

KEY STAGE

LEVELS

Mathematics tests Teacher's guide



National curriculum assessments

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Assistance for the written questions

This guidance is provided in a separate booklet.

Background information

Children to be tested

Teachers have flexibility about which tests are administered and when the tests are taken. Every child should be assessed by the use of a task or test, although the use of a task for children who the teacher judges are working below level 1 is optional. As in recent years, teachers may use a task from any previous year. Children who achieve very highly on a task/test or fail to achieve a level do not need to be taken on to the next task/test up or down, if you feel you have enough information on that child to make your overall judgement. The tasks/ tests can be administered at any time in the academic year (after they arrive in schools), as long as you have time to take account of the information gained in your overall assessment.

Structure of the tests

The materials include:

- a level 2 test booklet
- a level 3 test booklet
- administration and marking instructions contained within this *Teacher's guide*
- Assistance for the written questions booklet
- grids providing curriculum references for optional analysis of performance.

Each test includes material drawn from the key stage 1 programme of study both for *Number* and for *Shape, space and measures* in the 2000 national curriculum order. The tests also include questions that assess *Using and applying mathematics*. These questions will require children to apply their problem-solving skills, to communicate mathematically and to reason. Questions assessing *Using and applying mathematics* are identified within the mark scheme for each test.

There are two parts to each test. The first part comprises five questions (and one practice question), which total five marks. These questions are to be read aloud to the children by the teacher. The second part comprises 22 written questions (and one practice question), which total 25 marks.

The questions in each test have been ordered approximately by their degree of difficulty, as informed by outcomes of the trials of the tests. Each test was developed in consultation with groups of year 2 classroom teachers, and was subjected to three types of trial with a nationally representative sample including over 3,000 children. Children in one particular class or school may find the tests easier or harder than this sample.

It is important that all children are given an opportunity to attempt as many questions as they can in the written part of the tests. An evaluation study of the performance of a group of children who just attained level 2 in an earlier test showed that each of the more difficult questions, towards the end of the level 2 test, was answered correctly by at least one child in this group. If a child is unable to cope with one written question, he or she should be encouraged to move on to the next question.

Timing

Children are likely to benefit from completing the test in two sessions. These sessions should normally take place on the same day or on consecutive days. If they take place on the same day, children may benefit from a break after about 30 minutes.

There is no time limit for any part of the tests. Trialling has shown that most children demonstrate what they can do in about 45 minutes, after a short introduction. You should use your discretion to give the children as much time as they need to finish all the oral and written questions they can do.

Grouping children for the test

It is anticipated that the level 2 test and the level 3 test will be administered on separate occasions. Both the oral and written parts of each test can be administered to all the children at the appropriate levels together, in small groups or individually. For the written part of the tests, you may give help with reading (see the booklet *Assistance for the written questions*). You may also read all the questions to groups or individuals. Your decision about grouping, therefore, should reflect the needs of the children in your class and their ability to work independently. Further guidance on grouping for, and reading, the tests is included on the next page.

It is possible, but not recommended, that the level 2 test and the level 3 test be administered to different groups of children simultaneously. If this method of administration is chosen, the children taking either test will need to complete the oral questions and the practice written question for their test separately, before completing the written questions simultaneously. The oral questions should be completed before starting the written questions. Children taking the level 3 test should not have access to structured apparatus, number lines or 100 squares during any part of the test.

Assistance

The tests do not require the use of staff beyond those normally available in the classroom. However, they may be administered, under the direction of the teacher, by any competent or informed person such as a language support teacher, a teaching assistant or special educational needs support staff. These staff should have copies of *Assistance for the written questions*. The teacher, however, remains responsible for the assessments. Parents of children in the class should not administer the tests.

Detailed guidance on supporting the children during the level 2 test is provided on pages 16–17 for the oral questions and pages 20–21 for the written questions. Guidance for the level 3 test is provided on pages 35–37 for the oral questions and pages 39–40 for the written questions. Further guidance for each test is provided in *Assistance for the written questions*. **Any person** administering the test should be familiar with this guidance and have it to hand during any administration of the tests.

Please note that teachers are allowed to read numbers in sentences in all questions on the level 2 and level 3 tests. More detailed guidance is provided in *Assistance for the written questions*. They are not, however, allowed to read calculations such as (25 + 13 =), because these questions provide an opportunity to assess children's ability to read and interpret numbers and symbols.

Reading the test

If you judge it appropriate, you may go through a whole test, reading out each question to a group and waiting for the children to write their answers before continuing (the 'look and listen' method). This is a legitimate way to administer the tests to children who would otherwise have difficulties in accessing the tests, for example children learning English as an additional language or children with special educational needs. It is, however, unlikely to be the best method for whole-class administration, as the tests would then need to be read out to suit the pace of the slowest child. This would mean that children who wanted to work more quickly could become bored with waiting and possibly not demonstrate their best attainment. Some research that QCA has carried out has shown that fluent readers can sometimes perform better if helped by the 'look and listen' technique, as they can otherwise skim read questions and misread what needs to be done. However, QCA feels that, in general, children who read fluently can be helped by the teacher stressing how important it is that the children:

- ask for help to read unfamiliar text
- check that they have read questions correctly
- check their working out and answers.

Nevertheless, QCA recognises that teachers are in the best position to judge whether fluent readers would or would not benefit from 'look and listen'.

Age standardised scores

The tables of age standardised scores for the tests are contained within this *Teacher's guide*. The use of these tables remains optional.

Optional grid for test analysis

Also provided are grids giving the curriculum references for each question in the tests, which will allow teachers, if they wish, to analyse the performance of children in their class.

Specific guidance

You can be flexible in your arrangements for the tests as long as any adaptations do not invalidate the assessments. The range of children's needs is such that it is neither sensible nor possible to provide detailed advice to cover every individual circumstance. You should use your professional judgement and your knowledge of individual children to decide how best to make the tests accessible to all children while maintaining the rigour of the assessment.

Examples of permissible adaptations include:

- using tactile shapes and number cards
- photocopying onto coloured paper
- enhancing shading, and/or emboldening lines on diagrams, charts and graphs
- cutting out, enlarging, embossing or mounting diagrams
- using adhesive to attach materials to a table
- using mechanical and technological aids, eg computers but not calculators
- rephrasing parts of the written questions as indicated in Assistance for the written questions.

There may be some children who have difficulty with the test layout and procedures. These children may be willing to ask for help, and you will be able to ensure they receive the support they need. However, other children may be reluctant to ask. As well as offering reassurance to the whole group, you may need to be active in watching for children who are having problems with reading or with writing responses.

