# 2023 NRC Preschool (KUBO Challenge) – Frequently Asked Questions

| Question | Answer |
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| **Team Registration** | |
| 1. Is there a minimum team size? | Yes, a minimum of 2 participants and 1 coach is required to register for the NRC Preschool (KUBO Challenge) category. |
| 2. Can there be a mixed team (K1 and K2) in a team? | Yes, each team can consist of members aged 5 – 6. |
| 3. How many teams can I send per school? | There is no limit to the number of teams that each school can send. However, the competition can accommodate a maximum of 60 teams this year and the registration fee for each team will remain at S$30. |
| 4. Where will the on-site competition be held? | It will be held at Annexe Hall 2 & 3, Science Centre Singapore. |
| 5. Can I drop out of the Challenge halfway? Are there any penalties involved? | $30 registration fee is not refundable.<br><br>Due to accountability, the loaned KUBO sets need to be returned to KidsSTOP at any point teams wish to withdraw from the Challenge. The team is to bear the cost of delivery back to KidsSTOP if they opt for mailing and ensure all components are placed back into the box in working order. |
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| **KUBO-related** | |
| 1. When can we purchase the mat? What is the dimension of the mat? | 1 mat for Game Field 1 will be provided to each team. The mat measures 100cm*100cm. The playable area will be 80cm*80cm, with each grid being 4cm*4cm.<br><br>Extra Game Field 1s are not available for purchase at the moment. |
| 2. Can I use more than 1 robot to complete the missions? | The entire competition round can only be completed using 1 set of KUBO Coding Starter Set and 1 set of KUBO Coding+ loaned out by KidsSTOP, Science Centre Singapore. |
| 3. Who can go for the KUBO training? | The training is reserved for registered team coaches only. Each team can send up to 2 coaches to attend the training. |
| 4. Do we have to purchase KUBO sets? | 1 set of KUBO Coding Starter Set and one set of KUBO Coding+ will be loaned out for free to each team. Teams will be required to return the loaned sets in good working condition at the end of the competition. |

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| 5. When will we receive the loaned KUBO Sets? | A Form will be sent out to all registered teams to indicate their availability to collect the KUBO sets from KidsSTOP. The date of collection will be from 9 – 12 May 2023.<br><br>Teams who have registered for the competition after May will be notified separately. |
| 6. Who can I contact if I have questions regarding KUBO and its coding functionality? | Duck Learning (competitions@ducklearning.com) |
| 7. What happens if one of the KUBO components becomes non-functional? | Refer to equipment liability information under Section 3.4 of the Challenge booklet. |
| 8. How do we return the KUBO sets? | The KUBO sets will be collected back on 28/29 August 2023 at the competition venue, after the team has completed the Onsite Challenges. |
| 9. How long can the KUBO robot work after it is fully charged? | Depending on the intensity of the usage, the KUBO robot can run for approximately 1 hour.<br><br>Fully charged KUBO robots and portable chargers will be made available during the onsite competition. All teams are reminded to charge their KUBO robots fully for the onsite competition. |
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| **Carrier-related** | |
| 1. What kind of materials can we use to create the carrier for the KUBO robot? | Teams can use any materials to create their carriers as long as the adhesives do not damage the robot. Adhesives such as masking tape, scotch tape and blue tag are suitable.<br><br>Teams are **highly encouraged** to use recyclable materials to fabricate their carriers to assist the KUBO robot in completing the missions. |
| 2. Does each carrier need to be different for each mission? | Each design/carrier of the KUBO robot needs to be unique for each mission and should not be re-utilised for any other missions. This is to encourage teams to express their creativity. There is an additional award for the Best KUBO Robot Design. |
| 3. How much time are teams given to change their robot carriers in between missions? | Teams will be given a buffer time of **5 minutes** in between missions to change the carrier for their KUBO robot. |
| 4. Can students design items to be attached to KUBO to help move things? | Yes, teams can design things/carriers/items that can be attached physically to KUBO to help move the game objects to the destinations. A gentle reminder to bring these items for the actual competition. |

