Tackling Educational Disadvantage Maths Project

SEF Questions Draft Version May 2024



Improvement and Advisory Service



5 Key Areas

Curriculum Knowledge and Ownership	Data, Assessment and Intervention	Checking for understanding	Oracy	Independence and Motivation
In schools with stronger maths outcomes for disadvantaged pupils, leaders and teachers demonstrate deep curriculum knowledge, personalise the curriculum to suit the needs of pupils, ensure consistent teaching methods, and integrate maths learning throughout the school day.	In schools with stronger maths outcomes for disadvantaged pupils, leaders focus on attainment, use pupil progress meetings to address barriers, tailor tasks based on assessment, allocate expert staff to those with significant gaps, provide timely and effective interventions, and ensure interventions are integrated with classroom work.	In schools with stronger maths outcomes for disadvantaged pupils, teachers and teaching assistants actively monitor learning, ensure engagement, involve all pupils in demonstrating knowledge, value misconceptions, create opportunity for collaborative learning, and encourage independent completion of tasks to ensure understanding.	In schools with stronger maths outcomes for disadvantaged pupils, teachers and teaching assistants emphasize precise mathematical vocabulary, engage all pupils in discussions, use sentence stems for clarity, and encourage pupils to use their own visual representations to express mathematical concepts and explain mathematical thinking.	In schools with stronger maths outcomes for disadvantaged pupils, learning is scaffolded to foster independence, supported by knowledgeable adults, flexible grouping, concrete resources, open questions, peer collaboration, and high expectations for all pupils.

Curriculum Knowledge and Ownersl

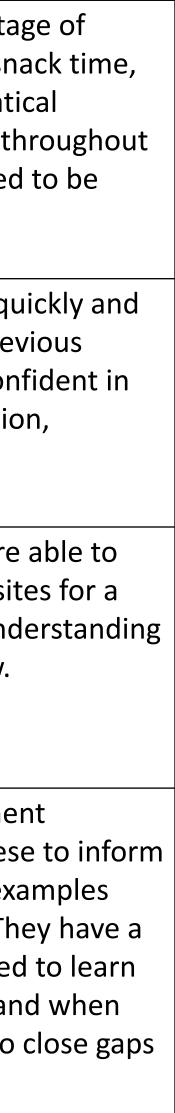
1 a	Do leaders and teachers have ownership of the school's curriculu teachers are teaching maths rather than simply delivering the sch
1b	Is there a consistent and familiar approach to the teaching of math school?
1c	Does the long-term overview enable pupils to revisit key concepts securing mental fluency, ensuring that teachers dedicate time for mathematics throughout the day?
1d	Do teachers have a good understanding of the national curriculun knowledge and future applications beyond their year group curriculur
1e	Are teachers confident to take ownership of the curriculum and madaptations to suit the needs of their class?
1f	Do teachers and teaching assistants have the subject knowledge mathematical structure and conceptual understanding?
1g	Are teachers planning lessons that are learning focused rather that
Notes	

hip	Strength/Priorities Responses and Reflection
m, meaning that eme of learning?	
nematics across the	
, deepening learning and pupils to learn	
n, including pre-requisite ulum?	
ake reasonable	
and confidence in	
an task led?	



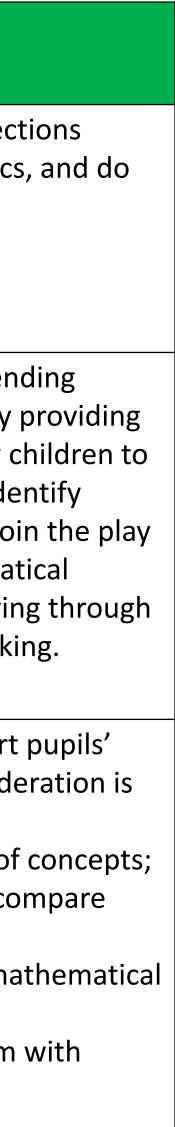
Curriculum Knowledge and Ownership Audit

