2017 meaning they will be 8 or younger on Aug 31, 2026
U12 Student	Any Student born on or after Sept 1, 2014 meaning they will be 11 or younger on Aug 31, 2026
U15 Student	Any Student born on or after Sept 1, 2011 meaning they will be 14 or younger on Aug 31, 2026
indi Missions	Teams competing in this Program must consist of only U9 Students and at least one Team Coordinator
BOLT Missions	Teams competing in this Program must consist of only U12 Students and at least one Team Coordinator
RVR Missions	Teams competing in this Program may consist of only U15 Students , and at least one Team Coordinator
Team Coordinator	An adult in a supervisory role for the Students that will handle the registration, submission, and management of Team meetings. Teams may have more than one Team Coordinator .
Mission Objectives	Each Program is broken up into Mission Objectives that Teams will be evaluated on based on guidelines in this document
Mission Field	A defined space for each Program . Reference individual Mission Manual for specific Mission Field guidelines
Individual Mission Score	A Team's score for an individual Mission Objective recorded by an Evaluator
Total Score	The total combined score of all Individual Mission Scores for a Team

Starting Area	The area of the Mission Field where robots begin a Mission Objective
Ending Area	When required, the area of the Mission Field where robots finish their program
Manual Drive Mode	A driver controlled portion of a Mission Objective instead of programmed commands
Foul	Points deducted in some Mission Objectives if a team commits a Foul as outlined in the Mission Manual . Unless stated otherwise, there is no limit on the number of Fouls a Team can receive in a Mission Objective . The Team's Mission Total Score cannot go below 0 points due to Fouls .
Obstacles	Defined as any object placed in the Mission Field as part of the setup for a Mission Objective that should be avoided as outlined in the Mission Manual . If a robot drives into an Obstacle , they will receive a Foul .
Field Element	An element added to the Mission Field as specified in the Season rules
Field Object	A scored object added to the Mission Field as specified in the Season rules
Season	The approved timeline for participation in the Sphero Robotics Missions . A standard Season runs from June 2026 through May 2027.
Event Host	Approved adult coordinator and primary contact to organize, plan, and implement successful Sphero Robotics Mission Events with the help of TEAM Alliance
Evaluator	A volunteer responsible for evaluating a Team's mission attempts during an Event
Online Submission	Teams submit pre-recorded Mission Objectives to an Event Host for evaluation. This is an option for Online Submission Season registrations.
In-Person Event	Events that are included as an option with in-person Season registrations. These events allow a Team to run Mission Objectives at a location with other Teams and an in-person Evaluator .
Prequalifying Event	An early Season In-Person Event that doesn't qualify for a Championship Event (or any other Event). An in-person Team registration does not include entry into a Prequalifying Event .
Qualifying Event	A Season In-Person Event that qualifies a Team for Championship Events . An in-person Team registration includes entry into one Qualifying Event .
Live Remote Event	Events that are included as an option with In-Person Season registrations. These events allow a Team to run Mission Objectives remotely with other Teams and a remote Evaluator .
Championship Event	A state, regional, or national event that serves as the culminating competition for Teams that qualify through designated Qualifying Events . In the U.S., Championship Events are typically state-level, but may include multiple Championship Events within a single

	state or combining multiple states into a regional Championship Event . Internationally, regional or national Championship Events are used where geographic considerations apply.
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