

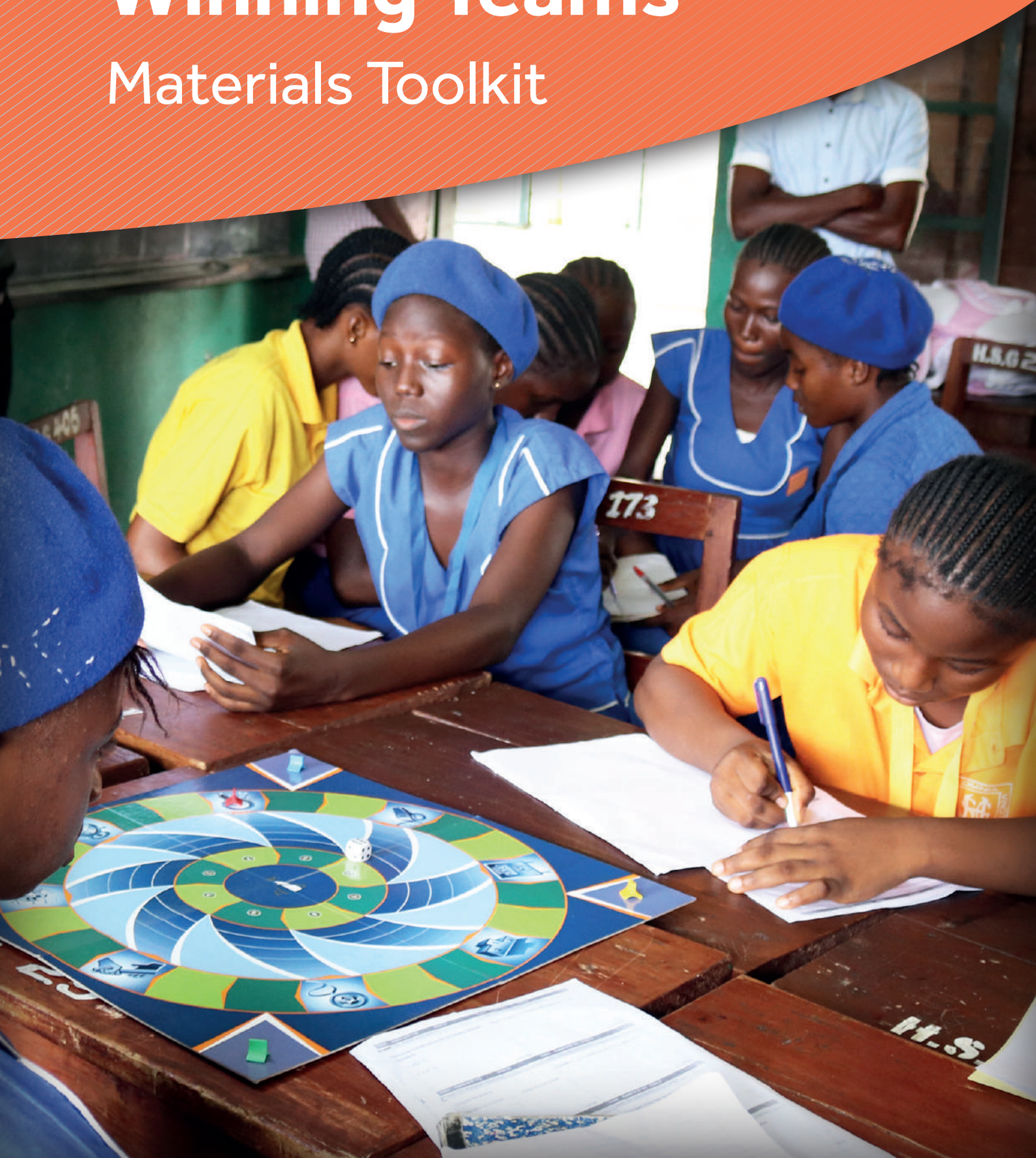
Leh Wi Lan

Improving Secondary Education in Sierra Leone



Winning Teams

Materials Toolkit



These materials were produced and delivered as part of the UK aid-funded Leh Wi Lan programme to enable schools, districts or projects to implement the Winning Teams model. Materials can be shared and adapted for use as long as they are not used for commercial purposes.

Disclaimer: The game board design and the specifics of the game rules and methodology are also held as patent by Winning Teams (Pty) Ltd., and are not open for Creative Commons licence.

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This toolkit comprises materials for operating the Winning Teams catch-up mathematics programme for secondary school pupils in Sierra Leone.

Overview of Winning Teams in Sierra Leone

Winning Teams is a learning activity developed in South Africa. The Winning Teams model has been introduced and piloted in Sierra Leone through the UK aid-funded Leh Wi Lan programme to support the Ministry of Basic and Senior Secondary Education (MBSSE) in its efforts to improve secondary school pupils' skills and confidence in mathematics. The activity has been held as an after-school session for all the pupils in the targeted year group within each participating school.