SEF			
1a 1b	Activities such as registration, snack time and tidying up time are not used to support mathematical development.	Occasional opportunities are taken to link everyday activities to mathematics, but this is not done routinely and is not embedded throughout the day.	Educators plan how they will take advantage everyday activities such as registration, sna and tidying up time to support mathematic development and how this will progress the the year, and how these might be adapted to challenging for all children.
1c	Pupils struggle to recall basic number facts. This is affecting their progress elsewhere in mathematics.	Teachers plan lessons that utilise pupils retrieving and using their previous learning of arithmetic facts.	Teachers plan lessons that utilise pupils qui consistently retrieving and using their previ learning of arithmetic facts. Pupils are confi their quick retrieval of addition, subtraction multiplication and division facts.
1d	Educators' lack of training about progression in mathematics makes it difficult for them to assess a child's level of understanding and to plan for their next steps in learning.	Educators' incomplete understanding of progression in mathematics means that whilst they can sometimes identify gaps in children's knowledge and understanding, this is not always the case.	Due to their in-depth knowledge, staff are a determine the developmental pre-requisite particular skill, assess a child's level of unde and build on what children already know.
1e	Educators are not aware of typical developmental progression, making it difficult for them to understand what children need to learn in order to progress.	Educators have some awareness of typical development progressions, but these may not be detailed enough (e.g. the many stages of learning to count) or broad enough (e.g. they may be aware of progression in number, but not in shape).	Educators are aware of typical development progressions in mathematics and use these teaching and personalise learning – for example recognising the cardinality of numbers. The good understanding of what children need to progress in all areas of mathematics, and they need to learn it, and they attempt to c in knowledge.
	1a 1b 1c 1d	1a 1bActivities such as registration, snack time and tidying up time are not used to support mathematical development.1cPupils struggle to recall basic number facts. This is affecting their progress elsewhere in mathematics.1dEducators' lack of training about progression in mathematics makes it difficult for them to assess a child's level of understanding and to plan for their next steps in learning.1eEducators are not aware of typical developmental progression, making it difficult for them to understand what children need to learn in order to	1a 1bActivities such as registration, snack time and tidying up time are not used to support mathematical development.Occasional opportunities are taken to link everyday activities to mathematics, but this is not done routinely and is not embedded throughout the day.1cPupils struggle to recall basic number facts. This is affecting their progress elsewhere in mathematics.Teachers plan lessons that utilise pupils retrieving and using their previous learning of arithmetic facts.1dEducators' lack of training about progression in mathematics makes it difficult for them to assess a child's level of understanding and to plan for their next steps in learning.Educators have some awareness of typical developmental progression, making it difficult for them to understand what children need to learn in order to progress.Educators have some awareness of typical developmental development progressions, but these may not be detailed enough (e.g. the many stages of learning to count) or broad enough (e.g. they may be aware of sometime standing to generating to count) or broad enough (e.g. they may be aware of



Curriculum Knowledge and Ownership Audit

EEF Guidance and Recommendation	SEF			
KS2 and KS3 Recommendation 4 <i>Enable pupils to</i> <i>develop a rich network</i> <i>of mathematical</i> <i>knowledge.</i>	1d 1f	Teachers do not make connections between different aspects of mathematics. They might themselves lack the content knowledge to do this confidently.	Teachers do have sufficient content knowledge to understand the links between aspects of mathematics. However, they do not consistently make these links explicit when teaching pupils.	Teachers are able to emphasis the connecti between different aspects of mathematics, this consistently.
EYFS and KS1 Recommendation 2 <i>Dedicate time for</i> <i>children to learn</i> <i>mathematics and</i> <i>integrate mathematics</i> <i>throughout the day.</i>	1f 1g	Opportunities are not routinely taken to extend mathematical learning during play.	There are times when educators identify 'teachable mathematical moments' during play, but this is not embedded practice across the setting. They sometimes add resources to the environment that build on mathematical moments they have observed.	Educators scaffold opportunities for extend learning during play, by providing play, by p and enhancing a variety of tools to allow ch explore all areas of mathematics. They iden 'teachable moments' in which they can join to model approaches, reinforce mathematic vocabulary, and encourage problem-solving strategies such as Sustained Shared Thinkin
KS2 and KS3 Recommendation 6 Use tasks and resources to challenge and support pupils' mathematics.	1f 1g	 Teachers do not give careful consideration to how they use tasks to develop pupils' understanding. Tasks are often used without careful consideration of how they can: Provide examples and non-examples of concepts; Provide opportunities to discuss and compare different solution approaches; Provide opportunities to investigate mathematical structure; Build conceptual knowledge in tandem with procedural knowledge. 	Some teachers give careful consideration to how they use tasks, but this practice is inconsistent across the school.	 Teachers consistently use tasks to support p developing understanding. Careful consider given to how tasks: Provide examples and non-examples of c Provide opportunities to discuss and con different solution approaches; Provide opportunities to investigate mat structure; Build conceptual knowledge in tandem v procedural knowledge.