Children's responses

Children may convey what they know or understand by any appropriate means: talk, sign, writing, gesture, pictures, models, mime or any combination of these. A wide variety of forms of communication is acceptable.

Children learning English as an additional language

Children who are learning English as an additional language may be given access to the tests in any way that is usual for them. If language support is available, the questions may be translated and children may respond in a language other than English. It is not intended that children are provided with a comprehensive written translation of the papers. As with all children, you may read the questions aloud in English. You may also give a fuller explanation of the context of the questions, **but it is important to ensure that you do not give any additional interpretation of the mathematics or mathematical vocabulary in doing this**. It is particularly important when assessing children for whom English is an additional language that sufficient time is given for the children to show their best attainment without pressure.

Special educational needs

These tests are designed to be used with all children at the appropriate level, but additional consideration should be given to children with special educational needs. Usually, the most appropriate conditions for testing will be those in which the children normally work well.

- You can administer the tests to smaller groups of children or on an individual basis and adopt any strategies suggested in this guide.
- You may describe the pictures to the children or provide them with any objects that convey to them what is in the pictures.
- You may use overhead projector transparencies of any parts of the tests to direct children's attention to what they have to do.

Children with hearing impairments and children who use sign language

You should ensure that children with hearing impairments understand the contributions made and questions raised by other children prior to the start of the tests.

Children who have hearing impairments may need particular help with reading. If the child responds orally, the person administering the tests will need to be familiar with the child's speech patterns, to ensure that responses can be understood and recorded accurately.

The questions may be presented to a child in sign. Any sign language may be used for presentation of the questions and for the child's responses. For children who sign, use should be made of a skilled adult signer/communicator who is familiar with the child and the child's sign language. Since this may not be the teacher, there is a need for the teacher and the signer/communicator to be clear about how the test will be presented.

The nature of some signed languages may demand that some questions are restructured. In restructuring, take care that the signs used neither give clues to the answer or the mathematics to be used, nor cause confusion, and that the questions are restructured only where the sign language itself necessitates it. You may also give a fuller explanation of the context of the questions, but it is important to ensure that you do not give any additional interpretation of the mathematics and mathematical vocabulary in doing this.

The general advice on terms that may and may not be explained should be followed. This advice indicates where signers/communicators may inadvertently unfairly advantage or disadvantage the child through choice of sign.

Where a child's responses are made in sign language, care should be taken to note them as precisely as possible, without inferring any meaning that was not clear in the child's signed responses.

The oral questions – additional guidance for teachers of children with hearing impairments and children who use sign language

There are five questions (and one practice question) which are to be read aloud to the children by the teacher. These questions come at the beginning of each test but they may be administered to children with hearing impairments and children who use sign language during a separate session or at the end of the tests. The oral questions should be administered by a familiar adult with whom the child is used to lip-reading or signing; this could be the child's special support assistant or communicator.

The questions should be administered at an appropriate pace so that children with hearing impairments have enough time to lip-read the question, process the information and find the appropriate part of the page to write the answer. Each question may be signed or written out as a flashcard or projected as an overhead projector transparency if this will make it more accessible for these children. Teachers of children with hearing impairments may reword questions using more familiar syntax if necessary. However, considerable care should be taken to avoid altering the nature of the assessment within any question.

For the **oral questions**, the teacher should ensure that the child understands the names used, so that no confusion is caused.

Level 2	Possible amendments for children with hearing impairments and children who use sign language
Practice question	You may use flashcards or overhead projector transparencies with 9, 8, 7 and 6 written on them. If you sign the numbers take care not to convey any answer through the use of iconographic signs.
Question 1	You may use flashcards or overhead projector transparencies with 100, 90, 80 and 70 written on them. If you sign the numbers take care not to convey any answer through the use of iconographic signs.
Question 2	If a child is likely to confuse <i>Abi</i> with <i>a boy</i> , you may prefer to use the name <i>Ben</i> and replace all references to <i>she</i> with <i>he</i> .
Question 3	You may rephrase the question as January is month one in the year. What is the name of month four?
Question 4	You may use flashcards or overhead projector transparencies with 8 and 28 written on them.
Question 5	You may use a flashcard or an overhead projector transparency with 71p written on it.

Level 3	Possible amendments for children with hearing impairments and children who use sign language
Practice question	You may use flashcards or overhead projector transparencies with 10 and 12 written on them.
Question 1	You may use flashcards or overhead projector transparencies with 10 and 97 written on them.
Question 2	You may use a flashcard or an overhead projector transparency with <i>18</i> written on it. You may sign <i>double</i> as <i>multiplied by two</i> .
Question 3	You may sign the shape names once, using iconographic signs, before reading the remainder of the question twice. You must not sign the shape names again, once the question has been read, since the use of iconographic signs may cue an answer. You may write <i>triangle</i> above the box in the child's booklet, which shows the list of shape names, and sign <i>triangle</i> when you initially sign the list of shape names. Alternatively, you may use a flashcard or an overhead projector transparency with <i>triangle</i> written on it. You should indicate the word <i>triangle</i> when reading the question, rather than using an iconographic sign.
Question 4	You may use a flashcard or an overhead projector transparency with 462 written on it.
Question 5	You may rephrase the question as Look at the clocks. Which clock shows twenty-five minutes to four?

All written questions can be accessed by children with hearing impairments.

Children with visual impairments

Children with visual impairments may have the test presented to them and make their responses in any way that is usual for them, but care should be taken to avoid altering the nature of the questions. All usual low vision aids may be used, and real objects may be used where appropriate. Materials may be enlarged, reduced, cut up, brailled, etc, to increase accessibility for individual children, and children may handwrite their answers, use computer facilities, braille or dictate answers to an adult scribe. Help may be given to interpret pictures and diagrams, as long as this does not invalidate the assessment being made.

Braille

The level 2 and level 3 mathematics tests will be available in grade 2 braille, free of charge, from:

Pindar plc Ventress House Thornburgh Road Eastfield Scarborough YO11 3UY

Tel: 01723 581581 Fax: 01723 585288

Minor changes have been made to the text in the braille version. A print version of the modified text for braillists is included with the braille materials. Additional teacher's notes for the braille test will also be included with the materials.

Modified large print

Teachers of children with special educational needs should be aware of modified large print versions of the tests. Although designed for children with visual impairments, these modified large print papers may be used by other children who have special educational needs. For example, some children with particular physical difficulties may find them more accessible than the unmodified papers. The modified large print papers are produced on A4 paper in black and white, using bold print, simplified diagrams and illustrations with all extraneous information removed. Copies of the modified large print tests are available free of charge. Examples can be seen on the QCA website at *www.naa.org.uk/modifiedtests*

Time for the modified tests

Children using braille or modified large print tests are likely to need more time to complete the tests than fully sighted children because of their slower reading speeds. You will wish to make this clear to children and to organise the classroom as appropriate. You may find it helpful to administer the tests in more than one session, or use rest breaks as appropriate, particularly for children using the braille tests.