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| 5. What is the maximum size of the carrier for the KUBO robot? | There is no maximum size so long as KUBO can complete Missions 1 – 4.<br><br>For mission 5 (Harvesting Solar Energy), the solar panel fabricated by teams should be **at least** 8cm (width) x 8cm (length) and **not exceed** 8cm (width) x 12cm (length). |
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| **Online Presentation Round (21/22 August 2023)** | |
| 1. What do the teams need to present in the online presentation? | Please refer to Section 7.1 of the Challenge Booklet to find more information and the rubrics of the Online Presentation.<br><br>The online presentation is meant to showcase their learning process, share coding & design of KUBO, reflection and Q&A. Teams may use various presentation aids such as slides, props, scripts etc. to showcase their ideas.<br><br>A maximum of 3 questions will be asked during the Q&A, and these questions are found in the challenge booklet (refer: Section 9, Appendix A).<br><br>Teams are to ensure proper equipment is ready for the online presentation to allow audio and video to be captured during the allocated timeslot. |
| 2. How long is the presentation? | Actual presentation: 5 minutes + 3 minutes of Q&A.<br>Teams will be notified of their allocated time slot. |
| 3. Can parents or other staff from the school seat in for the presentation? | Yes, kindly inform the organizing team about it. The Zoom link will be sent closer to the date. |
| 4. Will there be a tech check? | A tech check will be done 10 minutes before the team's scheduled time slot for the presentation, in a separate zoom room (e.g., Present at 10.10am, tech check at 10am). After which, teams will be directed to the main room for the presentation. Staff will be present online to assist you.<br><br>Teams will be shared the zoom links to the tech check and presentation room nearer to the day of online presentation. |
| 5. We are given a group number; do we need to remember it? | Yes, please take note of the allocated group number as we will be using the group numbers on the day of onsite mission as well. |

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| **Onsite Competition Round (28/29 August 2023)** | |
| 1. What do teams need to prepare before the onsite mission? | Teams are to bring their loaned KUBO Coding Starter set, KUBO Coding+ set, game field objects, Game Field Map 1 and all other materials such as carriers you will need them to complete the missions.<br><br>Teams must use the loaned KUBO sets for the competition. |
| 2. What happens if the KUBO sets loaned to us are not working? | Please contact the NRC Preschool (KUBO Challenge) team at KidsSTOP™. The NRC Preschool team have working robots as well if the KUBO set provided is not working on the day of competition. |
| 3. How long is the onsite mission? | The On-site Competition round will be approximately 100 minutes (including 20 minutes practice time). Teams will be notified of their allocated date and time slot.<br><br>Participants will be ushered to the playfield/practice areas upon arrival and during competition. |
| 4. Can teams bring notes to the competition venue? | The competition is meant to encourage preschoolers to code and have fun in the process, physical notes and verbal help are allowed.<br><br>Points will be deducted when there is physical interference from the coaches. For example, when coaches touch the game objects, Tagtiles, play field mat and KUBO etc. Coaches are allowed to touch the game objects, Tagtiles, play field mat and KUBO during the 5-minute buffer time in between missions. |
| 5. During the practice time, do the students get to see the play field and test out their robots prior to the actual challenge? | All teams will be given a 20-minutes practice run at the practice area to test out the items that they have prepared for the competition. Teams can try out Missions 1-4 in the practice area. |
| 6. Before the start of the actual challenge, will the game objects be set on the playing field? | Yes, game objects for each mission will be set up on the playing field by the referees prior to the start of each mission run. |
| 7. Do the game time for each mission include the time required to code KUBO? | The game time is inclusive of KUBO coding time and laying down of the TagTiles. The timing will start when the host says, “Start of Mission x”. |
| 8. If KUBO turns purple and gets stuck while reading the code outside of game field, will students be able to move and realign KUBO to re-read the TagTiles? | If there is an error while KUBO is reading the code outside the playfield, students are allowed to move KUBO and read the code again.<br><br>If KUBO is inside the playfield and encounters an error while the code is running, the students will need to inform the referee to determine if the team can reset the code. Otherwise, no interference is allowed. |

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| 9. KUBO starting position of each mission is indicated in the challenge booklet – scoring rubric. Can students change the orientation of KUBO prior to the start of the mission? | KUBO is to be placed at a 90-degree angle within the grid and can only face the 4 sides of the grid. No diagonal placement of KUBO is allowed on the playing field and should not be oriented to travel diagonally across the grids.<br><br>Students are allowed to change the orientation of KUBO before the mission starts. However, teams are reminded that they are not allowed to change the grid position of KUBO. The starting grid position of KUBO for each mission has been indicated in the scoring rubrics in the Challenge Booklet Section 7.2. |
| 10. Students are not allowed to touch KUBO when it is executing its command. What if I realized the KUBO code is wrong or stuck, can I stop KUBO, remove the head and reset it? | When KUBO is inside the game field and the code is running, no interference is allowed. In the event that KUBO is stuck, or a wrong code has been entered, students must inform the referee and will be allowed to make changes to the code and continue with the mission. However, do note that time will continue to run. |
| 11. Points are given if coaches do not interfere. Does verbal advice from coaches count as interference or only physical help? | Interference from coaches refers to physical help only (verbal guidance is allowed).<br><br>However, if coaches touch any of the game materials (KUBO, TagTiles, coding sets, game field, game objects etc.) it will count as an interference. |
| 12. Will all props be placed on the mat at the start or only the ones relevant to the mission? For example, Mission 1: only the plastic container is on the mat. | Only the relevant game objects related to the mission will be placed on the mat by the referee. After each mission, the game objects will be cleared from the mat. |
| 13. Are all starting positions random or fixed? | All starting positions are fixed. Please refer to Section 7.2 of the Challenge Booklet for more details. |
| 14. Why is there a 5-minute break between each mission? | Referees will be taking the time to replace the game objects for the next game mission.<br><br>Teams can take this time to redress KUBO for the next mission. Dressing of KUBO does not count into the time for coding.<br><br>Teams can also lift KUBO up and place it at the start of the next mission. |
| 15. If any of the game objects falls, can students touch it? Who sets it back again properly? | Students are not allowed to touch the KUBO robot or the game objects when the code is running for the robot. However, students may inform the referee to reset the game objects. Do note that the time will continue to run. |
| 16. Can the game objects on the game mat be moved? | The game objects will be placed at their respective positions prior to the start of each mission by the referees. Teams are not allowed to touch the game objects during the mission run when KUBO is still running its code. |

