

Pearson Primary
Progress and Assess

Year 5

Maths

Assessment Guide



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An introduction to assessment

Assessment is, of course, essential and it is something that teachers do instinctively on a day-to-day basis. Because of this, assessment comes in different forms and guises. Much assessment is ongoing and **formative** as it stems from observations and informs ongoing teaching and learning in the classroom. This kind of assessment is conducted by teachers and teaching assistants, as well as by children through peer and self-assessment. Rich questioning provides instantaneous feedback for teachers which can result in adjustments to short-term and medium-term planning. **Evidence** of independent practice, demonstrated in a variety of different ways, supports teachers with this type of assessment too.

Summative teacher assessment also serves a purpose, both nationally and locally. Whilst national summative assessments hold providers of education to account, and provide a useful point of comparison, local summative assessments are useful in reviewing a child's ability to use and apply the knowledge and understanding they have accrued in their day-to-day learning. They provide a vital insight for teachers into whether children have mastered key topics and they also highlight where children may be having difficulty. They provide teachers with a useful opportunity to review what has been taught, and to plan what needs to be addressed in future lessons.

So teaching influences assessment, and assessment influences teaching. Indeed, assessment and the curriculum are inextricably linked; all assessment should support teachers in determining how well children have understood what they have been taught, and should feed into the ongoing teaching and assessment cycle.

In all cases, assessment should be purposeful and should prompt action. Throughout the year as we work with each child, we gain greater and more solid understandings of their abilities, their strengths and weaknesses. An assessment, no matter how good, is not the child. It should neither constrain our expectations nor limit our endeavours.

As such, the focus of this assessment guide is to provide teachers with a set of tools to help them gather and understand evidence in order to support children in their learning. The next few sections of this guide will take you through the tools we have provided.

Your maths progression maps

What are the progression maps?

This assessment guide contains all of your Year 5 maths progression maps. There is a progression map for each school term: autumn, spring and summer.

The progression maps track key skill areas in maths across a child's primary school education. They list key outcomes, so that you can see what is expected at different stages in the school year. They have been written by Ruth Merttens, a respected academic and curriculum advisor, and Jennie Kerwin, an experienced teacher, trainer and educational consultant.

Key features of the progression maps

The maths progression maps are broken down into skill areas so that teachers can quickly find the outcomes they are looking for. These skill areas break down the national curriculum into manageable steps.

Skill area	
Number and Place Value	NPV
Addition and Subtraction – mental and written	AS
Multiplication and Division – mental and written	MD
Fractions, Decimals, Ratio and Percentages	FDRP
Measures	MEA
Geometry	GEO
Statistics	STA

The number of outcomes listed within each strand differs from year to year.

- Any outcomes text in bold has been taken directly from the 2014 National Curriculum in England.
- Any text not in bold represents a smaller step that helps children to build the required skills they need by the end of the year, and helps you to check their progress along the way.
- Where appropriate, examples have been provided to help you assess whether or not a child has achieved the outcome.
- Where an outcome is tested within one of our assessment tests, we include a reference so that you can compare your formative observations with assessment results.

- We reference teaching weeks within our progression maps too, so that you can see the order in which key outcomes should be taught. These weeks align with Abacus teaching, and act as a point of reference if you subscribe to this service.

How to use the progression maps

We recommend sticking a copy of each progression map in the back of each child's maths book. Alternatively, you could keep a copy for each child in your assessment folder.

The progression maps can then be used to keep a record of how children are doing, and where further support or extension may be required. You can choose how to do this, but we have provided a box within each outcome cell to help. You may want to insert a tick, cross or circle to indicate when an outcome has been achieved.

Once you have administered our assessment tests, you can then look back to see how a child's test performance links to your ongoing observations. We have linked each assessment test question to an outcome on our progression map, to make this simple for you.

The maths tests

About the tests

Packs of printed tests are available to buy. These tests are printed in colour to make them more appealing to children, and are printed on dyslexia-friendly cream paper with our specially designed dyslexia-friendly font, enabling children to concentrate on the maths without struggling to read the questions. If you subscribe to Abacus or Progress and Assess Maths, you can also download printed versions of the tests from ActiveLearn Primary.

The Year 5 maths tests should be used to inform ongoing teaching and learning, and to support your summative judgments. Our tests have been designed to be used at the end of each half term. There are two tests: an arithmetic test and a problem solving and reasoning test. Before using the tests with your class, it is important that you check to see that you have taught the outcomes that are being assessed. You can use the progression maps to help you do this. The tests should be used in sequence, and all children should sit the same test.

The arithmetic tests consist of 10 questions presented as context-free calculations. In some cases children will be expected to use formal methods to solve specific arithmetic questions.

The problem solving and reasoning tests are made up of 20 questions which are positioned both in and out of context. In this test, mathematical problems are presented in different formats to ensure children can fully demonstrate mathematical fluency, problem solving and reasoning.

Supporting documents

To accompany the tests, we provide the following.