Guidance notes

Additional teacher notes have been produced to accompany modified large print and braille versions of the tests. You should refer to these notes before administering and marking the tests.

Children with physical disabilities

Children with physical disabilities may have the tests presented to them, and make their responses, in any way that is usual for them, for example the teacher scribing dictated answers, the use of enlarged forms or the use of a computer.

Children with emotional and behavioural difficulties

Children with emotional and behavioural difficulties may have problems maintaining their attention for extended periods of time. For this reason, the tests could be administered to this group of children in smaller parts over a number of sessions, rather than the recommended two sessions.

Administering the level 2 test

Resources

This test is designed for children working at level 2.

For both the oral and written questions, each child will need:

- a copy of the level 2 test booklet
- a pen or pencil
- a centimetre ruler with which they are familiar
- a rubber (optional). You may obtain more useful diagnostic information if you encourage your children to leave their working out on the page and to cross out their mistakes rather than rubbing them out. If rubbers are not provided:
 - you should tell children that they may cross out any answers they wish to change
 - you should keep a rubber in readiness for children who wish to change answers they have drawn (such as lines or shapes) where changes may be clearer by rubbing out rather than crossing out.

Children should also have access to number apparatus to complete the level 2 test. You should use your judgement to decide which type(s) of apparatus would best support children in your class. Children may have access to as many or as few of the following types of apparatus as you deem appropriate:

- structured apparatus consisting of tens and units for each group working at the same table. This must be available in sufficient quantity to allow children to select as much or as little as they wish
- a number line, showing numbers 0 to 30, for each child
- a hundred square numbered 1 to 100 for each child.

Please note:

No other support materials should be given to the children taking the level 2 test, for example clocks or clock faces, addition squares, multiplication squares, calculators or any representation of money (toy or real).

Wall displays such as tables charts should be covered or removed. However, it is not necessary to remove wall clocks or cover number lines or number squares for the administration of the level 2 test.

Number apparatus must be structured into tens and units (interlocking cubes in sticks of tens and ones, Dienes tens and ones, etc) to discourage unhelpful counting in ones rather than use of tens where appropriate. If interlocking cubes are used, each rod of ten cubes should be made up of one colour only. At least two different colours of rods should be provided. In this way, children can identify a group of ten easily as they calculate. However, you should not intervene if a child dismantles the structured tens when working.

Advance preparation

To help children with the reading, you may write any words from the test on the board and briefly check that children can recognise them, but you should not explain their meaning. For this test these words may include: *answer*, *correct*, *altogether*, *square*, *lengths*, *models*, *between*, *graph*, *double*, *sentences*, *curves*, *corners*, *object*, *estimate* and *amounts*. Remind the children that you may help them with reading during the test.

Administering the test fairly

In order to ensure that the test is administered fairly in different classrooms, it is important that all teachers behave in a similar way while the test is in progress.

THEREFORE YOU MUST:

- ensure that children can work undisturbed, individually and without access to materials that could give them an unfair advantage. Changes to the usual classroom layout may be necessary. It is important that you decide on seating arrangements before the start of the test in order to ensure that children cannot see each other's work
- ensure that the children work on their own and do not discuss questions or copy answers. Some teachers have found one or more of the following strategies helpful to ensure that children cannot see each other's work: seating children at the ends of tables; seating children individually in a larger space; providing a blank sheet of paper to cover completed work on the open page; using large picture books, etc to create table screening between children
- observe the children throughout the test to ensure that they do not copy or distract each other
- ensure that wall displays, etc in the classroom do not give children an unfair advantage
- encourage the children to stay on task and to work at an appropriate pace, moving on to the next question promptly when it is clear that they cannot spend any more time productively on the question they are working on
- encourage children to check their work carefully when they have finished.

DO NOT:

- give help with the mathematics as this will invalidate the assessment
- re-present questions on addition or subtraction vertically when they are presented horizontally in the test booklet
- suggest to the children the mathematical operation to use
- give clues which help the children to interpret what any question requires them to do
- rephrase or rewrite any questions except where indicated in *Assistance* for the written questions
- prompt children to confirm or change answers by pointing, frowning, smiling, head shaking or nodding, offering rubbers, or asking leading questions.

Teachers of children learning English as an additional language or with special educational needs should refer to the further guidance on pages 8–12 of this guide.

Starting the test

Give each child a level 2 test booklet and make sure they have the resources they need. Ask the children to write their name in the space provided on the front of the booklet and introduce the test in your own words, making sure you cover the points outlined in 'Introducing the characters in the booklet' (below), 'Introducing the level 2 oral questions' (page 16) and 'Introducing the level 2 written questions' (page 20) at the appropriate times. To ensure that the testing is carried out in a standard way in all schools, it is important that your introduction does not exceed this information.

Introducing the characters in the booklet

Ask the children to open their booklet. Introduce the characters in the test booklet to the children. Read the names with the children to ensure that they will recognise them when they meet them in the booklet.

Explain that some other children may also be mentioned in the test.

Ask the children to close their booklets while you introduce the level 2 oral questions.

The two characters remove the need for children to read a variety of unfamiliar names in the test.

Introducing the level 2 oral questions

These questions will be read aloud by you. Guidance on what to say to the children is given below.

The first question is a practice question. It is not part of the assessment so you may help the children to understand the format, what they should do and where they should write their answer.

Children are allowed to use space on the test paper for working out their answers if necessary.

There is no time limit on each question, so the length of time taken will depend on the speed at which the children work. Proceed from one question to the next when you feel that all the children have had ample opportunity to work out the answer.

The text to be read aloud is shown in italics in the next section, 'Working through the level 2 oral questions'. The questions themselves are shown in bold italics. The language highlighted in bold text is part of the assessment, and **you should not rephrase it or give explanations of terms used**.

Tell the children:

- *I will read aloud some questions for you to answer.*
- I will read each question twice, leaving a short gap in between.
- If you want to hear the question a third time, put up your hand.
- You must listen very carefully when I read the questions.
- The first question is a practice question which we will all do together.
- *I will explain how to write answers to each question.*
- You will have plenty of time to work out the answers.
- You must work on your own and you must not call out the answers.
- If you make a mistake, cross it out / rub it out* neatly and write the answer clearly [*as appropriate].
- When you have finished answering a question, look up so that I know you have finished.

