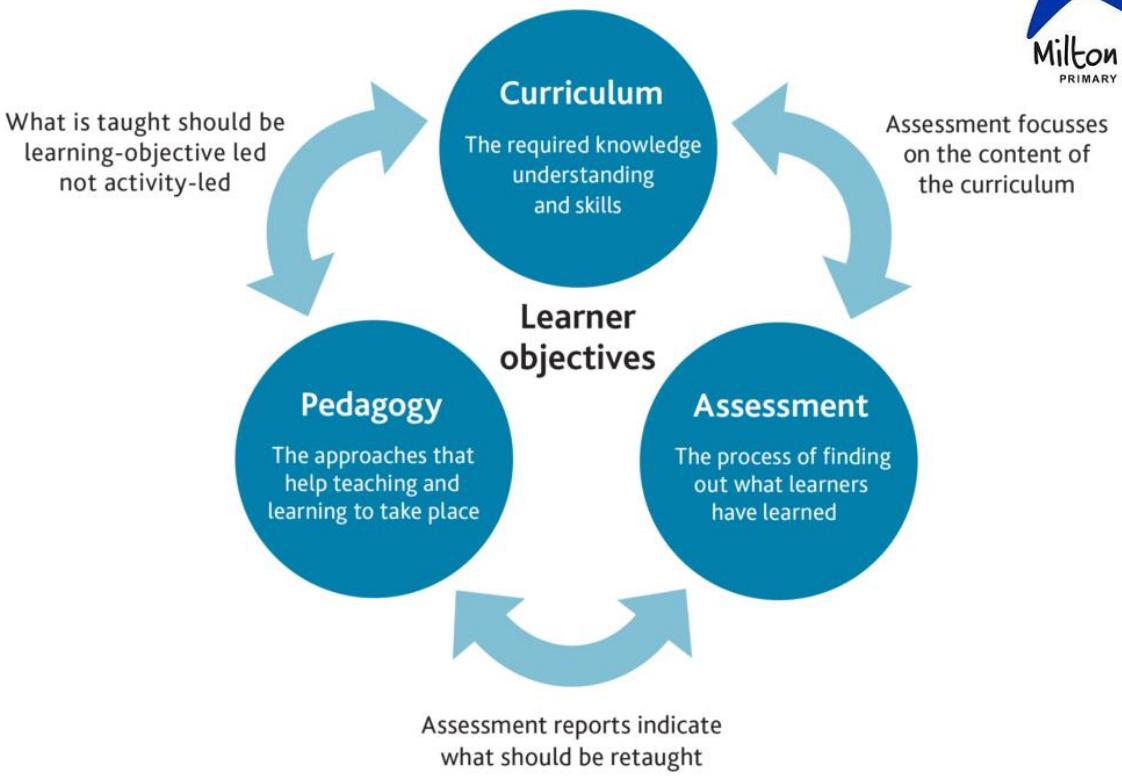
Assessment Methodology for Mathematics



This document has two parts, the first is the general principles of assessment in our school, and the second is the specific methodology for formative and summative assessment in this curriculum subject.

1. General Principles of Assessments

Why is Assessment Important?

Along with pedagogy and curriculum, assessment is a critical aspect in the learning continuum.

Assessment is very important for monitoring the progress pupils make in the curriculum, including the knowledge and skills that the children have acquired. Assessments help teachers and assistant teachers to plan next steps, to help set targets and goals, report to and involve parents in their children's learning and most importantly of all to encourage, inspire and motivate children to address misconceptions, to recall and to improve.

There are two main types of assessment: formative assessment and summative assessment. These are sometimes referred to as ***assessment for learning*** and ***assessment of learning***, respectively. At some level, both happen in almost all classrooms.

Formative Assessments

Formative assessment takes place on a day-to-day basis during teaching and learning, allowing teachers and pupils to assess attainment and progress more frequently. It begins with diagnostic assessment, indicating what is already known and what gaps may exist in skills or knowledge. If a teacher and pupil understand what has been achieved to date, it is easier to plan the next steps. As the learning continues, further formative assessments indicate whether teaching plans need to be amended to reinforce or extend learning.