- General marking advice, to help you mark 1-, 2- and 3- mark questions (please see the 'Marking and interpreting results' section of this guide).
- Marking guidance specific to each test. This links each question to our maths progression map, as well as a national curriculum objective. It also provides information on possible/common errors, and advice on what to do if a child does not grasp a concept (please see the 'Marking and interpreting results' section of this guide).
- A class overview sheet, which you can use to record next steps for your class (please see the 'Marking and interpreting results' section of this guide).

Using the tests with your class

Before using the tests with your class, it is important that you check to see that you have taught the outcomes that are being assessed.

- Print an arithmetic and a problem solving and reasoning test for each child in your class (or use ready-printed tests), and hand them out. Make sure you administer the right test for the year and term you are teaching. The two tests can be taken in any order, either on one day with a short break between or on consecutive days.
- Children should write their name, class and the date on the top of the test.
- Ensure children have the resources they need to complete the test (see the equipment list below).
- Introduce children to the test and explain how long they have to work through the questions. It should take between 15–30 minutes to complete the arithmetic test and 30–45 minutes for the problem solving and reasoning test. It is important that children have enough time to demonstrate what they can do. Teachers should adjust this time depending on the needs of their class and should decide whether children require breaks throughout the assessment.
- Explain that the test will be assessing the skills children have been practising over the last few weeks.
- Talk through the different types of question within each paper. Some will require children to show their workings. Remind them to read the instructions carefully so that they know how to answer each question.
- If children want to change an answer, they should put a line through the response they do not want to be marked. Remind them to check their work carefully.
- If necessary, all questions should be read aloud so that reading ability does not impair a child's mathematical attainment.

Equipment list

Before setting a test, check through each test and decide what equipment children need. Children may need access to:

- | | |
|---------------|-----------------------------------|
| ● a pencil | ● a ruler (measuring mm and cm) |
| ● a black pen | ● an angle measurer or protractor |
| ● an eraser | ● a mirror |

Formulae will be provided where relevant within a question to allow children to calculate with them as necessary.

Children should not have access to a calculator.

Marking and interpreting results

General tips

Once children have completed the tests, it is good practice to review each question and use your insights to define future learning needs for different children.



You will notice that a margin containing circles runs down the right-hand side of the test papers. You can use this space when marking the tests. Alternatively you could ask your class to indicate how they found each question using a smiley face or a traffic light system, and use this self-assessment to inform your professional understanding of each child's ability.

When marking the tests, it is important to refer to the general marking advice and marking guidance provided in this guide.

How to use the marking guidance documents

As well as the general marking advice we provide (to help you mark 1-, 2- and 3-mark questions consistently), we also provide marking guidance documents to accompany each test. There is one of these for each arithmetic and problem solving and reasoning test. As well as providing the answers, marks and linking each question to a national curriculum objective and progression map outcome, they include two sections which are useful for interpreting children's responses.

The 'Possible errors' section highlights common/typical errors, in some cases procedural and in other cases conceptual. Determining the source of an error will support you in addressing that aspect of learning. The 'Advice' section provides helpful suggestions as to how to address errors, usually through a specific piece of teaching or use of an activity or resource.

These marking guidance documents also flag key questions. These are indicated in the marking guidance by an asterisk (*). The key questions test those elements of the progression map where a failure to answer consistently could impede progress, so make sure you watch-out for them and capture any comments.

Moderating and understanding attainment

To help you with your assessment of each child, we have provided you with a view on attainment so that you can track how they are progressing over time.

Once you have marked the tests, total the scores from the two tests and convert them into a percentage. For example, if a child scored 5 out of 10 on an arithmetic test, and 15 out of 30 on a problem solving and reasoning test, the total score is 20 out of 40 so this child achieved 50%. If a child's total score includes a $\frac{1}{2}$ mark, round up to the nearest whole number. If you subscribe to Abacus, or Progress and Assess Maths, you can input the scores directly into ActiveLearn Primary and the percentages will be calculated for you. You can find out more about how to do this in our getting started guide.

The scores (particularly where a child scores near a boundary percentage) should be considered alongside the key questions and a teacher's knowledge of the child.

A score of 80% + indicates that a child is **on track for age-related expectations** by the end of the year. As teachers know their class best, we leave you to decide which children in your class are **exceeding age-related expectations**. This group of children should be challenged through rich and sophisticated problems in order to deepen their understanding.

A score of 30%–79% indicates that a child is **working towards age-related expectations**. Children falling into this group are not currently on track, but have demonstrated some of the necessary knowledge and skills for their year and term. Take a look at the relevant progression map. It could be that, although children have shown understanding of an outcome, they are less confident with it in the context of a test. Conversely, it may be an outcome that a child was struggling to master and therefore it is worth revisiting.

Within this group:

A score of 60%–79% suggests a child has achieved reasonably but has made some unnecessary errors. Check specific errors that this group are making and see if they can self-correct outside the pressures of a test situation, since this group may not save enough time to check their work. It may also be that there are common errors which would indicate a topic that should be revisited. This can be checked using the marking guidance provided.

