

The world of Teaching - A Mathematics Leadership Guide to Preparing for an Inspection

Archimedes Maths Hub

The object of this document is to identify key aspects of an Inspection. Although this document has a number of key strands relating to an Inspection it cannot provide a complete overall, all inspections are organic by nature and each team will follow a thread relating to the information provided by the school. This document provides an outline of core procedures utilised by Inspectors. Research has been included to support and validate the work by schools in England.

Schools stated that there is a need for information relating to an Inspection. This guidance represents an outline of key lines of enquiry. Schools requested information in connection to the demands of the curriculum, challenges within classrooms, challenges that left leaders and teacher's requiring guidance on Inspections. A school survey conducted by the Maths Hub revealed that teachers were looking for support regarding:

- Overview of leadership and Ofsted.
- The role of the subject leader.
- Preparing for the Ofsted deep dive.

Ofsted Inspection Final Preparation

Now you know what to expect from an Ofsted inspection under the new EIF this is what we recommend as the essential 7 steps of final preparation for that visit.

1. Make sure you've read and **know well the key school documents** that relate to your subject. These may include:
 - The Maths Policy
 - Calculation Policy
 - Curriculum or Teaching and Learning Policy
 - Maths Improvement Plan and/ or School Improvement Plan
 - Homework or Home Learning Policy
2. **Understand what the National Curriculum says about teaching mathematics** in Key Stage 1 and Key Stage 2 and how your scheme of work breaks this down (Progression Grids).
3. If you can, **complete a full audit of your school's maths provision**. Although this can be a very intensive process it is extremely useful. By auditing, you will begin to develop a clearer picture of areas of strength and development.

Auditing may involve:

- *Considering the vision you have of maths in your school.*
 - *Monitoring and evaluating teaching and learning, including CPD required for staff.*
 - *Evaluating the maths curriculum, especially considering how it aligns with a mastery approach.*
4. Assessment data collection differs between schools. **Locate the maths assessment data for your school and evaluate it**, considering the following:
 - Trends that can be identified in the data. This could be general trends within year groups or very specific groups such as summer born children in a single year group.
 - Trends with pupil premium and SEND children and how they are being supported to make accelerated progress.
 - Trends with double disadvantaged children (pupil premium and SEND children). Ofsted are not as focused on data as they once were. However, they will want to know you have identified trends in the data and are monitoring this.
 5. **Get a full understanding of staff competencies in teaching maths** and any challenges there may be. Although maths is a core subject, some of the maths teaching may not yet be of the standard that you

would hope for. This may depend on several factors. The following are areas we recommend you consider and look to address:

- Staff confidence when teaching maths (including teachers and teaching assistants)
 - Staff knowledge when teaching maths
 - Previous CPD undertaken by staff You will then be able to identify strengths and areas of development for all the staff and can plan accordingly.
6. As a result of your findings, **start planning the CPD requirements** for individuals and for the whole staff. This is crucial both in terms of staff development and wellbeing, but also if you want to influence learning outcomes.
7. **Revise your action plan or improvement plan for maths.** After considering all of the points above, you should be ready to collate the information into a clear action plan for maths. Action plans involve setting specific objectives for the year and reviewing the success of the objectives regularly. Having an action plan shows an understanding of both where maths currently is in your school and where you intend it to be at the end of the year.

Leadership and Management

The important factors include:

- Leaders set high expectations of pupils and these are demonstrated everyday by staff
- The extent to which leaders understand the education provided in the school
- How aligned CPD is with the curriculum and how content knowledge is developed over time
- How coherent and consistent teaching and expectations are across the school
- How leaders engage parents and the community
- The extent to which leaders consider the workload and well-being of their staff.

Questions:

- What is your maths curriculum?
- What is your scheme - strengths, minuses, adaptations?
- How do you assess what pupils do and do not know?
- How to you challenge your higher attainers?
- How do you ensure fact fluency, for example tables?
- What changes have you made based on data, show me and tell me how you know they have been effective?
- what is CPD and support?
- and a very specific one about problem-solving in terms of how do you ensure all pupils build towards been problem-solvers?

How Ofsted assess 'Quality of Education

There are three main stages to this:

- **Top-level view:** Ofsted inspectors will start by meeting leaders. They will explore the school's curriculum with specific focuses on what the curriculum offers pupils and how it is sequenced. They will also discuss the reasoning for these choices.
- **Deep dive:** After this initial discussion, inspectors will select subjects to be the focus of a 'deep dive'. They will gather evidence on the specific curriculum intent, implementation and impact. Subject leaders will be involved with this along with other teachers and pupils.
- **Bringing it together:** Inspectors will then gather all the information together and discuss any further information they may need.

Judging Quality of Education

Curriculum Extent

The inspectors will spend a lot of time discussing the curriculum intent with senior and subject leaders.

This will focus on endpoints, specific and appropriate content and the sequencing of the content.