Data, Assessment and Intervention

2 a	Do leaders ensure a strong focus on attainment outcomes, follower progress meetings and regular, informal monitoring.
2b	Do Pupil Progress Meetings focus on strengths and manageable barriers for disadvantaged pupils?
2c	Does assessment of pupils' strengths and weaknesses inform tas back in the classroom?
2d	Are conversations from pupil progress meetings informing whole s
2 e	Do pupils with the most significant gaps have more time with the r
2f	To what extent are pupils' maths needs being met through addition Are these timely and evaluated effectively?
2g	Do interventions link back to the work in the classroom?
Notes	

n	Strength/Priorities Responses and Reflection
ed up through pupil	
strategies to overcome	
k design and scaffolding	
school maths priorities?	
nost expert staff?	
nal intervention?	



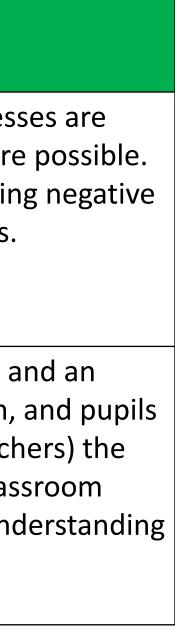
Data, Assessment and Intervention Audit

EEF Guidance and Recommendation	SEF			
KS2 and KS3 Recommendation 1 Use assessment to build on pupils' existing knowledge and understanding.	2b	Teachers collect summative data but rarely use assessment to collect information about pupils' mathematical strengths and weaknesses. Teaching does not respond to pupils' developing understanding.	Teachers are able to achieve a good understanding of pupils' strengths and weaknesses, using a variety of data sources, but they do not adapt their teaching in response.	Teachers use a variety of types of assessme appropriate, to collect information about st and weaknesses. They adapt their teaching response and use assessment information t planning.
EYFS and KS1 Recommendation 4 <i>Ensure that teaching</i> <i>builds on what children</i> <i>already know.</i>	2c	Information is collected for assessment and accountability purposes, but this is not routinely used to inform the next steps for teaching—for example, there are lots of observations and next steps recorded in learning journals but these are not used to inform planning and teaching	Assessment is too frequently used for accountability and monitoring, with not enough time given to using assessment to inform the next steps in teaching.	Assessment is seen primarily as a tool to information next steps in teaching.
KS2 and KS3 Recommendation 6 Use tasks and resources to challenge and support pupils' mathematics.	2c	Tasks are selected without proper consideration of pupils' strengths and weaknesses. Tasks fail to provide sufficient challenge.	Teachers use appropriately challenging tasks, which address weaknesses in pupils' understanding.	Assessment of pupils' strengths and weakned used to inform the selection of tasks. The se of tasks is also designed to address commo misconceptions.
EYFS and KS1 Recommendation 5 <i>Use high quality</i> <i>targeted support to</i> <i>help all children learn</i> <i>mathematics.</i>	2 e	Teaching Assistants are not effectively deployed, and the evidence around the use of teaching assistants is either not known or is ignored	Teaching Assistants may sometimes be used effectively, but this is often by accident rather than by design. Planned deployment informed by evidence-informed recommendations is not in place.	Teaching Assistants are deployed effectively possible in line with the recommendations EEF's 'Making best use of teaching assistant guidance report— such as the recommenda ensure that they are fully prepared for their the classroom



