TENBY SCHOOLS
SETIA ECO PARK

iSP International Schools Partnership

EYFS

Mathematics

TENBY™
SCHOOLS
SETIA ECO PARK

In the Early Years, mathematics at Tenby Schools Setia Eco Park is playful, practical, and rooted in everyday experiences. Children build strong foundations in number, patterns, and spatial reasoning through hands-on exploration, songs, and stories. Using Development Matters, we create maths-rich environments that nurture curiosity, confidence, and enjoyment, preparing children for lifelong learning and success in later years.

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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.

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.

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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**: Practicing 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

Maths in EYFS (Early Years Foundation Stage)

In our Early Years classrooms, maths is taught through the **EYFS Framework** and guided by Development Matters. The focus is on developing strong early foundations in **Number** and **Numerical Patterns,** which are essential for success in later years. We ensure maths is engaging, purposeful, and rooted in everyday experiences that make sense to young children.

Key Principles

- **Practical and play-based activities**: Children learn through hands-on exploration, games, and play-based tasks that make maths fun and meaningful.
- **Maths-rich environments**: Classrooms and outdoor areas are carefully set up to include opportunities for mathematical thinking everywhere—for example, role-play shops with prices, counting stations, measuring water in containers, or sorting natural objects.
- **Repeated exposure to patterns and comparisons**: Children are regularly encouraged to notice and talk about patterns, sequences, similarities, and differences, building key mathematical thinking skills.

Focus Areas

- **Subitising**: This means recognising small quantities without counting (e.g., seeing three dots and knowing it's "3").
- **Comparing quantities**: Children learn to say which group has more or fewer items and use vocabulary like bigger, smaller, longer, or shorter.
- **Composition of numbers to 10**: Understanding how numbers are made up (e.g., 5 is 2 and 3, or 4 and 1) forms the foundation of addition and subtraction.
- **Spatial reasoning:** Children explore shapes, positions, directions, and measures. They build with blocks, complete puzzles, compare lengths and weights, and begin to use everyday language linked to space and shape.
- **Number bonds and early calculation**: Through songs, games, and stories, children begin to understand simple addition and subtraction using real objects and pictures.

Monitoring Assessment

Children's progress is tracked using Tapestry, an online learning journal where teachers record observations and learning milestones. These formative assessments help tailor teaching to individual needs. By the end of Reception, children's attainment is recorded in the EYFS Profile, which summarises their learning across all areas, including maths.

Curriculum & Planning

Termly Breakdown

Term 1	Term 2	Term 3
Matching, Sorting, Numbers to 5	Numbers to 10, 2D & 3D Shape	Patterns, Doubling, Sharing, and Spatial Reasoning

Progression in Key Strands

Example: Place Value Progression

Key Focus

Recognise numbers to 10; match numerals to quantity; compare amounts

Representations Used

Counting objects, ten frames, number blocks, numeral cards, number tracks

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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. Termly Summative Assessments

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

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

Reception counting & comparing - Lesson Example

- **Learning Objective (LO)**: To count objects accurately and compare two groups using the language more, fewer, and equal.
- **Success Criteria (SC)**:
  - I can count objects one by one carefully.
  - I can say how many are in each group.
  - I can compare the two groups using more, fewer, or equal.

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**: Ten frames, base ten, place value counters,
- **Digital Tools**: Busy Things, White Rose Premium, iSAMS, Tapestry
- **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
September	**Baseline and termly assessment**; Team analyses for whole-school trends and identify students for interventions
November	**Baseline and termly assessment**; Team analyses for whole-school trends and identify students for interventions
February	**Termly Assessment**; Team analyses for whole-school trends and identify students for interventions
May	**Termly Assessment**, Tracking for EYFSP