

# During the inspection

## IA1 Learning

Inspectors will judge pupils' numeracy skills appropriate to their age and ability and the task, such as tackling problems in unfamiliar contexts and identifying which skills and concepts are relevant to the problem. They should judge whether pupils are over-reliant on support that prevent them from developing their independent number skills.

Inspectors should identify situations where pupils have difficulty with their numeracy skills which is a barrier to their learning across the curriculum. Inspectors will need to identify the possible causes for this. For example, lack of knowledge of number facts, multiplication tables, place value, estimation skills and routine checking methods.

Inspectors should consider how well pupils:

- use a range of appropriate number skills (for example four rules of number, place value, estimation and simple fractions and percentages and mental methods of calculation)?
- use a range of appropriate measuring skills (for example working with scales, units of measurements, time, and temperature)?
- use an appropriate range of data handling skills (for example gather information in a variety of ways, recording, interpreting and presenting it in charts or diagrams, identifying patterns in data and conveying appropriate conclusions, selecting an appropriate graph to display the data, using an appropriate and accurate scale on each axis, and being able to tell the 'story of a graph')?
- apply their skills accurately when working independently and with others
- evaluate their solutions
- draw on skills and concepts learned previously and apply it to their new learning
- apply their numeracy skills in different subjects and contexts and whether the skills are at the same level across the curriculum as they are in mathematics lessons

Sources of evidence include:

- samples of pupils' numeracy and mathematics work
- learning walks and session observations to judge how well pupils apply their numeracy skills across the curriculum.
- discussions with pupils about their work.
- analysis of standardised numeracy scores of particular groups and their progress over time
- the progress of pupils on numeracy intervention programmes

## **IA2 Wellbeing and attitudes to learning**

When considering pupils' wellbeing and attitudes to learning, inspectors should consider:

- pupils' attitudes to their numeracy work. For example, how well they engage in numerical activities, whether they are able to sustain concentration when tackling problems and how well they persevere with more challenging tasks

## **IA3 Teaching and learning experiences**

Estyn has no preferred methodology for teachers to follow. Teachers should structure the lesson in the way that they consider is most appropriate for the learners in the class and the learning objectives they wish the learners to achieve. The inspector should judge teaching in the context of learning over time and in relation to the success of the learning and the progress made by learners, not on the methods used or the type or style of delivery by the teacher.

Inspectors should consider how well the teaching:

- promotes high expectations of pupils with clear progression in and between lessons including high standards of accuracy and precision and the use of correct mathematical terminology
- provides opportunities for pupils to develop and apply their number, measure and data handling skills in mathematics and across the curriculum
- makes effective use of formative assessment to ensure that pupils are using numeracy skills at an appropriate level and that there is good pace and an increasing level of challenge in tasks.
- makes frequent links across the curriculum, so that concepts and skills are developed further by being applied in different, relevant contexts
- uses mathematical information to improve pupils' reasoning and problem-solving skills
- encourages pupils to talk about and explain their work, look for patterns, interpret and draw valid conclusions from their data
- uses probing questions to improve pupils' understanding and encourage pupils to explain their thinking and make learning connections
- anticipates and addresses pupils' misconceptions in a timely and effective manner, with errors providing productive points for discussion
- makes effective use of techniques to check for accuracy
- exploits the use of ICT to support the development of pupils' numerical and problem solving skills where relevant

Inspectors should consider:

- How well the school tracks and monitors pupils' progress in developing their numeracy skills as they move through the school, including pupils participating on intervention programmes
- How well staff adapt programmes of study when pupils are working significantly below or above expected levels of numeracy skills
- how well the school uses assessment data to identify pupils in need of additional support
- how effective the intervention programmes are to ensure that pupils make good progress
- how well information about pupils' skills and progress is shared between staff
- how staff adapt teaching and learning strategies for pupils receiving intervention and what is the quality of the training that teaching assistants deliver the intervention programme receive
- how well assessment is used to inform decisions about whether pupils remain in support programmes or no longer need intervention work
- how the school ensures that classroom teachers are aware of the teaching and learning strategies and the resources used in the intervention programmes?
- what strategies the school uses to ensure teachers confidently use similar strategies and resources in their lessons?

Inspectors should consider whether:

- there are clear whole-school policies to improve the teaching and learning of numeracy, and that the policies are implemented consistently
- information obtained from assessment is used to set clear targets for improvement in numeracy for individuals, groups of pupils and the whole-school
- teachers are clear about the learning objectives and progression in relation to the development of pupils' numeracy skills and are well-placed to share this information with pupils and parents
- pupils are involved in the assessment of their own work in numeracy and in identifying objectives for improvement.
- there is coherent provision for the use and application of pupils' skills in numeracy across the whole curriculum
- tasks set are matched appropriately to pupils' developing needs and abilities
- the school provides a good balance between structured activities for direct teaching of mathematical development and active approaches, such as in the foundation phase including play-based learning
- in the foundation phase there are appropriate opportunities for pupils to develop their number, measuring, spatial and data handling skills in areas of continuous and enhanced provision both indoors and outdoors

## **IA5 Leadership and management**

Inspectors may hold discussions with leaders and managers to consider how well they initiate and support effective skills strategies and policies across the range of the school's work.

Inspectors may consider:

- whether leaders are well-informed about developments in the teaching and learning of numeracy, provide strong leadership and convey high expectations about pupils' achievements
- how well leaders focus on raising standards and if they know how well pupils are progressing, including those receiving support or extension
- how well leaders actively monitor and evaluate the quality of the numeracy provision throughout the school by considering its impact on pupils' progress
- whether the development of numeracy skills has an appropriate level of priority in the strategic and operational planning
- how well the numeracy co-ordinator helps other teachers with their planning and shares good practice
- whether professional learning successfully develops staff skills to improve provision for numeracy including the sharing of good practice
- how well co-ordinators for other subjects are alert to the opportunities that exist within those subjects for improving pupils' skills in numeracy
- how well parents are kept informed about the school's policy for improving standards in numeracy and are encouraged to be involved through discussions at school and the regular use of homework.