Winning Teams involves pupils participating in catch-up learning sessions with locally-based facilitators, supported by specially produced materials. The sessions are held on the school premises, with pupils in their normal class group, immediately after their main timetabled classes. As well as learning content materials, there is a specially prepared board game set. The learning process is punctuated by regular playing of the board game (usually once per week). This is a competitive team game, where up to four teams of pupils play against one another to score points by correctly answering questions set on the relevant mathematics topics which they have been revising and preparing.

The game is run by a 'referee', who asks the questions and manages the game, supported by a 'linesperson', who keeps time and records the scores as the game progresses. Typically, in one game there are four teams of three players, and each team has three 'substitutes' on their bench, who can take over from the team during a game or between games. Each team has a captain, who acts as a spokesperson in reading out their team's answers. Within each team, players collaborate to work out answers to the questions set. The referee and linesperson roles are filled by pupils, on a rotating basis.

The game serves functions of motivation, focusing preparation and learning, promoting collaboration, and regularly assessing learning to identify where there are curriculum areas which need more attention to master.

The facilitator oversees and supports the process, helps analyse the scores and keeps records of attendance and of learning areas which need further attention in forthcoming Winning Teams catch-up tuition sessions. The facilitator also liaises with the school Head of Department of mathematics, the pupils' mainstream class mathematics teacher, and those coordinating the programme. This liaison is for purposes of programme management, communications, resourcing and academic support, and for monitoring, evaluation and learning.



In the case of the Leh Wi Lan pilot, the facilitators have been called 'Maths Captains', and have been supported by 'Community Facilitators', both roles having been recruited, supported and managed through the project. In other contexts, the facilitators may simply be recruited and supported by the school Head of Department under the oversight of the school Principal.

The approach was first used for pupils at SSS2 level in twenty schools, and subsequently for pupils at JSS2 and JSS3 levels in ten schools. Most recently, it has been introduced to JSS1 pupils, with a further ten schools added to those already engaged (twenty JSS in total). The intervention has been in Moyamba District in the South, and Koinadugu and Falaba Districts in the North. In each case, the learning content is based on revisiting and reinforcing topics of the mathematics curriculum of the preceding year level, which recur and are developed further in the current year.

For example, for JSS3 pupils, the content of the Winning Teams materials links content of the JSS3 syllabus with content of JSS2 syllabus; for JSS1 pupils, the Winning Teams materials link JSS1 content back to Primary 6 content. These are as reflected in the MBSSE Mathematics Pupil Handbook and in the teacher's MBSSE Mathematics Lesson Plan Manual.

The educational rationale is that as pupils progress through their school career, typically they are promoted to the next year without having mastered a significant proportion of the mathematics curriculum, or indeed in many cases without having been exposed to some of it at all. This produces a cumulative shortfall and blockage to further learning. So Winning Teams seeks to help pupils catch up with what they would be expected to have learned already in order to have a solid foundation for their current year's study.




In addition to seeking to improve pupils' knowledge and skills competence in mathematics, Winning Teams is designed to help learners develop their confidence as self-reliant learners and problem-solvers, to promote peer-learning support and collaborative learning among them, and to make learning mathematics a joyful, successful and motivating process, rather than one of failure, to be feared and hidden from.



The materials in this toolkit

The materials in this toolkit include the following items.

For playing the game, which is a core part of the Winning Teams approach, there are the following documents:

	<p>Question and answer sheets for the referee of the game</p>
	<p>Question sheets for the players of the game</p>
	<p>Score sheet for recording and analysing teams' scores during and following the game</p>

The game is the most distinctive and visual part of Winning Teams. It provides focus and motivation and a regular opportunity for learners and their supporters to assess learning formatively, to see where there are difficulties or gaps in learning to address and where, on the other hand, pupils have confidence and no problems.

While the facilitator arranges and coordinates the group sessions and supports and oversees the process of playing the game, different learners serve as referee and timekeeper each time the game is played. Similarly, the team captains are from among the learners. These roles rotate among learners, so learners have opportunity to act in positions of responsibility and leadership, and also as team members, and as reservists while others in their team are playing.

For facilitators to understand the underlying principles of Winning Teams, and for procedural instructions on how to play the game, there are two manuals. There is also a set of question-and-answer cards about the rules and procedures of playing the game, for facilitators to practise playing the game and to test their grasp of the rules:

- Facilitator guidelines for the implementation of the **Winning Teams game methodology**
- Facilitator guidelines for the implementation of the **Winning Teams learning method**
- **'How to play the game'** question and answer cards (a training quiz resource)



Details of how the game is played, the recommended process for the game and for learning between the games, is in those manuals and reflected in the training game cards.

For training facilitators, there are also additional resources:

A Maths Captains pocket guide – as a digested summary checklist of the steps a facilitator is advised to follow in running Winning Teams

A practical demonstration observation sheet – for trainers to assess and record the strengths of trainee facilitators

Mathematics learning content is provided in concise form to facilitators, so they know the relevant syllabus content and skills to cover, and how the syllabus is structured and sequenced. These materials reference the precise parts of the mainstream curriculum teaching and learning materials, so facilitators and pupils can cross-refer and can link their learning in the Winning Teams activity to their mainstream mathematics lessons.