Working through the level 2 oral questions

Ask the children to open their booklet.

Explain:

- The boxes are for you to write your answers in.
- The letters below each box show you which box to use for each question.
- You can do any working out in the white spaces around the boxes if you need to.

Where necessary, you can show the children how to draw a tick, cross, etc.

Remember to repeat the question. Repeat the *bold text* only.

Practice question

Teacher:

This is a practice question for us to do together.
Find box a.
[Help with locating the box where necessary.]
Listen to this sequence:
nine, eight, seven, six.
What number comes next?

Write the number in box a.

Afterwards, ensure that the children know the number they should have written, and discuss methods the children used to work out the answer. Allow the children to change their answers to the correct one by crossing out or rubbing out, to make sure they know the way to correct errors.

Practice guestion	
	a

Question 1

Teacher:

Find box b.

Listen to this sequence: one hundred, ninety, eighty, seventy. [Clearly emphasise 90, 80 and 70 to avoid confusion with 19, 18 and 17.] What number comes next?

Write the number in box b.

Question 2

Teacher:

Turn over the page and look at the two grids. Now look at the top grid. Abi puts some counters on this grid. She wants to make a line of four counters. She has one counter left. Where could she put it? Draw the counter where she could put it.

When the children have finished read the next part of the question.

Now look at the bottom grid. It is another picture of Abi's grid. Find a different way that she could make a line of four counters. Draw the counter where she could put it.

Question 3

Teacher:

Look at the next page. Find box c. January is the first month in the year. What is the fourth month in the year?

Write your answer in box c.

Question 4

Teacher:

Find box d. What is eight less than twenty-eight?

Write your answer in box d.

Question 5

Teacher:

Find box e.

Ben has three coins. Altogether the coins make seventy-one pence. [Clearly emphasise seventy-one pence to avoid confusion with twenty-one pence.] Which three <u>coins</u> does Ben have?

Write your answer in box e.

Introducing the level 2 written questions

Ask the children to close their booklets and to listen carefully while you introduce the written questions. (Please note that if you are using the 'look and listen' method you will need to adapt the instructions in the first four bullet points.)

Tell the children:

- I will do one practice question with all of you, and then you will go on by yourselves.
- *Read each question, work out the answer and then write it in the space provided in the booklet.*
- Always read what you are asked to do. Don't guess.
- You can have help with reading questions, but can't have help with working out answers. If you need help with reading, put up your hand but don't call out.
- [Optional] *These are some of the harder words in the test. We will read them together now.* [You may read any of the words on display as detailed on page 14 but do not explain these words in any way. You may read them again for any child as necessary during the test.]
- There is plenty of space in the booklet, which you can use for working out, writing or drawing your answers.
- If you are asked to show how you work something out, write or draw how you got your answer since you can get a mark for doing that.
- You may use any of the apparatus that I have provided (see page 13).
 [If rods of ten interlocking cubes are provided, you may remind children that they are rods of ten.]
- If you make a mistake, you should change your answer by crossing/rubbing* it out [*as appropriate].
- Some questions are harder than others; if you cannot do one question, go on to the next one, which might be easier; go back to the harder ones later if you wish. You may not be able to complete all the questions, but do as many as you can.
- Take as long as you need to finish all the questions you can do.
- When you have done all you can, check your answers.
- Don't discuss the questions with anyone or copy answers.

Practice question Write the answer. 5 + 6 =

Working through the level 2 written questions

- Ask the children to turn to page 6 of their booklets and find the practice question.
- Help the children to work through the practice question. Allow them to answer the question before you discuss it.
- The practice question is not part of the test; you can spend as much time as you like helping the children to understand the format, what they should do and where they should write their answer.
- Ask the children to start working on their own from question 6, unless you are reading the questions with the children.
- You can stop the testing whenever you judge it necessary, for example if you feel a child is becoming too unsettled or has done as much as possible.

Assisting children with the written questions

Reading the written questions

You may read the test to groups of children using the 'look and listen' method outlined on page 7.

If you choose for children to work independently through the test, you should give help with reading words as necessary, and you may also read numbers included in sentences and scales on graphs. In general, you should not read numbers or symbols within calculations, for example '25 + 13 ='. You should not explain the wording of the questions in any way except to rephrase as permitted in *Assistance for the written questions*. In these circumstances, you may need to be aware of more fluent readers who do not ask for the help they need to read unfamiliar words.

Rephrasing the written questions

There should be no written adaptations of the text. However, some words in the test may be rephrased or explained if these are not familiar to the children and where these are not mathematical terms and therefore not part of what is being tested. It is very important not to exceed the permissible support.

Other assistance

Apart from the guidance described above and in *Assistance for the written questions* no other assistance is allowed.

Marking the level 2 test

General guidance

When the children have completed the test, mark each answer right or wrong. The mark scheme helps you to identify the appropriate answers and tells you how many marks to allocate to each answer. Mark boxes have been provided in the margin of the test booklet, beside each question. For consistency, it is recommended that you enter 1 (mark awarded), 0 (question attempted but mark not awarded) or '-' (question not attempted) in each mark box. These codes correspond with those used on the optional grid for test analysis. In addition, a box has been provided at the bottom right-hand side of each double-page spread to enter the total marks the child obtains for the set of questions that appear on the two pages. This is to help you be accurate and efficient when totalling marks, but its use is optional.

The symbol '•' is used in the *Additional guidance* column in the mark scheme to indicate where you should pay particular attention to the mark scheme. Responses indicated in this way are those which were most likely to be marked incorrectly during earlier trials of the tests.

Questions with a *Using and applying mathematics* element are identified in the mark scheme by an encircled U with a number that indicates the significance of *Using and applying mathematics* in answering the question. The 'U number' for a two-mark question might be U1 or U2. A one-mark question might also have U1. For example, in a question with two marks, U2 would indicate great significance, while U1 would indicate some significance.

If a child has altered an answer or the answer is not clear, try to establish his or her final intention. You may occasionally need to talk with children individually to check this. Be sure to use open questions that do not suggest the required answer.

Any numeric answer is acceptable in word or number form unless otherwise stated.