Data, Assessment and Intervention Audit

EEF Guidance and Recommendation	SEF			
KS2 and KS3 Recommendation 7 Use structured interventions to provide additional support.	2f	Interventions are restricted to extra classes with an exam focus towards the end of Year 6.	Gaps in pupils' knowledge and understanding may be identified early, but interventions may not happen quickly and effectively.	Interventions happen as soon as weaknesse identified, and are classroom based where This reduces the risk of children developing attitudes and anxiety about mathematics.
	2 g	Interventions take place with little or no link to the teaching in the classroom. Intervention deliverers and class teachers do not work together to ensure consistency. It is left largely to pupils to make the links between what is covered in interventions and their learning in general classroom teaching.	Intervention teachers have begun to plan their work around what is happening in the classroom (e.g. by reference to the scheme of learning or brief conversations with classroom teachers) but this is not yet common practice.	Intervention lessons are consistent with, ar extension of, work done in the classroom, a understand (with support from their teacher links between them. Intervention and class teachers ensure that there is a mutual under of each others' work.



Checking for Understanding

3 a	Do teachers and teaching assistants actively check pupils' learning so that a lack of understanding or misconception does not go unno not chanting, etc)
3b	Do teachers involve all pupils in showing what they know, including resources or pictorial representations?
3c	Do teachers carefully increase their expectations regarding pupils' gain competence and fluency?
Notos	

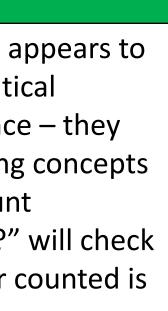
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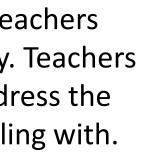
	Strength/Priorities Responses and Reflection
g throughout the lesson oticed? (copying peers,	
ng using concrete	
' independence as they	

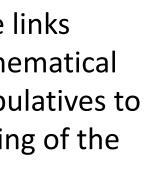


Checking for Understanding Audit

EEF Guidance and Recommendation	SEF			
EYFS and KS1 Recommendation 1 <i>Understanding how</i> <i>children learn</i> <i>mathematics.</i>	3 a	Educators often mistake a child's engagement as understanding – e.g. misinterpreting a reciting of the counting sequence as a full understanding of the meaning of numbers in the count sequence.	Whilst educators are aware that successful engagement is not the same as full understanding, gaps in the educators' knowledge of how children learn mathematics can lead to some incorrect assumptions – e.g. a child correctly counting a set of objects, but not understanding that the last number in the count sequence is equal to the number of objects.	Educators understand that even if a child ap be engaging successfully in the mathematic activities – e.g. reciting the count sequence may not have a full grasp of the underlying – e.g. the meaning of numbers in the count sequence (asking "how many altogether?" v that the child knowledge the last number co the total for the set).
KS2 and KS3 Recommendation 7 Use structured interventions to provide additional support.	3 a	Identification of struggling pupils is often slow and action taken to support them is limited.	When a pupil is identified as struggling with their mathematics they are given extra support, but this may not be effectively matched to their specific needs.	When a pupil is identified as struggling, tead quickly identify the specific reason(s) why. T use this information to intervene and addre aspect of maths that the pupil/s is strugglin
KS2 and KS3 Recommendation 2 <i>Use manipulatives and</i> <i>representations.</i>	3b 3c	Pupils often become reliant on manipulatives to do a type of task or question. Teaching can tend to focus on 'getting them to the right answer' to a specific problem instead of developing understanding.	Teachers' use of manipulatives to develop independent understanding is patchy. Some teachers do this consistently, but others do not.	Teachers enable pupils to understand the line between the manipulatives and the mather ideas they represent. Teachers use manipul develop pupils' independent understanding mathematics.



