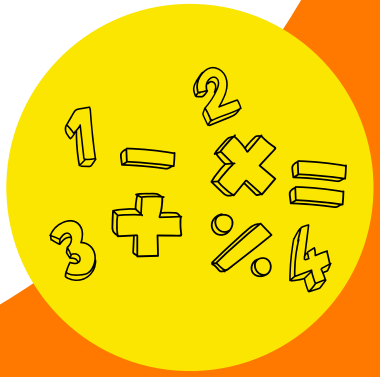
TENBY SCHOOLS
SETIA ECO PARK

iSP International Schools Partnership

TISP

Mathematics



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Our Mathematics Curriculum outlines our commitment to developing confident, curious, and resilient mathematicians through a mastery-based approach rooted in the White Rose Maths scheme. It details our teaching strategies, curriculum progression, assessment practices, and inclusive learning methods across EYFS to Year 6. This policy ensures continuity, deep understanding, and a lifelong love of maths for all learners.

01

Introduction

Mathematics at Tenby International School develops learners' fluency, reasoning, and problem-solving skills while building confident, curious, and resilient mathematicians. We nurture lifelong learners who view maths as a powerful tool to explore, make sense of the world, and thrive in it.

Aims & Objectives

KS1 sessions may include links to the curriculum while still prioritising child-led learning.

Our objectives are:

- To promote enjoyment and enthusiasm for maths through practical and engaging tasks.
- To ensure children gain deep conceptual understanding using the CPA (Concrete-Pictorial-Abstract) approach.
- To build fluency in mathematical fundamentals through varied practice and recall strategies.
- To develop logical reasoning, inquiry, and collaborative thinking.
- To encourage learners to apply maths in cross-curricular and real-life contexts.
- To instil a growth mindset towards challenges and mistakes in maths.

02

Implementation

We follow the White Rose Maths scheme, which is rooted in the **Mastery Approach**. This means we believe every child can succeed in mathematics by developing a deep, secure, and long-lasting understanding of concepts. Our aim is for children to become confident, fluent mathematicians who enjoy problem solving and can explain their thinking clearly.

The CPA Approach - Concrete, Pictorial, Abstract

A central feature of our maths teaching is the CPA approach, which helps children build a strong foundation of understanding:

- **Concrete**: Children begin with hands-on materials such as Numicon, base ten (Dienes) blocks, place value counters, and cubes to explore mathematical concepts in a tangible way
- **Pictorial**: Next, they draw diagrams, bar models, or number lines to represent problems visually and make links to the real world.
- **Abstract**: Finally, they move to more formal written methods, using numbers and symbols (e.g., 24 ÷ 6 = 4) once they fully understand the concept.

This step-by-step approach supports all learners and ensures they fully grasp the 'why' behind the maths before moving on.

Fluency, Reasoning, and Problem Solving

Each lesson is designed to include three key elements:

- **Fluency**: Practising skills and methods so that children can recall facts quickly and accurately (e.g., number bonds, times tables, column methods).
- **Reasoning**: Encouraging children to explain and justify their answers using mathematical vocabulary (e.g., "I know this because…" or "This must be true because…").
- **Problem Solving**: Applying their knowledge to new and unfamiliar situations, helping them to think creatively, persevere, and find multiple solutions.

This balanced approach helps children not only 'do' the maths but also understand it deeply and apply it in real-life contexts.

Key Strategies We Use

To support children's thinking and learning in maths, we use a wide range of strategies:

- Sentence stems and reasoning frames: These provide children with the language they need to explain their thinking clearly and confidently (e.g., "I noticed that…" or "This is similar to…").
- Modelled examples: Teachers demonstrate step-by-step processes using visualisers or on the board so that children can follow clear examples.
- Partner talk: Regular discussion with a peer helps children test out ideas, explain reasoning, and hear different approaches.
- Exploratory investigations and journaling: Children are encouraged to explore patterns, make predictions, and record their thinking in a maths journal, supporting metacognition (thinking about their thinking).
- Mixed-ability collaborative tasks: Especially on challenge task, children work in mixed groups to solve rich problems together. This promotes teamwork, resilience, and deeper understanding.
- Maths working walls, visual charts, and manipulatives: Each classroom has a maths display area that shows key learning, vocabulary, and examples, which children can refer to during lessons. Manipulatives are always available to help children visualise and make sense of abstract ideas

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Curriculum & Planning

Termly Breakdown by Year Group

Year	Term 1	Term 2	Term 3
1	Place Value (to 20), Addition and Subtraction	Shape, Time, Continued Addition, and Subtraction	Numbers to 100, Fractions, Measurement (Length & Height)
2	Place Value (to 100), Addition and Subtraction	Money, Multiplication and Division	Fractions, Time, Statistics
3	Place Value (to 1,000), Addition and Subtraction	Division, Measurement (Length, Mass, Volume)	Fractions, Angles, Time)
4	Place Value (to 10,000), Addition and Subtraction	Area, Multiplication and Division	Decimals, Statistics, Time
5	Place Value (to 1,000,000), Addition and Subtraction	Fractions, Multiplication and Division	Decimals and Percentages, Volume, Geometry
6	Place Value (to 10,000,000), Four Operations	Fractions, Decimals, Percentages, Algebra	Ratio, Statistics, Geometry, Transition Activities