Possible issues when marking

The child reverses a digit when recording	A reversed digit is acceptable if it is clearly recognisable as the digit intended; for example, a reversed 2 must clearly show the characteristics of a 2 rather than a 5.
The child writes a transposed number as the answer	Transposed numbers should not be awarded the mark; for example, an answer of '16' when the correct answer is '61' should not be marked as correct.
The child's response is numerically equivalent to the answer in the mark scheme	The mark scheme will generally specify which equivalent responses are allowed. If this is not the case, award the mark unless the mark scheme states otherwise.
The child's answer is correct but the wrong working is shown	Always award the mark(s) for a correct response unless the mark scheme states otherwise.
The correct response has been crossed (or rubbed) out and not replaced	Mark, according to the mark scheme, any legible crossed out work that has not been replaced. If the work has been replaced, then do not consider the crossed out work.
The child has worked out the answer correctly and then written an incorrect answer in the answer box	Give precedence to the answer given in the answer box over any other workings. However, there may be cases where the incorrect answer is due to a transcription error, in which case you may check the child's intention and decide whether to award the mark.
More than one answer is given	If all answers given are correct (or a range of answers is given, all of which are correct), award the mark unless the mark scheme states otherwise. If both correct and incorrect responses are given, do not award the mark unless the mark scheme states otherwise.
The child's response does not match closely any of the examples given in the mark scheme	Judge whether the response corresponds with the requirements in the <i>Answer</i> column of the mark scheme. Refer also to the <i>Additional guidance</i> column and to the <i>Examples of responses</i> (where appropriate).
There appears to be a misread of numbers affecting the working	In general, the mark should not be awarded. However, in two-mark questions that have a working mark, award one mark if the working is applied correctly using the misread numbers, provided that the misread numbers are comparable in difficulty to the original numbers. For example, if '243' is misread as '234', both numbers may be regarded as comparable in difficulty.
No answer is given in the expected place, but the correct answer is given elsewhere	Where a child has shown understanding of the question, award the mark. In particular, where a word or number response is expected, a child may meet the requirement by annotating a graph or labelling a diagram elsewhere in the question.
The child's answer correctly follows through from earlier incorrect work	'Follow-through' marks may be awarded only when specifically stated in the mark scheme.

Mark scheme for the level 2 test

Oral

Question	1	Answer	Mark	Additional guidance
Practice	5	5	none	
1	6	60	1	
U1) 2		Draws a counter on the top grid in one of the three possible correct squares as shown:	1	Accept any other clear way of indicating the correct squares. Accept two or more squares correctly indicated on either grid, provided that it is clear that the correct ones only are the child's final choice. At least two of the three correct squares must be indicated for the award of the mark.
3	ŀ	April	1	Accept any reasonable spelling.
4	2	20	1	
5	١	Writes 50(p), 20(p) and 1(p) in any order.	1	

Written

Question	Answer	Mark	Additional guidance
Practice	11	none	
6	12	1	
7	10	1	
8	Numbers written in correct sets as shown:	1	All three numbers must be correctly positioned for the award of the mark. Do not accept 15, 18 or 14 written in more than one set. Ignore other numbers written correctly or incorrectly in the sets.

Question	Answer	Mark	Additional guidance
9	Ticks bottom right shape as shown:	1	Accept any other clear way of indicating the correct shape. Do not award the mark if extra shapes are indicated unless it is clear that the correct shape is the child's final choice.
10	Writes 4, 8 and 3 in any order to create an addition, eg 4 + 8 + 3 = 15 or 8 + 3 + 4 or 4 + 8 = 12 + 3 = 15	1	 Accept a correct addition without an answer or with an incorrect answer. Accept any of the following: partially complete additions, ie 12 + 3, 11 + 4 or 7 + 8 a given number split into two new numbers, eg 2 + 2 + 8 + 3 tallies used with symbols, eg IIII + IIIIIIII + III Do not accept the answer 15 given without an addition.
11	14 (seeds)	1	
12	Ticks rabbit on far left or far right column of third row as shown:	1	Award the mark if both rabbits are ticked. Accept any other clear way of indicating a rabbit. Do not award the mark if extra animals are indicated, unless it is clear that a rabbit is the child's final choice.
13	4 (sets)	1	Do not accept four sets circled without a correct answer in the answer box.

Question	Answer		Mark	Additional guidance
14	Ticks on upper ri as shown:	ght and lower left models	1	Accept any other clear way of indicating the correct models.
		1		Accept lengths written next to the models, without any ticks, provided the correct two models are the only models with the same length.
				Do not award the mark if extra models are indicated unless it is clear that the correct models are the child's final choice.
15	73		1	
16	Writes numbers sentences correct	in the boxes to make the t:	1	Both sentences must be correct for the award of the mark.
	Middle sentend such that one is less than 37, eg	e: Any pair of numbers more than 37 and one is 38 and 36 or 1 and 1000		For the middle sentence, you may accept fractions and decimals.
	Bottom senten	ce: 3		
17	10 (buttons)		1	
18	Tick by 0		1	Accept any other clear way of indicating the correct number.
				Do not award the mark if extra numbers are indicated unless it is clear that the correct number is the child's final choice.

Question	Answer	Mark	Additional guidance
U1 19	Tick on lower left bag of sweets as shown:	1	Accept any other clear way of indicating the correct bag. Do not award the mark if extra bags are indicated unless it is clear that the correct bag is the child's final choice.
20	5 (packets)	1	
21	Writes correct numbers in the boxes as shown: Half of 12 is 6 Double 12 is 24	1	Both numbers must be correct for the award of the mark.
22	Completes all four calculations correctly, using the numbers 46 and 54 as shown: 8 + 46 = 54 $46 + 8 = 54$ $54 - 8 = 46$ $54 - 46 = 8$	2 OR	Award both marks for the correct answer by entering 1 in each mark box.
	Completes three out of four calculations correctly.	1	If one mark is awarded, enter 1 then 0 in the mark boxes.
23	Ticks by 2 nd and 3 rd sentences as shown: A cube has curved faces .	1	Accept any other clear way of indicating the correct sentences. Do not award the mark if extra sentences
	A cube has 6 faces . \checkmark A cube has more than 6 corners . \checkmark		are indicated unless it is clear that the correct sentences are the child's final choice.

Question	Answer	Mark	Additional guidance
U1) 24	41 and a complete and viable method.	2 OR	Award both marks for the correct answer and method by entering 1 in each mark box. • For this question, a child must record a complete and viable method, along with the correct answer, for the award of two marks. This is because the main focus of the question is recording a viable method, rather than reaching the correct answer.
	 This mark may be awarded for: 41 without a method, or with an incorrect or incomplete method. or a wrong answer with a complete method which, without arithmetical errors, would give the correct answer. Use the examples of acceptable and unacceptable responses given on pages 30 and 31 to help you make your decision. 	1	If one mark is awarded, enter 1 then 0 in the mark boxes. One mark may be awarded to children who have failed to record the correct answer, provided they have demonstrated a complete and viable method for subtracting 16 from 57. (This might be numerals, signs, words, diagrams or any mixture of these.)
25a	pencil	1	Accept 15, with or without cm.
25b	18 (cm)	1	
U1) 26	Writes all three amounts in any order as shown: 70 p 60 p 30 p	1	All three amounts must be correct for the award of the mark.
(U1) 27	Accept answers in the range 14 to 18 (sticks) inclusive.	1	Do not accept 12.

