



Pinfold Singapore Maths Policy

(September 2017)

**Planning**

- Plan weekly with year group colleague and maths co-ordinator
- Inspire text provides the step by step, conceptual journey through the age related objectives. (Discussion, testing of content and adapting to the children's needs)
- Supplementary lessons are inserted to fill any historical gaps.
- Challenges are planned from a variety of sources (Inspire, Maths Hub, NRich etc) to develop children's resilience and deeper understanding.
- Carefully planned scaffolds are inserted to support slow graspers.
- SEN- All children start with the whole class introduction. During this AfL is used to decide when/if the content continues to be beneficial to all children. When/ if it becomes inaccessible to anyone they will then be given suitable scaffold to allow learning. If this is still not beneficial to the child SEN targets will be worked on.
- Plan for Maths + sessions to provide personalised learning.

**Mixed ability organisation**

- At least 2 children of similar understanding on each table.
- Each pair will have different levels of understanding and ability to grasp concepts.
- When choosing pairs their understanding, personalities and learning behaviours are considered.
- Partners are changed regularly to allow for different learning styles and behaviours.

**Partner work**

- Where possible partners mirror each other e.g. child A writes the abstract and child B makes the concrete or pictorial to the same problem, while continually discussing and verbalising to each other. Then swap roles.
- Children are taught to develop strategies to scaffold/support each other and at the same time challenge themselves. They can ask their partner questions to support e.g. What do you already know? What are you trying to find out? Can you write it mathematically? What step can you do now? Does that help to find the next step?

### **Teaching (over a period of lessons)**

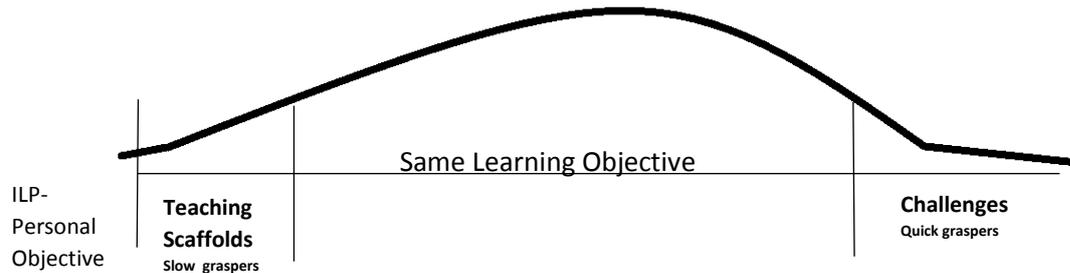
Model- group, partner work-explore-explore another way-make connections-apply-apply to a different situation- practise- practise-work backwards- continuous rich questions and explanations.

- Skills taught in small steps to allow deeper understanding and to make time for children to make their own connections before moving on.
- Maths taught as a journey to deepen the understanding of skills and not stand-alone lessons that hinder connections. Plus objectives linked where possible to help children make connections in maths e.g fractions and division.
- Precise questioning, designed to develop independence, confidence and proficiency, used continuously throughout lessons to deepen children's understanding.
- Precise questioning used as a challenge or scaffold depending on what the child needs. e.g What do you already know? Or can you show me another way?
- Children's answers developed with questions regardless whether the answer is correct. e.g. How do you know? Show me? Prove it? Show me another way?
- Concrete, pictorial and abstract taught alongside each other and chosen carefully to build procedural and conceptual knowledge at the same time.
- Modelling- step by step using CPA and key questions to deepen understanding.
- Create WAGOLs (what a good one looks like) together. With key notes and procedures identified to record in journals for children to refer to.
- Time for children to explore using CPA finding patterns and relationships to share and discuss in groups, pairs and whole class situations. Create chants to 'hook their learning on'
- Any misconceptions addressed immediately through discussion, modelling and self-assessment. Any that are not managed in lesson time, addressed in Maths +.
- Challenge provided within the same mathematical content to develop deeper understanding (missing numbers, starting at the end and working backwards, making their own question, having a question in a different situation to transfer their skills, use a different method or strategy, finding errors and explaining etc)
- Opportunities for children to apply and practise new and previous learning, using resources of their choice. This could be practical or written activities, on whiteboards, paper or in journals. Up to 3 questions to allow consolidation and then questions that require deeper understanding.
- It is very important that previous skills are practised continually too, so where possible previous skills to be incorporated into challenges and lessons.
- Continuous opportunities for explanations, reasoning and justification.

### **Challenge (when appropriate, recorded in books on blue paper).**

- Challenges continually deepen children's understanding in the skill/ objective they are learning e.g How? Why? Why is it not? Prove it, show me, teach someone else, show me a different way, write the rules, find the pattern/relationship, missing numbers as well as, questions that allow children to apply the skill/ objective to new and different situations.

## Differentiation



- All children have the same learning objective unless they have an Individual learning plan (ILP).
- Through interventions 3 afternoons a week (Maths +), children start each lesson with broadly the same understanding. These sessions address misconceptions and challenge others depending on their needs.
- Quick graspers are identified as the lesson progresses by AfL and then challenged with tasks that develop a deeper understanding; Show me a different way, Prove it, What's wrong? How do you know? Why? True/false? Same/Different, What steps can you identify to teach someone else? Can you make your own question? Can you support someone to understand? Plus opportunities to transfer skills to other situations.
- Slow graspers are identified as the lesson progresses by AfL and then supported by scaffolds: resources, models and images, key questioning, partner discussions, group discussions, prompts, teacher/TA support and then, if needed, intervention during the afternoons (Maths +). If a child continues to struggle, even with all the above, they will be discussed with the Maths Co-ordinator at the next pupil progress meeting.
- If children have an ILP they are still included in the introduction and AfL is used to decide when/if the content continues to be beneficial to them. When/ if it becomes inaccessible to them, despite scaffolds, they will be taught as per their ILP (planned in advance). If the strand cannot be adapted to benefit the child then SEN targets will be worked on for that time.

## Assessment

- AfL through discussion, questioning and explanations.
- Maths Journals
- ½ termly tests

## Sessions outside maths lessons

### **Maths +**

- At least three – 20 minute sessions weekly.
- Challenges provided for children who show a good understanding and are ready to deepen that understanding (can be group, paired or independent work). This should be led by either the teacher or support staff (not always support staff).  
Content can be either from current lessons or a mixture of previous skills content, to allow longitudinal learning and revision.
- Support and extra teaching for slow graspers or children with misconceptions from the previous maths lesson. This time should allow for consolidation and practise to ensure children are ready for the next lesson. This should not be more of the same, but an opportunity to teach in a different way. This should be led by either the teacher or support staff (not always support staff).

### **Maths Passports**

These are a mixture of number facts and mental strategies. These are taken from the National Curriculum expectations for each year group (see additional sheet for list of objectives).

- Reception- 5 minutes daily /KS1- 3 x 15 minute slots per week /KS2-3 x 30 minute slots per week
- Children learn number facts and strategies in different ways to develop fluency.
- Children are taught how to teach themselves facts and strategies, to create independence.
- Cards with what children need to learn are given to children to take home, so that they can continue to practise in their own time.
- Children are enthused and motivated to learn, recall facts and use appropriate strategies themselves by:
  - celebrating success
  - certificates
  - prizes
  - good work book
  - moving their name onto the next continent
  - friendly competition amongst peers

**Intervention-** Pupil Progress Meetings and ongoing AfL identifies children for intervention. These sessions are revised and amended regularly to ensure effectiveness.

**Boosters** – Following pupil progress meetings children are allocated extra sessions after school depending on their needs – all abilities are catered for including higher attaining children.