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Progression in Key Strands

Example: Place Value Progression

Year	Key Focus	Representations Used
1	Count forwards/backwards to 100; partition numbers into tens and ones	Number tracks, Base Ten (Dienes), place value charts, bead strings
2	Recognise the value of digits in two-digit numbers; count in 2s, 5s, 10s, and 3s	Base Ten, part-whole models, place value charts, number lines
3	Understand place value in 3-digit numbers; round to nearest 10 and 100	Base Ten, place value counters, place value charts, number lines
4	Recognise place value in 4-digit numbers; count in 25s and 1,000s	Place value counters, Gattegno chart, number lines, place value grids
5	Understand place value up to 1,000,000; use powers of 10	Gattegno chart, place value charts, number lines, digit cards
6	Understand place value up to 10,000,000; round to any degree; use negative numbers	Place value charts, number lines (including negative values), real-life problems (e.g. temperatures, bank balances)

03

Assessment and Tracking

1. Unit-Based Pre/Post Assessments

- **Pre-tests** (diagnostic) before each White Rose unit identify gaps.
- **Post-tests** measure the impact of instruction and progress.
- Outcomes inform planning, support, and differentiation.

2. Half-Termly Summative Assessments

- **Mathletics** and **White Rose end-of-block tests**
- Results logged on **iSAMS** for whole-school data tracking

3. Calculation and Fluency Tracking

- Daily 10 to track individual fluency (e.g., times tables)
- **TTRS Battles** used monthly; results celebrated in assemblies

Lifelong Learners: Stretch and Reasoning Focus

We actively promote deeper mathematical thinking through:

Strategy	Description
Stretch Tasks	Every lesson includes stretch questions or tasks that go beyond fluency practice. These are designed to challenge confident learners and deepen understanding through application in unfamiliar contexts. Stretch tasks often involve open-ended problems or require multiple steps to solve.
Challenge Questions	Purposefully placed throughout each lesson to encourage learners to think critically, spot patterns, and apply strategies. These may include questions such as "What's the same and what's different?", "Can you explain this another way?", or "What would happen if...?"
Reasoning Tasks	Learners are encouraged to explain their thinking clearly using mathematical language. Tasks prompt children to prove, justify, or convince others of their answers, often using examples or counterexamples. These helps build logical thinking and communication.
Mistake Analysis	Pupils explore incorrect answers—either their own or pre-planned misconceptions—to discuss what went wrong and why. This reflective process helps reinforce correct strategies and builds resilience in learning.
Learning Out Loud and Role Reversal	Learners use sentence stems such as "I noticed...", "I know this because...", or "It can't be ___ because..." to articulate their thinking. Children may also take on the role of the teacher—explaining methods to peers, reviewing worked examples, or correcting mistakes on the board. This builds metacognitive awareness and confidence.

Learning Intentions & Success Criteria Examples

Year 3 Multiplication – Lesson Example

- **LO**: I will be able to use partitioning to multiply a 2-digit by a 1-digit number.
- **SC**:
  - I can represent the problem using a bar model or place value counters.
  - I can split the 2-digit number into tens and ones.
  - I can multiply each part separately and recombine.

Inclusion and Access for All

Our commitment to **inclusive learning** ensures:

- Targeted support for EAL, SEND, and more able learners
- Mixed-ability groupings with scaffolding and challenge
- Use of translated key vocabulary and visuals
- TA support based on class data and needs

Monitoring, Moderation and CPD

- Regular **book looks** and **learning walks**
- Half-termly **Maths Planning Checks** led by the Maths Coordinator
- CPD on mastery, stretch, and CPA led by the Maths Leader

Resources and Digital Tools

- **Manipulatives**: Numicon, base ten, place value counters, fraction walls
- **Digital Tools**: TTRS, Mathletics, White Rose Premium, iSAMS, Seesaw
- **Classroom Resources**: Maths working walls, reasoning prompts, anchor charts

Continuity and Progression

Each child has a **pre and post test score sheet** for tracking key fluency and calculation strategies. This follows them year to year and contains:

Month	Actions
Dec	**Pre and post test score sheet**; teachers mark & complete tracker Maths Lead analyses for whole-school trends and identify students for interventions
April	**Pre and post test score sheet**; teachers mark & complete tracker Maths Lead analyses for whole-school trends and identify students for interventions
July	**Pre and post test score sheet**; teachers mark & complete tracker Maths Lead analyses for whole-school trends and identify students for interventions