Maximum 30 marks

Examples of responses from question 24

These examples should be used in conjunction with the guidance in the mark scheme.

Correct method

Incorrect method

Thomas has recognised that the '-' sign represents 'take away'. Although his answer is incorrect he has demonstrated sufficient understanding of the need to subtract 16 from 57. He can therefore be awarded one mark for a correct method. Hannah has merely restated the given subtraction. Hannah can be awarded one mark for the correct answer, but cannot be awarded the second mark since her method gives insufficient detail.



Bethany has drawn a number line; she started at 57 and used jumps to count back a total of 16. This is a complete and viable method and can therefore be awarded one mark. In addition, Bethany can be awarded the second mark for a correct answer. Lewis has also drawn a number line. He has recorded 57 at one end and 16 at the other. He has started at 57 and recorded jumps of 10, but he has not shown how these jumps reach 16. Therefore his method is not complete and cannot be awarded a mark. He can be awarded one mark for the correct answer.



Rajesh has drawn 57 dots, then circled 16 of them and counted the remainder. He made an arithmetical error in counting the remaining dots to reach an incorrect answer. Although this is an inefficient method it is nevertheless complete and viable and Rajesh can be awarded one mark. He cannot be awarded the second mark since his answer is incorrect. Rebecca has drawn a picture of herself working out the answer. Although she has recorded 16 in a thought bubble we do not know what she did with it, therefore her method is incomplete and cannot be awarded a mark. However, she can be awarded one mark for the correct answer.





Examples of responses from question 24 – continued

Correct method

Incorrect method

Neela has used partitioning to subtract the tens and the units separately. Although she has not recorded the second stage of her method we can assume she added these answers since her final answer is correct. Neela has used a complete and viable method to reach a correct answer so can be awarded two marks. Jacob has also used partitioning to subtract first the tens and then the units. However, he has subtracted, rather than added, these answers. Jacob cannot be awarded any marks since his method is not viable and he has given an incorrect answer.



Jack has described a method of taking 16 from 57, by first taking away 10 and then six. Jack can be awarded two marks for describing a complete and viable method and giving a correct answer. Sabina has begun by describing how she took 10 away from 50. However, she proceeded incorrectly to add both units. She cannot be awarded any marks as her method is not viable and her answer is incorrect.



Kayleigh has described how she used her 100 square. She started at 57 then went up one row to subtract 10. She then went across six to subtract six. We can assume that she correctly moved left for her second move, since otherwise she would have gone off the edge of the grid. Although Kayleigh's answer is incorrect, she can be awarded one mark for describing a complete and viable method. Joe has drawn a 100 square and has drawn circles to show how he counted back. While this is an inefficient and time-consuming method, Joe could have been awarded the mark if he had not included 57 when counting back 16. However, given this error, his method is not correct and cannot be awarded a mark. Since his answer is also incorrect, he cannot be awarded any marks.





Finding the level

Add up each child's total score for the test out of the maximum of 30 marks (not including the practice questions), and write this total in the box marked 'Score' on the front of the child's test booklet. Then refer to the table below to find the level and grade, and enter this on the front of the booklet in the box marked 'Level and grade'. This information will then be available to transfer onto any recording or reporting document.

Evidence shows that it is easy to make careless slips in adding up total scores, and these slips could disadvantage the child. Particular attention should be paid to two-mark questions and those instances where two marks should be awarded for recording a correct answer only. Thorough checking and rechecking are, therefore, strongly recommended.

If a child achieves level 2A in this test you may enter him or her for the level 3 test, although you do not have to. You should use your judgement to decide whether it is appropriate to enter children who have only just been awarded level 2A for the level 3 test.



Administering the level 3 test

Resources

This test is designed for children working at level 3.

For both the oral and written questions, each child will need:

- a copy of the level 3 test booklet
- a pen or pencil
- a ruler with which they are familiar. It is assumed that children working at level 3 will have experience of rulers graduated in half-centimetres
- a mirror
- a rubber (optional). You may obtain more useful diagnostic information if you encourage your children to leave their working out on the page and to cross out their mistakes rather than rubbing them out. If rubbers are not provided:
 - you should tell children that they may cross out any answers they wish to change
 - you should keep a rubber in readiness for children who wish to change answers they have drawn (such as lines or shapes) where changes may be clearer by rubbing out rather than crossing out.

Please note:

No other support materials should be given to the children taking the level 3 test, for example number lines, hundred squares, structured apparatus consisting of tens and units, clocks or clock faces, addition squares, multiplication squares, calculators or any representation of money (toy or real).

Wall displays such as tables charts, number lines or number squares should be covered or removed. However, it is not necessary to remove wall clocks.

Advance preparation

To help children with the reading, you may write any words from the test on the board and briefly check that children can recognise them, but you should not explain their meaning. For this test these words may include: *signs, correct, diagram, multiple, weight, exactly, smallest, answer, square, altogether, graph, pieces, through, height, metre, divided, equal, fraction, sequence, continues, litres* and *reflection.* Remind the children that you may help them with reading during the test.

Number apparatus, number lines or hundred squares are **not** allowed for use with this test.

Administering the test fairly

In order to ensure that the test is administered fairly in different classrooms, it is important that all teachers behave in a similar way while the test is in progress.

THEREFORE YOU MUST:

- ensure that children can work undisturbed, individually and without access to materials that could give them an unfair advantage. Changes to the usual classroom layout may be necessary. It is important that you decide on seating arrangements before the start of the test, in order to ensure that children cannot see each other's work
- ensure that the children work on their own and do not discuss questions or copy answers. Some teachers have found one or more of the following strategies helpful to ensure that children cannot see each other's work: seating children at the ends of tables; seating children individually in a larger space; providing a blank sheet of paper to cover completed work on the open page; using large picture books, etc to create table screening between children
- observe the children throughout the test to ensure that they do not copy or distract each other
- ensure that wall displays, etc in the classroom do not give children an unfair advantage
- encourage the children to stay on task and to work at an appropriate pace, moving on to the next question promptly when it is clear that they cannot spend any more time productively on the question they are working on
- encourage children to check their work carefully when they have finished.

