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Guidance for Observation and Target Setting in Mathematics (EYFS)

Ofsted Definition of Teaching in the Early Years:

Teaching is a broad term that covers the many different ways in which adults help young children learn. It includes their interactions with children during planned and child-initiated play and activities, communicating and modelling language, showing, explaining, demonstrating, exploring ideas, encouraging, questioning, recalling, providing a narrative for what they are doing, facilitating and setting challenges. It takes account of the equipment that adults provide and the attention given to the physical environment, as well as the structure and routines of the day that establish expectations. Integral to teaching is how practitioners assess what children know, understand and can do, as well as taking account of their interests and dispositions to learn (characteristics of effective learning), and how practitioners use this information to plan children's next steps in learning and to monitor their progress.

6 Key Questions to ask when observing Mathematics:

	Question (no more than 6)	*Additional Information*
1	How does the teacher support pupils' in developing a deep sense of number? Consider the five principles of counting and conservation of number: One-to-one Stable order Order-irrelevance Abstraction Cardinal	For example, does the teacher: • plan opportunities for pupils to subitise? • use daily routines to support number sense, modelling counting and vocabulary associated with number e.g. more than, fewer? • set up the environment to facilitate opportunities for counting and play? • plan opportunities for counting in stories, outdoor play and learning? • plan questioning to evoke curiosity and encourage pattern spotting - what do you notice? • model writing numerals with clear reference to the concrete amount and pictorial representations and /or numbers as labels (noun) and numbers as adjectives?
2	How does the teacher support children to explore composition of number and simple calculation?	For example, does the teacher: • use different representations to support the composition of numbers and to reveal different mathematical structures e.g. tens frames, numicon, rekenrek?

	Question (no more than 6)	*Additional Information*
		• plan opportunities to subitise when calculating - e.g. there are 5 counters on a tens frame and one more is added? • plan playful mathematics, missing numbers, songs and rhymes, encouraging pupils to think mathematically and talk about their predictions? • plan opportunities to practise number bonds for all numbers up to ten and to develop fluency/ automaticity?
3	How does the teacher develop children's spatial awareness and positional language?	For example, does the teacher: • use the language of position and direction in context? • support problem-solving in block play, jigsaws and constructions (e.g. bridges, enclosures)? • encourage children to describe position, give directions, and make maps of familiar routes? • create mathematics trails or treasure hunts with directions/ visual clues • set up the environment to support curiosity and play e.g. using a story with prepositional language and creating an outdoor area to re-enact the story. 'They travelled over hills and mountains…' • in geometry, encourage recognising shapes in different orientations?
4	How does the teacher develop children's understanding of shape and its properties?	For example, does the teacher: • encourage the use of correct vocabulary - shape names and properties (straight, curved, edges)? • plan opportunities for pupils to question and discover shapes in different orientations? • give opportunities for pupils to be curious about different shapes in art, collage or on nature walks, encouraging talk and rich vocabulary?

	Question (no more than 6)	*Additional Information*
		• provide shape resources with different levels of challenge and teach strategies for solving shape and jigsaw puzzles?
5	How does the teacher support children to notice, create and continue patterns?	For example, does the teacher: • provide materials for free exploration of patterning indoors and outdoors? • encourage prediction during patterned stories and rhymes? • model simple repeating patterns of two or three items and encourage children to create and continue them? • plan opportunities for pupils to create their own patterns and develop motor skills at the same time e.g. threading beads onto string?
6	How does the teacher develop children's understanding of measures through comparison and everyday routines?	For example, does the teacher: • model comparing length, weight, capacity and time using comparative language (longer/shorter, heavier/lighter)? • discuss the order and sequence of events in routines using the language of time, referring to visual timetables and clock times? • plan for pupils to match, order, compare, sort e.g. different lengths of ribbon and use associated vocabulary – shorter, shortest, longer, longest? • plan opportunities for pupils to order daytime routines, events in a story or in their day and use language, clocks and visuals associated with time? • use non-arbitrary or non-standard units for measuring e.g. weight of conkers found on a nature walk?

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Potential **Mathematics** Specific Targets on Lesson Analysis Forms.

Lesson design and delivery, including sequencing and choice of teaching methods Next Steps:
Plan opportunities to embed number within daily routines and role play (e.g. counting, representing numbers, a numeral-rich environment).
Include subitising games and opportunities to explore composition of number (e.g. partitioning, five-frames) within planned activities. MS not sure of language 'games'
Plan spatial language and problem-solving opportunities into construction, block play and outdoor activities (e.g. positional language, barrier games, map-making).
Provide shape and pattern resources with a range of challenge levels, and plan how you will model mathematical vocabulary (e.g. straight, corner, edge, repeating).
Plan measures activities that give children a real reason to compare length, weight, capacity or time (e.g. finding the best bottle for a picnic).

Adapting planning and teaching to ensure that individual needs are met Next Steps:
Plan additional support (e.g. concrete resources, smaller numbers, extra modelling) for children who are not yet secure with number or counting.
Consider how you will adapt mathematical language and resources for children with specific language and communication needs, e.g. visual number lines, concrete resources.
Identify how you will extend mathematical challenge for children who are confident with number, shape or pattern.

Pupil progress in this lesson and use of assessment (including questioning) Next Steps:
Observe children's counting and cardinality (e.g. one-to-one correspondence, recognising "how many") against Development Matters expectations.
Note children's use of mathematical vocabulary (position, shape, pattern, comparison) during child-led play.
Assess children's ability to solve simple problems involving number, shape, pattern or measures, and identify their next steps.

Comments about student teacher's developing Subject Knowledge and Pedagogy Next Steps:
Develop secure knowledge of the Mathematics strands (Number; Numerical Patterns and spatial reasoning; Shape, Space and Measures) and typical progression within each.

Extend your understanding of key pedagogical approaches such as subitising, cardinality and composition, and how to model these clearly.
Reflect on how you use precise mathematical vocabulary consistently across planned and child-initiated activities.

https://birthto5matters.org.uk/wp-content/uploads/2026/07/Birth-to-5-Matters-Doc-LINKS.pdf

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