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| | Teams may only touch and transport the game object onto KUBO's carrier when KUBO has stopped running its code. Points will be awarded if game objects are transported hands-free during the mission (Refer to Section 7.2). |
| 17. Can we touch KUBO? | Teams are not allowed to touch the KUBO robot when it is moving on the game field or when the code is still running (inclusive of pauses in the codes).<br><br>Teams may move KUBO after the code has stopped running to read another set of code if required. |
| 18. Does KUBO need to stay within the play field grids? | It is alright for KUBO to veer slightly off the grids. As long as KUBO reaches the destination and is within 1 grid radius of any game objects for all missions, the point will be awarded to the team. |
| 19. Can KUBO move on the pavement or anywhere on the play field grids? | KUBO does not have to strictly follow the road printed on the map. It can take any route on the grid of the mat as long as it completes the mission. |
| 20. Can KUBO move diagonally? | TagTiles provided will only allow KUBO to turn 90-degrees or 180-degrees. No diagonal travel or positioning is allowed for this Challenge. |
| 21. KUBO is not always aligned; how do we know if we scored the point? | The team will score the point when KUBO reaches within a 1 grid radius of the destination. For example, if KUBO reaches within a 1 grid radius around children's playroom (G13), the point will be awarded to the team. |
| 22. If KUBO goes off course due to placement issue, can the team reset KUBO before the game continues? | Teams can inform the referee to correct KUBO's orientation by placing KUBO at the original starting position before continuing with the mission. Time continues to run.<br><br>It is recommended to split the codes into shorter portions to better control KUBO to complete the mission. |
| 23. Is it alright if the game objects fall down when KUBO reaches the grid where the game object is placed? | Yes, it is alright. |
| 24. When KUBO starts moving on the play mat, will the referee remove the play tile or the play tile will remain on the mat until the mission ends? | The play tiles will remain on the mat until the mission finishes. Teams are to required to inform the referee to stop KUBO and rearrange the play tiles.<br><br>When KUBO comes to a complete stop (i.e. KUBO finish executing the sequence/code), teams can pick up KUBO to place a tile underneath or pick up the play tile to lay out a new sequence or code. Teams will have to replace KUBO in the orientation it had stopped at. No points will be deducted in this scenario. |
| 25. Are participants allowed to add things to the game objects? | No alterations and adjustments can be made to all game objects. On the day of competition, teams will be using a new set of game objects for the actual competition. |

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| 26. Do we need to follow the scoring rubric in order? | You will need to follow the missions in order. The host will announce the missions in order as stated in the Scoring Rubrics. |
| 27. How is the final score counted? | The final scores will be based on the scoring rubrics shared in the Challenge Booklet. This is made up of the score from the Online Presentation Round and the score from the Onsite Competition Round.<br><br>Points gained from the additional prize categories (Best KUBO Robot Design & Best Teamwork) will not be counted to the final score as these are additional categories. |
| 28. When will I know my team's result for the onsite mission? | Teams will be notified by 1 September 2023 so that they can make arrangements to come for the awards ceremony on 9 September 2023. |
| 29. Can I get tickets to watch the competition?<br>Can parents watch the onsite mission? | There are no bystander tickets, but walk-ins are allowed. There will be a designated space for the audience to view the competition.<br><br>Parents are to inform the organising team upon arrival onsite that their child is participating in the competition and will be ushered to the audience area. Staff members reserve the right to confirm the identity of the parents with the teachers, to protect the students.<br><br>The audience area will be demarcated, and members of the audience are not allowed entry into the competition and practice area. |
| 30. Is there a limit to the number of audiences watching the competition on-site? | There are 100 audience chairs available on a first come first serve basis. No reservation of seats will be taken or allowed at the venue. |
| 31. Does the KUBO robot have to complete the mission in 1 go? | KUBO robot does not have to execute all the movements at the same time to complete the mission. Teams can break down into smaller segments.<br><br>However, teams are not allowed to touch the game field mat or any items on it while the KUBO robot's programme is running. The judge will give a verbal warning to the team and after 2 verbal warnings, the Organiser reserves the right to not score for the mission. |