Summary of topic alignment – identifying and mapping the topics included in one year of the school mathematics curriculum against the same topic revisited in the next year of the school mathematics curriculum. These refer to the topics and lessons in the mainstream MBSSE Lesson Plan Manuals.

Topic concept charts – detailed session guides for tutoring the concepts from the curriculum which have been identified in the Topic Alignment summary tables, referring to the MBSSE Lesson Plan Manuals.

Record-keeping of attendance, of progress and of any issues is supported by additional template forms, in addition to the score sheets, for system monitoring, evaluation and learning:

Attendance record – to record the register for individual pupils in each Winning Teams group, progressively over time.

Bi-weekly summary reports – for facilitators to record every two weeks what has been covered, progress and any observations on issues or matters that have arisen. Bi-weekly summary reports – for facilitators to record every two weeks what has been covered, progress and any observations on issues or matters that have arisen.

These attendance and summary reports are passed to supervisory academic and programme management levels for review, information, and, where appropriate, intervention.



Support arrangements

In the Leh Wi Lan pilot, there was a hierarchy of support for the learning process: the direct facilitators of sessions for JSS pupils were called 'Maths Captains'. These were recruited from the school's locality, being graduates from the school, with at least SS3 school leaving qualification. The Maths Captains were supported and coordinated by more experienced facilitators recruited from the community, referred to as Community Facilitators. For senior secondary level learners, the Community Facilitators directly acted as tutors, as it was felt the gap between SS3 school leavers and senior secondary pupils was not great enough for the Maths Captain model. Most Community Facilitators were experienced mathematics teachers, due to the profile and availability of suitably competent people in the locations where the pilot was held.

Initial and continuation training was provided to the Maths Captains and to the Community Facilitators in their roles as facilitators and as administrators of learning, and in using the Winning Teams methodology and materials. In other contexts, the roles of facilitator and supporter may be adopted by other cadres: for example, the Head of Department Mathematics in a school is expected to be the most appropriate person to coordinate and to support academically the activity, in place of the Community Facilitators, a position which was appointed and sustained with project support.

In addition to the documents included in this toolkit, the game also requires a box of physical, non-text items, as game board kit:

- **Game board** (one per game)
- **Dice** (two per game)
- **Counters/pieces** for players to move round the board (one counter for each of four teams)
- **Medallions** on coloured ribbons (one per team, to be worn by the team captain)
- **Whistle** for the referee (to start and stop the rounds in the game)
- **Stop-clock** for the linesperson (to limit the time allowed to answer a question)
- **Yellow card and Red card** – for the referee to discipline team players breaking rules

Of the materials noted in this document, those items which are curriculum-specific documents may be developed for any subject area and for any level where learners are able to play a board game.

The table below summarises the material documents available in the Toolkit, who uses them, and at what stage.

Materials used in the Winning Teams cycle				
	Phase	Facilitator (Maths Captain)	Learners (Pupils)	Programme management and QA
1	Training and orientation of facilitators:	<ul style="list-style-type: none"> • Winning Teams game methodology • Winning Teams learning method • Game board kit • Score sheet • Attendance record • Bi-weekly summary report • Summary of topic alignment • Topic concept charts • Maths Captain pocket guide 		<ul style="list-style-type: none"> • Practical demonstration observation sheet
2	Orientation of learners:	<ul style="list-style-type: none"> • 'How to play the game' cards • Question and answer sheets • Summary of topic alignment • Topic concept charts • Attendance record • MBSSE Lesson Plan Manual (current year level and preceding year level) • Pupil Handbook (current year level and preceding year level) 	<ul style="list-style-type: none"> • 'How to play the game' cards • Question and answer sheets • Game board kit • Score sheet • Pupil Handbook (current year level) 	
3	Preparation for the game: new learning and revision tutorial sessions	<ul style="list-style-type: none"> • Summary of topic alignment • Topic concept charts • Attendance record 	<ul style="list-style-type: none"> • Pupil Handbook (current year level) 	
4	Playing the game: formative assessment of learning	<ul style="list-style-type: none"> • Question and answer sheets • Attendance record (update) 	<ul style="list-style-type: none"> • Question sheets • Game board kit • Score sheet (fill out) 	
5	Review learning progress and gaps:	<ul style="list-style-type: none"> • Score sheets (completed; analyse) • Summary of topic alignment • Topic concept charts 	<ul style="list-style-type: none"> • Score sheets (completed) • Pupil Handbook (current year level) 	
6	Reporting:	<ul style="list-style-type: none"> • Attendance record (updated) • Bi-weekly summary report (update) 		<ul style="list-style-type: none"> • Attendance summary (updated) • Bi-weekly summary reports (completed for the new period)