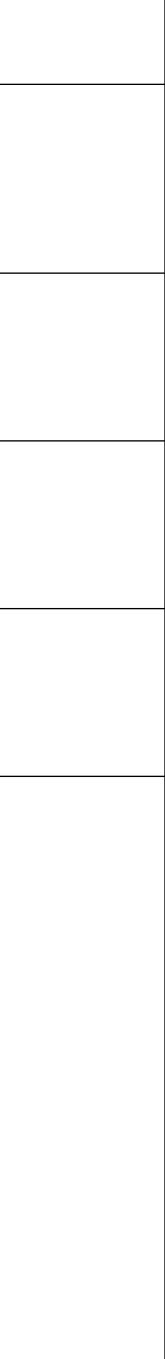




Oracy

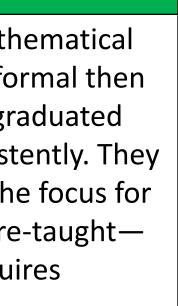
4 a	Do teachers and TAs use precise mathematical language themse responses that use vague, non-mathematical language with appro- language?
4b	Do teachers and TAs encourage pupils to use their own pictures a communicate mathematical thinking?
4 c	Do teachers use sentence stems to generalise a key concept and enable pupils to communicate mathematical thinking with precisio
4d	Do teachers orchestrate productive classroom discussions with al part?
Note	S:

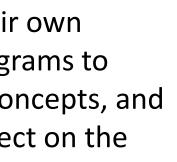
	Strength/Priorities Responses and Reflection
lves and rephrase pupils' opriate mathematical	
and representations to	
provide a scaffold to on and clarity?	
Il pupils actively taking	

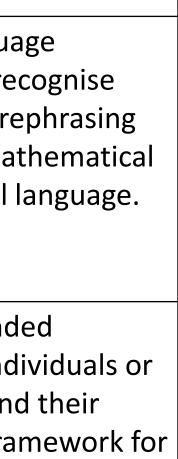


Oracy Audit

EEF Guidance and Recommendation	SEF			
EYFS and KS1 Recommendation 2 <i>Dedicate time for</i> <i>children to learn</i> <i>mathematics and</i> <i>integrate mathematics</i> <i>throughout the day.</i>	4 a	Opportunities to reinforce mathematical vocabulary are often missed by educators, and vocabulary use is not planned and used consistently.	Some opportunities to reinforce mathematical vocabulary are taken, but these usually occur during mathematical tasks rather than being embedded throughout the day without advance consideration of what vocabulary may need to be taught/learnt before children are asked to apply it.	Educators seize chances to reinforce mather vocabulary throughout the day, using inform formal mathematical terms, and plan a grad use of vocabulary which is applied consistent consider what key vocabulary could be the teaching that week or may need to be pre- for example, the book 'Rosie's Walk' require positional language.
EYFS and KS1 Recommendation 3 <i>Use manipulatives and</i> <i>representations to</i> <i>develop understanding.</i>	4b	Children are not usually encouraged to represent problems in their own way, and educators are overly prescriptive in the types of representations they expect children to use.	There is some freedom given to the way children represent their mathematical ideas, but educators are too quick to steer representations in their preferred direction.	Educators encourage children to use their of pictures, symbols and more abstract diagra represent and communicate ideas and con- are encouraged through dialogue to reflect success of their choices.
KS2 and KS3 Recommendation 4 <i>Enable pupils to</i> <i>develop a rich network</i> <i>of mathematical</i> <i>knowledge.</i>	4 c	Teachers and pupils often fail to recognise mathematical structure. Teachers might themselves struggle to identify the mathematical structure in a particular context, and might often use vague non- mathematical language themselves.	Teachers are able to recognise mathematical structure, but do not always successfully communicate this to pupils.	Teachers use precise mathematical language themselves. Teachers support pupils to reco mathematical structure, for example by rep pupils' responses that use vague, non-mathe language with appropriate mathematical la
EYFS and KS1 Recommendation 2 <i>Dedicate time for</i> <i>children to learn</i> <i>mathematics and</i> <i>integrate mathematics</i> <i>throughout the day.</i>	4d	Educators do not routinely create opportunities for extended discussion of mathematics with individuals or small groups of children.	Children are occasionally involved in mathematical discussion with educators, but these may not use modelling of language, open-ended questions, elaboration, recapping and clarifying.	Educators create opportunities for extended discussion of mathematical ideas with individual small groups of children in order to extend thinking, possibly using an established fram doing so.