A score of 46%–60% suggests a child is weak in some specific mathematical areas. Check to see if there is a discrepancy in performance between the two tests. Some children may be performing well in the arithmetic test but less well in the problem solving and reasoning test. For example, a child may be able to calculate reasonably accurately but they may struggle to apply

their learning to different contexts. This has implications for planning, as it is important to ensure there are opportunities for all children to apply their skills. You can use the marking guidance provided to check if there are common errors or misunderstandings that can be addressed in planning class work for the next half term. If these errors are linked to the key questions then revisiting these topics should be prioritised.

A score of 30%–45% suggests a child has been struggling with the half term's topics. It is likely that errors have been made in key questions. We suggest revisiting the topics as a group over the next half term. Where possible, use additional adults to support this group.

A score of 0–29% is indicative of a child **working below age-related expectations**. Children in this group should have small group support but also an individual programme of intervention with clear targets linked to areas of weakness, likely to be those areas identified in the key questions.

Feeding back to children

Feeding back to children is an important part of the assessment cycle. You can record individual marks and feedback in the space provided at the end of the test.

Remember to provide feedback on what children did well, as well as areas they can continue to improve. Make learning targets specific and achievable, and ensure you have a plan in place to support children with strengthening and extending their learning.

You can use the feedback areas at the end of each test to support the feedback process. Plan feedback conversations and think carefully about how you can present this information to children.

Feeding back to parents

It can be useful to report results to parents too, to inform them about their child's achievement across a period of time. Make sure you check your assessment policy, as it may contain useful information on how to approach this. Think carefully about how you communicate test scores and attainment indicators; how, for example, you can communicate that a child working below age-related expectations is actually doing quite well.

Feeding back to other stakeholders

Local summative assessment will not provide a comparison between schools, so think about what information stakeholders need to see and how this should be presented.

Class overview sheet

Class or group name: _____ **Assessment(s) taken:** _____ **Date:** _____

Children's names	Mark	Next steps
Next steps for class or group		

General marking advice

The following marking guidance has been created to support you in marking 1-, 2- and 3-mark questions. For more detailed guidance, please look at the information provided in the specific marking guidance documents.

General information

Questions in an arithmetic test are usually worth 1 mark. In Key Stage 2, 2 marks may be available for the use of an appropriate written method.

Questions in a problem solving and reasoning test can be worth 1, 2 or 3 marks.

If a child has altered an answer or the answer is not clear, ask him or her to read or explain the answer to you.

Occasionally discretion will be needed regarding accuracy, especially where children are asked to mark or read number lines or draw shapes. In these instances, follow the advice in the specific marking guidance documents.

1-mark questions

For 1-mark questions with one part, an answer must be correct for the mark to be awarded.

For 1-mark questions where there are two parts, award $\frac{1}{2}$ a mark for each correct part. Example:

Write in the answers.

a) $2 \cdot 3 \times 100 = \square$

b) $35 \cdot 9 \times \square = 359$

For 1-mark questions where there are three or four parts, a child should get at least two parts correct to be awarded $\frac{1}{2}$ a mark, and all parts correct to be awarded 1 mark. Example:

Write in the answers.

a) $3 \times 6 = \square$

b) $98 \times 6 = \square$

c) $6 \times 12 = \square$

d) $6 \times 6 = \square$

2-mark questions

For 2-mark questions where there are two independent parts, and answers are right or wrong, award 1 mark for each part.

For 2-mark questions where there are four parts and answers are either right or wrong, award $\frac{1}{2}$ a mark for each correct answer. Example:

Which of these are correct?

Put a tick (✓) or cross (✗) in the box next to each calculation below.

a) $1672 + 120 = 1792$ ☐

b) $2437 + 520 = 2939$ ☐

c) $3957 - 2030 = 1627$ ☐

d) $6781 - 340 = 6441$ ☐

For 2-mark questions where children are asked to show working, award 2 marks for a correct answer regardless of whether any working out is shown. 1 mark may be awarded if an answer is incorrect but an appropriate method was used, with no more than one arithmetical error. This mark should not be awarded if there has been no attempt to write the final answer. Example:

A computer costing **£628** has been reduced by **£145**.

What is its new cost?

Show your method														

For 2-mark questions where children are asked to solve a long multiplication or division, 1 mark may be awarded if working is carried through using a formal written method. This mark should not be awarded if either an error is made in place value, or no attempt has been made to write the final answer.

Example answer 1:

$$\begin{array}{r}
 273 \\
 \times 14 \\
 \hline
 2730 \\
 1092 \\
 \hline
 3722
 \end{array}$$

The answer should be **3822** but an error has been made in the final addition.

1 mark should be awarded.

Example answer 2:

$$\begin{array}{r}
 273 \\
 \times 14 \\
 \hline
 273 \\
 1092 \\
 \hline
 1365
 \end{array}$$

The place-value error (10×273 should be **2730**) shows a misunderstanding of a critical part of the method.

No marks should be awarded.

In 2-mark questions where a child is required to give an explanation, give 1 mark for the correct answer and the second mark for the explanation. Example:

Circle each of the numbers that are **divisible by 5**.

79325

3551

15752

99440

60008

Explain how you decided which numbers to circle.

3-mark questions

For 3-mark questions where there are three independent parts, and answers are right or wrong, award 1 mark for each part.