DO NOT:

- give help with the mathematics as this will invalidate the assessment
- re-present questions on addition or subtraction vertically when they are presented horizontally in the test booklet
- suggest to the children the mathematical operation to use
- give clues which help the children to interpret what any question requires them to do
- rephrase or rewrite any questions except where indicated in *Assistance* for the written questions
- prompt children to confirm or change answers by pointing, frowning, smiling, head shaking or nodding, offering rubbers, or asking leading questions.

Teachers of children learning English as an additional language or with special educational needs should refer to the further guidance on pages 8–12 of this guide.

Starting the test

Give each child a level 3 test booklet and make sure they have the resources they need. Ask the children to write their name in the space provided on the front of the booklet and introduce the test in your own words, making sure you cover the points outlined in 'Introducing the characters in the booklet' and 'Introducing the level 3 oral questions' (below) then in 'Introducing the level 3 written questions' (page 39) at the appropriate times. To ensure that the testing is carried out in a standard way in all schools, it is important that your introduction does not exceed this information.

Introducing the characters in the booklet

Ask the children to open their booklet. Introduce the characters in the test booklet to the children. Read the names with the children to ensure that they will recognise them when they meet them in the booklet.

Explain that some other children may also be mentioned in the test.

Ask the children to close their booklets while you introduce the level 3 oral questions.

Introducing the level 3 oral questions

These questions will be read aloud by you. Guidance on what to say to the children is given on the next page.

The first question is a practice question. It is not part of the assessment so you may help the children to understand the format, what they should do and where they should write their answer.

Children are allowed to use space on the test paper for working out their answers if necessary.

There is no time limit on each question, so the length of time taken will depend on the speed at which the children work. Proceed from one question to the next when you feel that all the children have had ample opportunity to work out the answer.

The text to be read aloud is shown in italics in the next section, 'Working through the level 3 oral questions'. The questions themselves are shown in bold italics. The language highlighted in bold text is part of the assessment, and **you should not rephrase it or give explanations of terms used**.

The two characters remove the need for children to read a variety of unfamiliar names in the test.

Tell the children:

- *I will read aloud some questions for you to answer.*
- *I will read each question twice, leaving a short gap in between.*
- If you want to hear the question a third time, put up your hand.
- You must listen very carefully when I read the questions.
- The first question is a practice question which we will all do together.
- *I will explain how to write answers to each question.*
- You will have plenty of time to work out the answers.
- You must work on your own and you must not call out the answers.
- If you make a mistake, cross it out / rub it out* neatly and write the answer clearly [*as appropriate].
- When you have finished answering a question, look up so that I know you have finished.

Working through the level 3 oral questions

Ask the children to open their booklet.

Explain:

- The boxes are for you to write your answers in.
- The letters below each box show you which box to use for each question.
- You can do any working out in the white spaces around the boxes if you need to.

Where necessary, you can show the children how to draw a tick, cross, etc.

Remember to repeat the question. Repeat the *bold text* only.

This is a practice question for us to do together.

[Help with locating the box where necessary.]

Practice question

Find box a.

Teacher:

Practice guestion
α

Write your answer in box a.

Add ten and twelve.

Afterwards, ensure that children know the number they should have written, and discuss methods the children used to work out the answer. Allow children to change their answers to the correct one by crossing out or rubbing out, to make sure they know the way to correct errors.

Question 1

Find box b.

Teacher:

Add ten and ninety-seven.

[Clearly emphasise ninety-seven to avoid confusion with twenty-seven.]

Write your answer in box b.

Question 2

Teacher:

Turn over the page. Find box c. Start with the number eighteen.[Clearly emphasise eighteen to avoid confusion with eighty.] *Double it and then add ten.*

Write your answer in box c.

Level 3

Question 3

Teacher:

Look at the shape names in box d. They say: square, hexagon, rectangle, pentagon, octagon. One of these shapes has exactly two more sides than a triangle. Tick the correct shape.

Question 4

Teacher:

Look at the next page. Find box e. Round four hundred and sixty-two to the nearest ten.

Write your answer in box e.

Question 5

Teacher:

Look at the clocks. Tara gets home at twenty-five minutes to four. Tick the clock that shows when Tara gets home.

Introducing the level 3 written questions

Ask the children to close their booklets and to listen carefully while you introduce the written questions.

Tell the children:

- I will do one practice question with all of you, and then you will go on by yourselves.
- *Read each question, work out the answer and then write it in the space provided in the booklet.*
- Always read what you are asked to do. Don't guess.
- You can have help with reading questions, but you can't have help with working out answers. If you need help with reading, put up your hand but don't call out.
- [Optional] These are some of the harder words in the test. We will read them together now. [You may read any of the words on display as detailed on page 33 but do not explain these words in any way. You may read them again for any child as necessary during the test.]
- There is plenty of space in the booklet, which you can use for working out, writing or drawing your answers.
- If you are asked to show how you work something out, write or draw how you got your answer since you can get a mark for doing that.
- You may use the ruler and mirror that I have provided (see page 33).
- If you make a mistake, you should change your answer by crossing/rubbing* it out [*as appropriate].
- Some questions are harder than others; if you cannot do one question, go on to the next one, which might be easier; go back to the harder ones later if you wish. You may not be able to complete all the questions, but do as many as you can.
- Take as long as you need to finish all the questions you can do.
- When you have done all you can, check your answers.
- Don't discuss the questions with anyone or copy answers.



Working through the level 3 written questions

- Ask the children to turn to page 6 of their booklets and find the practice question.
- Help the children to work through the practice question. Allow them to answer the question before you discuss it.
- The practice question is not part of the test; you can spend as much time as you like helping the children to understand the format, what they should do and where they should write their answer.
- Ask the children to start working on their own from question 6, unless you are reading the questions with the children.
- You can stop the testing whenever you judge it necessary, for example if you
 feel a child is becoming too unsettled or has done as much as possible.

Assisting children with the written questions

Reading the written questions

You may read the test to groups of children using the 'look and listen' method outlined on page 7.

If you choose for children to work independently through the test, you should give help with reading words as necessary, and you may also read numbers included in sentences and scales on graphs. In general, you should not read numbers or symbols within calculations, for example '25 + 13 ='. You should not explain the wording of the questions in any way except to rephrase as permitted in *Assistance for the written questions*. In these circumstances, you may need to be aware of more fluent readers who do not ask for the help they need to read unfamiliar words.

Rephrasing the written questions

There should be no written adaptations of the text. However, some words in the test may be rephrased or explained if these are not familiar to the children and where these are not mathematical terms and therefore not part of what is being tested. It is very important not to exceed the permissible support.