Independence and Motivation

5 a	Do all staff genuinely believe that all pupils can be successful in m maintaining high expectations for all?
5b	Do teachers use flexible grouping and responsive teaching to ena independent?
5c	Are teachers asking open questions and giving opportunity for pee confidence?
5d	Do teachers scaffold learning so that pupils can be successful with adult?
5e	Are concrete resources readily available and planned into learning year groups?
5f	Are working walls used by pupils to support their learning? (releval sentence stems)
Notes	

	Strength/Priorities
	Responses and Reflection
nathematics, hence	
able pupils to be	
er collaboration to build	
hout the support of an	
g to support pupils in all	
ant CPA approaches,	



Independence and Motivation Audit

EEF Guidance and Recommendation	SEF					
KS2 and KS3 Recommendation 5 <i>Develop pupils'</i> <i>independence and</i> <i>motivation.</i>	5a	There is a general perception among staff and pupils that some people are naturally 'good' at maths, whilst others are not. Staff often complain about their own difficulties with maths.	Maths teachers model confidence and interest in maths, but many other staff do not. Some staff and pupils believe that some people are naturally 'good' at maths, whilst others are not.	All staff, regardless of their subject area spe level of responsibilities, model confidence a interest in maths. Staff and pupils believe th everyone can success in maths if they work		
KS2 and KS3 Recommendation 8 Support pupils to make a successful transition between primary and secondary school.	5b	Pupils are placed in maths classes according to their prior attainment, and teachers often have different expectations of children according to their assigned set. Disadvantaged pupils are more likely to be assigned to lower sets, which can lead to a widening of the attainment gap between disadvantaged pupils and their peers.	Pupils are set by prior attainment, and the curriculum is designed in such a way as to meet their individual needs. There is still some evidence of teachers having different expectations of children according to their assigned set.	The school is moving away from rigid settin attainment, perhaps adopting mixed attain more flexible grouping.		
	Whilst the guidance above is linked to the transition recommendation, consider how assessment informs groupings, adult support, task design and scaffolding states and scaffolding states and scaffold in the transition recommendation and scaffold in the transition and s					
	each classroom across the school.					
KS2 and KS3 Recommendation 5 <i>Develop pupils'</i> <i>independence and</i>	5c	Teachers struggle to orchestrate productive classroom discussions.	Teachers can sometimes struggle to orchestrate productive class discussions. Some pupils refrain from participating in discussion or actively listening to other pupils' ideas.	Teachers are able to orchestrate productive classroom discussions. Pupils actively take p discussions.		
motivation.	5d	Pupils have limited opportunities to practise and develop metacognition.	Teachers provide frequence opportunities to practise and develop metacognition. Pupils are taught to plan monitor and evaluate the approaches they take to mathematics.	Teachers provide extensive opportunities to and develop metacognition. This includes re opportunities for pupils to explain their app to mathematical tasks to themselves, the te and other pupils. Teachers carefully increas expectations regarding pupils' independence pupils gain competence and fluency.		
EYFS and KS1 Recommendation 3 <i>Use manipulatives and</i> <i>representations to</i> <i>develop understanding.</i>	5e 5f	Manipulatives are rarely or never used to teach mathematics.	Manipulatives are often used, but without a clear rationale for how they will develop children's understanding of mathematical ideas.	Educators use manipulatives appropriately, a clear rationale for why the manipulatives support children to understand mathematic considering carefully how the manipulative used to build on existing understanding.		