Effective formative assessment encourages learning by stressing the importance of recall, critical thinking, reasoning, and reflection thus creating a quality learning environment. Many techniques may be used to formally assess student learning. These include questioning (either directed or no-hands up), concept mapping, writing two or three sentences, the teacher observing (e.g. listening to reading) and recommending specific improvements, low stakes quizzes and so on.

Often formative assessments may not be recorded at all, except perhaps in the lesson plans drawn up to address the next steps indicated.

Assessment for learning is an ongoing iterative process that arises out of the thoughtful and sensitive interaction between teacher and learners.

"Human Learning presupposes a specific social nature and process by which children grow into the intellectual life of those around them." Lev S. Vygotsky

Summative Assessment

Summative assessment sums up what a pupil has achieved at the end of a period of time, relative to the learning aims and objectives and the relevant national standards. The period of time between summative assessments may vary, depending on what the subject is and what the teacher or assistant teacher wants to find out. A summative assessment may take place at the end of a unit of work, at the end of a term or half-term, at the end of a year or, as in the case of the national curriculum tests, at the end of a key stage.

Typically summative assessments take place no more than three times a year. The results of summative assessments are reported to parents regularly so that they are fully involved in the child's learning journey and are able to monitor the progress their child is making at useful intervals over the course of the academic year. To distribute workload and make the summative assessment meaningful, the school provides short termly assessments rather than one long one at the end of the year.

A summative assessment may be a written test, an observation, a conversation or a task. It may be recorded through writing, through photographs that the child takes themselves and shared with families via SeeSaw, through presentation and performance including Expert Showcase, other visual media, or through an audio or video recording. Whichever medium is used, the assessment will show what has been achieved. It will summarise attainment at a particular point in time and may provide individual, cohort and whole school "snap shot" data that will be useful for tracking progress, for informing stakeholders (e.g. parents, governors, etc.) and for defining whole school improvement plans.

To optimise the benefit of summative assessment the outcome data is analysed by teachers inform whole class next steps and teaching and learning (therefore also having formative benefits). The school uses the NFER PIRA and PUMA tests in this way, results are diagnosed to inform formative next steps.

Recording and Reporting Summative Assessments

Some summative assessments in the Core Subjects such as PIRA (Progress in Reading and Language Assessment) and PUMA (Progress in Understanding Mathematics Assessment) take place on Insight. For Foundation Subjects, Three Part Assessment Grids are used. Once noted these may be shared with the Curriculum Subject Leader.

The Termly Reports to parents/carers use the same language as the Assessment Grids to inform parents whether their child is Working Towards Age Related Expectation/Standard (ARE), At Expected Age Related Expectation/Standard or Exceeding Expected Age Related Expectation Standard.

2. Specific Methodologies for This Curriculum Subject – Mathematics

Curriculum Subject – Mathematics
Curriculum Subject Leaders – Gareth Williams and Jenny Williman
Formative Assessment Methods • Teacher observation during lessons – listening to discussions, direct questioning, observing the children working together or using concrete resources. • Children responding to feedback during lessons, self-correcting or making improvements to their work. • Whole class feedback sheets used for each mathematical topic: highlighting children's responses, successes, misconceptions and next steps • Four-a-Day Maths activities (as part of AfLA)
Summative Assessment Methods • PUMA assessments – termly • Maths-No Problem end of chapter reviews • Maths-No Problem mid-year and end-of-year assessments • Optional / practise SATs papers in Years 2 and 6 • Times tables tests in Year 4 • Summative data is placed onto Insight Assessment on a termly basis
Other Notes Relevant to this Subject:

References: https://blog.cambridgeinternational.org/describing-coherence-of-curriculum-pedagogy-and-assessment/

Appendix:

Example of Three Part Assessment Grid for

Subject:
Learning Objective:
Example Methodology for Assessment:
Above Expected Age Related Expectation Standard
At Expected Age Related Expectation/Standard
Working Towards Age Related Expectation/Standard (ARE)