Coherence in planning

Through our bespoke, cyclical design to planning, we advocate a mastery approach to teaching and learning. Our plans are designed to meet the aims and objectives of the NC and promote depth of learning before breadth. We **do not** adhere to one scheme, rather meet the needs of our learners through sources such as Power Maths, White Rose, NCETM and technology, to resource lessons.

Long-term plans: yearly term by term overview of key learning, NC and ready to progress expectations, PAL and overlearn expectations. (provided)

Medium-term plans: detailed programme of learning, key vocabulary, representations and resources. (provided)

Short-term plan: Here →  there → how? What is it they need to know? Pitfalls?

Reasoning and Problem Solving

Half termly focused R & PS skills and strategy teach.

Autumn: All Possibilities, Spring: Logic, Summer: Patterns and sequences.

The opportunity to reason mathematically should be integrated ***throughout*** a maths lesson.

Challenge questions are always on Green paper.

This includes: Questions that ask you to explain your thinking - reasoning, all possibility, a 'twister' question ~ presenting a problem in an unfamiliar context.

Questions derived from Test Base – SAT type are on yellow paper.

TRIO: Try Reasoning It Out

Fluency

PAL: Bespoke fluency programme. Daily fact and key skill practice - see learning overviews and additional key information guide.

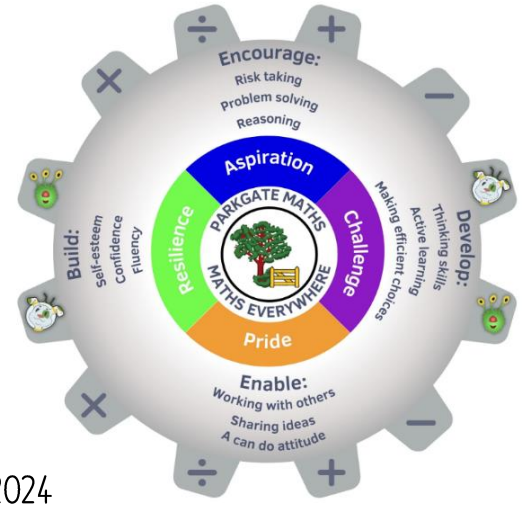
Flashcards: Individual targeted fact cards

Challenge Cup - half-termly + x fact checks, class awards Y2-Y6 for highest average score.

Times Table Rockstars - Wednesday to Wednesday, data & certificate download on a Thursday. Badges: top 3 awards.

Fluent 4: bespoke arithmetic - entry work

Flashback - overlearn (WR) homework/ E.W.



2024

Teaching for mastery ~ key ideas

- ✓ **All** children can achieve (+ mindset)
- ✓ Provides a coherent journey through mathematical concepts - small steps
- ✓ Fluency
- ✓ Mathematical thinking and application

Lesson design

Review Retrieve previous learning - reflective questioning key skills, ref. know org. vocabulary, Cog link.

Anchor task → hook into learning. A real world **problem,** diagnostic question, activity, to encourage active participation, thinking, talking, testing out ideas. Adult questions, guides, encourages...

Instruction → Guided Practice → adult models ~ one or a few, (I do) explanation, demonstration, discussion → Children have a go - adult supporting, giving feedback, assessing, (We do) questioning, understanding.

Repeat! Adapt by 'layering off' when needed.

Stem sentences used with representations.

Independent Practice 1. **Core task** 2. Core plus (GD) 3. Core minus, moving to Core S or I *'adaptive' (You do)*

Exit–Reflection: quizzing, key Q exit ticket (AFL)

Representations and structures ~ every lesson

Representations are the tools we use to help expose the underlying structure of mathematical concepts.

They help learners visualise and comprehend abstract ideas by providing tangible, visual, or symbolic ways to engage with mathematical content. (CPA - Bruner)

Representations can take various forms, such as objects, pictures, diagrams, or manipulatives.

Representations are a window into mathematical structure, which needs to transition to mentally visualising mathematical concepts.

Knowledge organisers: will provide examples of the key representations to be used to develop concepts.