The key messages from the handbook is that the curriculum:

- Must be broad and balanced;
- Should have an emphasis on how coherent and well sequenced it is, with knowledge, skills and cultural capital all appearing to play a part in this.

Early Years

- **There will be greater focus on distinct phases (EYFS).** These phases will be given separate grades as part of inspections carried out.
- How is maths promoted to new pupils within EYFS?
- How are new EYFS pupils assessed on their mathematical ability?
- What activities take place to encourage good early maths habits at school and at home?
- How is maths linked to the wider curriculum?
- How are pupils’ maths skills assessed on entry?
- How do you manage the transition from EYFS to year 1?

Applying the EIF to the Teaching of Mathematics

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When inspectors look at mathematics, they will evaluate the quality of a school’s mathematics education through lesson visits, discussions with pupils and scrutiny of their work, reviewing curriculum plans, discussions with curriculum leaders, and examining any published data.

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Inspectors will consider what steps the school has taken to ensure that:

- pupils understand and remember the mathematical knowledge, concepts and procedures appropriate for their starting points, including knowledge of efficient algorithms. This should also ensure that pupils are ready for the next stage, whether that is the next lesson, unit of work, year or key stage.

Consider:

Redefinition of progress

In the revised 2019 Education Inspection Framework and the 2021 Handbook progress is redefined as:
‘pupils knowing more and remembering more’

Quality of Education

Intent	Implementation	Impact
Identifying what you want children to know and remember	How do we deliver the curriculum so that children will know more and remember more?	How do we know that they know more and remember more?
Substance of Education	What is memory	What is successful
Core learning (national Curriculum)	Relationship between short term memory and long term memory	Accepting that

Contextual Learning	Building in retrieval and rehearsal	progress is now measured as children knowing more and remembering more
Subject narrative	Subject knowledge of staff being strong enough to deliver the narrative	Children remembering more because it has been delivered as a narrative

Applying the EIF to the Teaching of Mathematics

- *The school’s curriculum planning for mathematics carefully sequences knowledge, concepts and procedures to build mathematical knowledge and skills systematically and, over time, the curriculum draws connections across different ways of looking at mathematical ideas.*
- *The curriculum divides new material into manageable steps lesson by lesson.*

Information about Observations

Lesson observations can be a daunting prospect. There are several things to know about observations when considering this part of an Ofsted inspection.

- Inspectors want to know the context of the lesson they are observing or the book they are looking at. They understand learning is a journey and want to know how the children got to the point they are. This could be a conversation with teachers or subject leader.
- Individual lessons are not being judged.
- Work scrutinies are important, they will evidence what has been covered in maths and how. This will prove what you have already said is happening in the curriculum.

Work Scrutiny (Audit)

- Is there clear evidence of pupils developing their mathematical knowledge, as set out in the school’s curriculum planning?
- Does work show that pupils are building on their prior knowledge?
- Is there evidence of pupils using and applying mathematical vocabulary accurately?
- How are pupils being challenged in mathematics?
- Does work demonstrate that pupils have attained automaticity with intended mathematics facts, concepts and procedures?
- Are there clear high expectations for all pupils? How is this demonstrated?
- Is there evidence of the application of mathematics in other subjects and is this age appropriate e.g. not recording a science experiment as a simple bar chart in Y6?

Applying the EIF to the Teaching of Mathematics

- *The school’s curriculum identifies opportunities when mathematical reasoning and solving problems will allow pupils to make useful connections between identified mathematical ideas or to anticipate practical problems they are likely to encounter in adult life. Pupils have sufficient understanding of, and unconscious competence in, prerequisite mathematical knowledge, concepts and procedures that are necessary to succeed in the specific tasks set.*
- *Within the curriculum, there are sufficient opportunities planned to revisit previously learned knowledge, concepts and procedures; this is to ensure that, once learned, mathematical knowledge becomes deeply embedded in pupils’ memories.*
- *This then allows rapid and accurate recall and frees pupils’ attention so they can work with increasing independence, apply their mathematical knowledge to more complex concepts and procedures, and gain enjoyment through a growing self-confidence in their ability.*

- *There is flexibility in curriculum planning so that the school can address identified gaps in pupils' mathematical knowledge that hinder their capacity to learn and apply new content. Those pupils behind age-related expectations are provided with the opportunities to learn the mathematical knowledge and skills necessary to catch up with their peers.*
- *There are objective assessments that can identify when all pupils have gained the intended understanding and unconscious competence in knowledge, concepts and procedures necessary before they move on to new or more complex content*
- *Teaching models new procedures and uses resources and approaches that enable pupils to understand the mathematics they are learning.*
- *All teachers of mathematics, including non-specialist teachers of mathematics, have sufficient mathematical and teaching content knowledge to deliver topics effectively.*
- *Pupils' mathematical knowledge is developed and used, where appropriate, across the curriculum.*

Standards and Progression (Audit)

- Do you have a clear and ambitious vision? How is the vision shared?
- How does the school build high aspirations?
- What proportion of pupils attain at and above age related expectations?
- How has this changed as the cohort has moved through the school?
- What have you done which has had a positive impact on outcomes? How do you know?
- Which aspect of maths do the pupils achieve best in?
- What is the aim for all children to know when they leave year 6?
- Are pupils provided with the necessary skills they will/can use when they leave school?

