

The logo for 'INSPIRE MATHS' features the word 'INSPIRE' in a dark blue, bold, sans-serif font. A blue spiral icon is positioned above the letter 'I'. Below 'INSPIRE', the word 'MATHS' is written in a lighter blue, sans-serif font.

INSPIRE MATHS

Early Years Foundation Stage Activities

Overview

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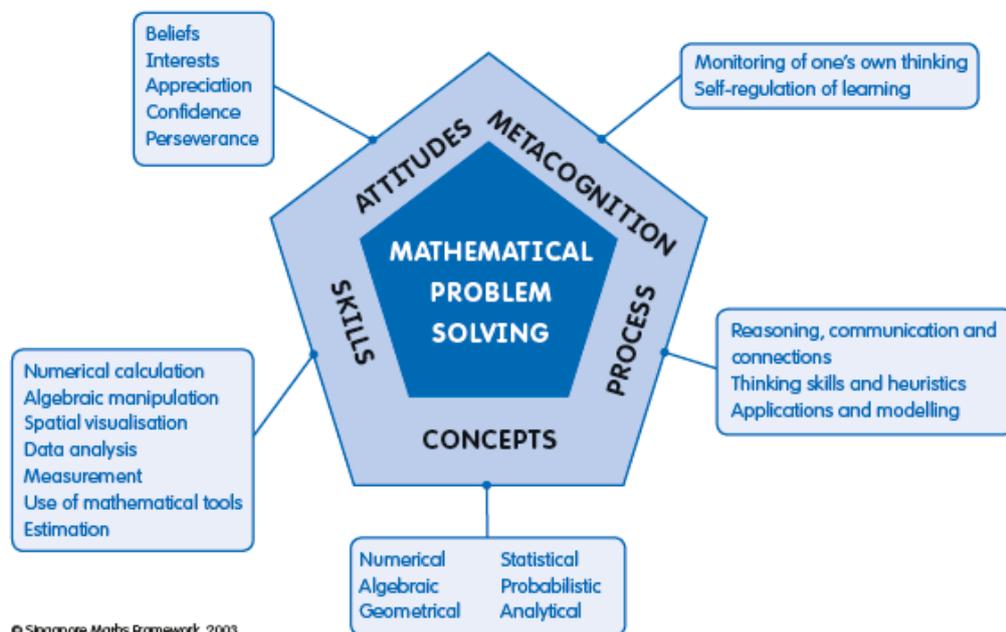
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Overview

These Early Years Activities focus on Numbers and cover the following Early Years Foundation Stage statutory framework outcome:

- Children count reliably with numbers from one to 20, place them in order and say which number is one more or one less than a given number. Using quantities and objects, they add and subtract two single-digit numbers and count on or back to find the answer.

The resources can be used to develop children’s number sense in preparation for the *Inspire Maths* textbook programme and are based around the principles that underpin *Inspire Maths*. The activities can be used alongside your own long- and medium-term plans to aid children’s progression.



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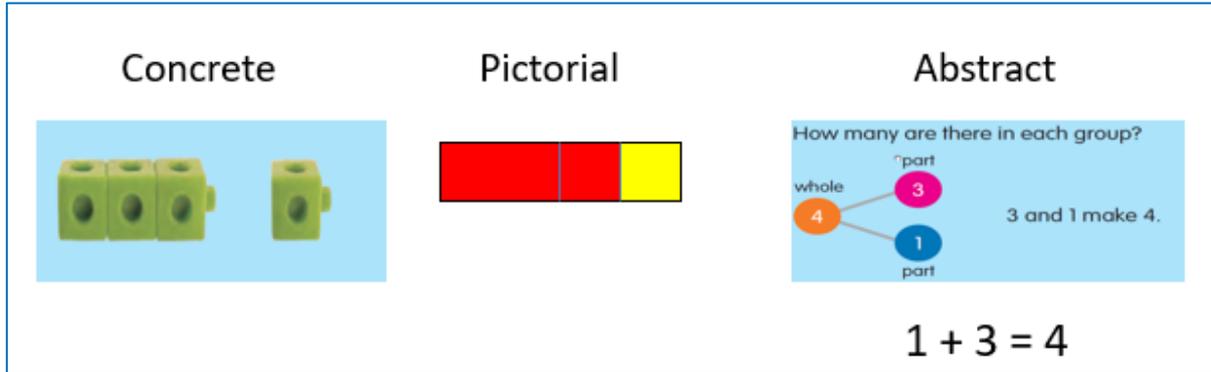
The principles that underpin *Inspire Maths*

The activities emphasise the development of problem solving and critical thinking skills, which help children to make connections to develop deeper understanding. Children are natural problem solvers from a very young age and benefit from having frequent opportunities to develop key problem-solving skills. Carefully chosen resources, rich tasks and skilful questioning encourage children to play, explore, question and try out ideas.

It is important for children to see themselves as successful problem solvers who enjoy challenges and can persevere when things get tricky.

Concrete-pictorial-abstract

The concrete-pictorial-abstract (CPA) approach is central to children developing a secure understanding of mathematical concepts. Children learn a new skill by using concrete resources and their understanding is reinforced by going back and forth between the different representations. These Early Years Activities are most effective if used alongside a range of concrete resources, pictorial representations and the abstract number symbols, i.e. numerals.



Mathematical talk

Children learn mathematical concepts and skills by investigating, comparing and talking about what they are doing. Encourage them to talk about and share with others how they have solved a problem or completed a task. These opportunities allow them to verbalise and clarify their thinking, which in turn helps them develop their understanding of mathematical concepts. This process can be facilitated by questioning, both from the teacher and through children generating their own questions. Encourage them to use everyday and specific mathematical language and to answer questions in full sentences.

Problem solving

Children benefit from being given opportunities to explore concepts and think of different ways to solve problems they encounter in their daily routines. It is important to provide time for them to observe, think and try out different ways to solve a given problem, so they do not feel rushed. Encourage them to engage in sustained periods of thinking so that they can experience success in problem-solving and, consequently, become more determined in their efforts to look for solutions to problems.

Reasoning

Reasoning skills are crucial for effective learning. Reasoning mathematically in the Early Years can be seen when children begin to explain why (justification) and prove why something does/does not happen (proof). Encourage children to describe what they are doing and explain their thinking, and model ways of solving problems by using specific maths vocabulary to help develop their reasoning.

Skilful questioning can develop children’s problem-solving skills. Ask: *How do you know that? Why is it true? Is it always true? Can you tell me more? What is the same? What is different? What if ...? What will happen if you undo that action? If you do it again? What do you notice?*

How to use these Early Years Activities

These resources contain a set of front-of-class teaching activity slides with accompanying teaching notes. Follow-up small-group activities for each set of slides have been created to help incorporate a maths mastery approach into the Early Years learning environment. Children will also be introduced to key models and representations such as 10-frames and the part-whole model.

Activity slides

Activity slides with accompanying teaching notes provide opportunities for children to think mathematically, discover connections and be creative.

The activity slides focus on:

- Counting (1–5, 1–10, 10–20)
- Subitising (up to 5, up to 10)
- Ordering numbers (1–5)
- Comparing quantities (equivalence, more/less/fewer, one more/one less)
- Number bonds (1–5)
- Adding 1-digit numbers
- Subtracting 1-digit numbers

Teaching notes

The accompanying teaching notes provide an explanation of each activity slide, any possible areas for misunderstanding, key vocabulary and questions.

The teaching notes suggest concrete resources, e.g. small objects, cubes, dice, Numicon Shapes, 5- and 10-frames, that can be used alongside the slides. Children are introduced to the models and images that they will encounter in the *Inspire Maths* programme such as the part-whole model. These activities encourage meaningful mathematical conversation through questioning and use of specific mathematical vocabulary.

Small-group activities

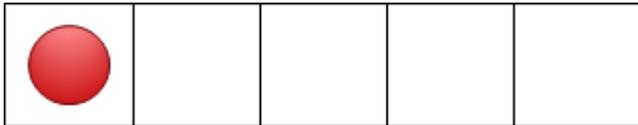
The teaching notes also provide suggestions for small-group or independent learning activities to accompany each set of activity slides. These will be concrete, resource-based activities which follow on from the activity done as a whole class.

Notes on 5- and 10-frames

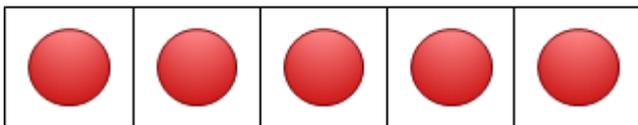
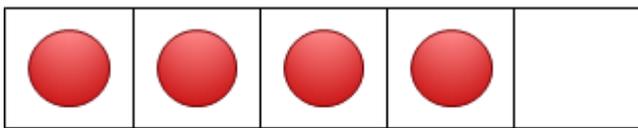
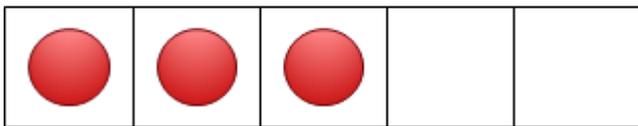
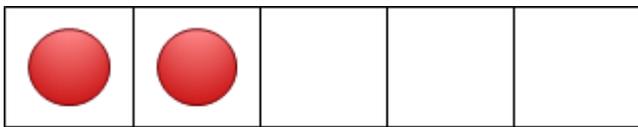
5- and 10-frames are equal-sized boxes in a row, where each box is large enough to hold a counter. They are powerful visual models of numbers and can be used to support subitising by connecting numbers to the anchor points of 5 and 10.

Children will be first introduced to this model using the 5-frame.

The frame is filled by placing the first counter in the first box on the left-hand side.



The next counter is placed next to the first counter and so on until the row is filled.



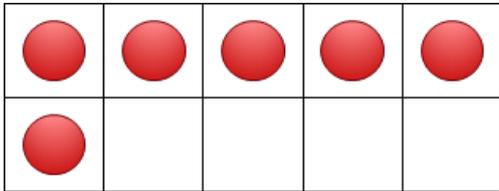
Children can begin exploring this pattern up to 5 using double-sided, two-colour counters. Ask children: How many different ways can you show 5 with one or two colours?

	5 and 0 make 5
	4 and 1 make 5
	3 and 2 make 5
	2 and 3 make 5
	1 and 4 make 5
	0 and 5 make 5

Children can then be introduced to 10-frames.

The top row should always be filled first and then the next counter is to be placed in the first box of the second row.

6 is shown as 5 and 1 more as shown below.



8 could be seen as 5 and 3 more, or 10 with 2 missing.