Schemes of Work (Audit)

- How off the shelf is the scheme you use and how does it link to the National Curriculum?
- How do class teachers know what went before in previous years?
- What is your pedagogy for mathematics? What schemes, if any, do you follow?
- How is your curriculum coverage progressive throughout the school?
- What are the strengths/areas of development in your subject?
- How do you promote British values in your curriculum?
- How do you engage parents in the curriculum or in maths?

Progress/Interventions (Audit)

- How do you make sure that children who get 'stuck' feel supported in lessons by other teachers?
- What is in place for the children who are stuck?
- How as a subject lead do you know what is happening across the school. What would I expect to see/hear?
- How are the end of term assessments fed back into teaching and learning?
- How do you fill gaps in maths and decide on maths interventions?
- What interventions are carried out in school?
- How are gaps in learning filled?
- What do you do to support children who are struggling?
- Are the staff conducting interventions, subject specialists or support staff?

SEND/Pupil Premium (Audit)

- How are SEND pupils supported?
- How do you plan to ensure good progress?
- How do you know this is happening across the school?
- How do you assess and monitor it?

- How do you know there is progression throughout the school?
- How do you provide for PP pupils?
- How do you improve pupils' cultural capital (and how do you ensure it)?
- What evidence do you have of the effectiveness of your PP spending?
- What kind of oversight does your school have to ensure effective PP spend?

Pupil Voice (Audit)

- How do teachers help you learn in mathematics?
- Which aspects of mathematics do you enjoy and why?
- What did you learn about last year that has helped you this year in mathematics?
- What does (*choose mathematical vocabulary from planning and/or displayed in the classroom*) mean?
- What do you do if you are stuck in a mathematics lesson?
- How do you know you have done well in a mathematics lesson?
- When do you use maths outside of a mathematics lesson?
- How do you go about solving a mathematics problem?
- Do you know all the times tables? (Upper key stage 2)
- Why are you learning about (*current learning in mathematics*)?

Discussion with Teachers (Audit)

- How does the observed lesson fit into a sequence?
- What will come next and how does it build on pupils' prior historical knowledge?
- How do teachers know what the pupils have already learned in previous years as well as previous lessons this year, and how do they use this information?
- What is the rationale for the activities and resources chosen in lessons?
- How does the curriculum make provision for pupils who need to fill gaps from previous years?
- How do teachers challenge more able pupils in mathematics?
- How do teachers ensure that pupils have understood what was intended as set out in the curriculum and related documents?
- How is assessment information used to inform planning?

Workload & Well-being (Audit)

- Do you feel supported (by curriculum leaders and senior leaders)?
- Do you feel you have been given all the tools you need to do this role?
- What support do you provide in a leadership role to ensure a good work life balance for staff?
- How do you support the teachers?
- How do you support new staff?
- What training/support have you received?

CPD Provision/Lesson Observations (Audit)

- What CPD provision do you have for all staff?
- How do you support new staff?
- How do you ensure teachers and TAs have the required subject knowledge?
- What training/support have you received?
- What will we see in the lesson observation?
- How will the lesson fit in with the overview for the subject and subject areas?
- What would you expect the teaching assistant to be doing during the lesson?
- Is the correct vocabulary being used?
- Does the teacher's questioning encourage learning and enquiry?

- Is the teacher's subject knowledge good?
- Are the children learning new knowledge/ skills?

Top Tips

- Be very secure on your rationale for everything, just know WHY you have done what you have done and the impact of it.
- We were allowed to select books but they insisted on a broad selection so have some prepared to show.
- Could show in books the impact of CPD and support - real honesty from the leaders and teachers about what they had been working on and why.
- Have firm belief that what you have chosen is absolutely right. For this lesson it is right because yesterday theyand tomorrow they will.
- Believe in your pedagogical choices – much easier to argue when they are research based!

Conclusion

This guidance represents an overview of an inspection and is not in any way a definitive account of a visit. The information has been gathered by numerous sources but most importantly from leaders themselves. All inspections will differ due to the context of the school and how mathematics is delivered in each setting. What this guidance provides is a tool that hopefully dispels the myths and an inspection.

References

- Putting Evidence at Work – A School's guide to Implementation. EEF October 2021.
- Mathematics Programmes of Study: key Stages 1 and 2 National Curriculum in England. DfE September 2013.
- School Inspection Handbook. Crown July 2022
- Statutory Framework for the Early Years Foundation Stage. Setting the Standards for Learning, Development and Care for Children from Birth to Five. Crown copyright 2021