Other assistance

Apart from the guidance described above and in *Assistance for the written questions* no other assistance is allowed.

Marking the level 3 test

General guidance

When the children have completed the test, mark each answer right or wrong. The mark scheme helps you to identify the appropriate answers and tells you how many marks to allocate to each answer. Mark boxes have been provided in the margin of the test booklet, beside each question. For consistency, it is recommended that you enter 1 (mark awarded), 0 (question attempted but mark not awarded) or '-' (question not attempted) in each mark box. These codes correspond with those used on the optional grid for test analysis. In addition, a box has been provided at the bottom right-hand side of each double-page spread to enter the total marks the child obtains for the set of questions that appear on the two pages. This is to help you be accurate and efficient when totalling marks, but its use is optional.

The symbol '•' is used in the *Additional guidance* column in the mark scheme to indicate where you should pay particular attention to the mark scheme. Responses indicated in this way are those which were most likely to be marked incorrectly during earlier trials of the tests.

Questions with a *Using and applying mathematics* element are identified in the mark scheme by an encircled U with a number that indicates the significance of *Using and applying mathematics* in answering the question. The 'U number' for a two-mark question might be U1 or U2. A one-mark question might also have U1. For example, in a question with two marks, U2 would indicate great significance, while U1 would indicate some significance.

If a child has altered an answer or the answer is not clear, try to establish his or her final intention. You may occasionally need to talk with children individually to check this. Be sure to use open questions that do not suggest the required answer.

Any numeric answer is acceptable in word or number form unless otherwise stated.

Possible issues when marking

The child reverses a digit when recording	A reversed digit is acceptable if it is clearly recognisable as the digit intended; for example, a reversed 2 must clearly show the characteristics of a 2 rather than a 5.
The child writes a transposed number as the answer	Transposed numbers should not be awarded the mark; for example, an answer of '16' when the correct answer is '61' should not be marked as correct.
The child's response is numerically equivalent to the answer in the mark scheme	The mark scheme will generally specify which equivalent responses are allowed. If this is not the case, award the mark unless the mark scheme states otherwise.
The child's answer is correct but the wrong working is shown	Always award the mark for a correct response unless the mark scheme states otherwise.
The correct response has been crossed (or rubbed) out and not replaced	Mark, according to the mark scheme, any legible crossed out work that has not been replaced. If the work has been replaced, then do not consider the crossed out work.
The child has worked out the answer correctly and then written an incorrect answer in the answer box	Give precedence to the answer given in the answer box over any other workings. However, there may be cases where the incorrect answer is due to a transcription error, in which case you may check the child's intention and decide whether to award the mark.
More than one answer is given	If all answers given are correct (or a range of answers is given, all of which are correct), award the mark unless the mark scheme states otherwise. If both correct and incorrect responses are given, do not award the mark unless the mark scheme states otherwise.
The child's response does not match closely any of the examples given in the mark scheme	Judge whether the response corresponds with the requirements in the <i>Answer</i> column of the mark scheme. Refer also to the <i>Additional guidance</i> column and to the <i>Examples of responses</i> (where appropriate).
There appears to be a misread of numbers affecting the working	In general, the mark should not be awarded. However, in two-mark questions that have a working mark, award one mark if the working is applied correctly using the misread numbers, provided that the misread numbers are comparable in difficulty to the original numbers. For example, if '243' is misread as '234', both numbers may be regarded as comparable in difficulty.
No answer is given in the expected place, but the correct answer is given elsewhere	Where a child has shown understanding of the question, award the mark. In particular, where a word or number response is expected, a child may meet the requirement by annotating a graph or labelling a diagram elsewhere in the question.
The child's answer correctly follows through from earlier incorrect work	'Follow-through' marks may be awarded only when specifically stated in the mark scheme.

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Mark scheme for the level 3 test

Oral



Answer	Mark	Additional guidance
22	none	
107	1	
46	1	
Shape name ticked as shown:	1	Accept any other clear way of indicating the correct shape name
square hexagon rectangle		Do not award the mark if more than one shape name is indicated unless it is clear that the correct shape name is the child's final choice.
pentagon ✔ octagon		
460	1	
Tick by bottom left as shown: $ \begin{array}{c} $	1	Accept any other clear way of indicating the correct clock. Do not award the mark if more than one clock has been indicated unless it is clear that the correct clock is the child's final choice.

Level 3

Written

Question	Answer	Mark	Additional guidance
Practice	Calculation completed correctly as shown: 30 - 20 = 10	none	
6	Both calculations completed correctly as shown: $3 \div 3 = 1$ $3 \bigstar 3 = 9$	1	Both calculations must be completed correctly for the award of the mark.
7	All three numbers positioned in the correct boxes as shown: 45 20 53 46	1	All three numbers must be positioned correctly for the award of the mark. Do not award the mark if any of the given numbers are written in more than one box. Ignore any other numbers written in the boxes.
8	250 (grams)	1	

Question	Answei		Mark	Additional guidance
9	104		1	
10	First cald shown: or and second of shown:	ulation completed correctly as $5 \times 12 = 60$ $12 \times 5 = 60$ calculation completed correctly as $60 \div 12 = 5$	1	Both calculations must be completed correctly for the award of the mark. Do not award the mark if either calculation has been completed using numbers that are different to those given in the question.
11	Ticks dra three 20	$60 \div 5 = 12$ wn on: p coins	1	Accept any clear way of indicating the correct combination of coins.
	one 10p one 2p o	coin oin		Do not award the mark for a different combination of coins that total 72p.

Question	Answer	Mark	Additional guidance
U1 12	80 and a complete and correct method.	2 OR	Award both marks for the correct answer and method by entering 1 in each mark box. • For this question, a child must record a complete and viable method, along with the correct answer, for the award of two marks. This is because the main focus of the question is recording a viable method, rather than reaching the correct answer.
	 This mark may be awarded for: 80 without a method, or with an incorrect or incomplete method. or a wrong answer with a complete method which, without arithmetical errors, would give the correct answer. Use the examples of acceptable and unacceptable responses given on pages 50 and 51 to help you make your decision. 	1	If one mark is awarded, enter 1 then 0 in the mark boxes. One mark may be awarded to children who have failed to record the correct answer, provided they have demonstrated a complete and viable method for multiplying 16 and 5. (This might be numerals, signs, words, diagrams or any mixture of these.)
13	B4 and C4 in either order.	1	Both grid references must be correct for the award of the mark. Do not award the mark if 4B or 4C are given.
14	16 (books)	1	-
15	5 (packs)	1	Do not award the mark for answers of 4, 4 and a bit, 4 remainder 4, or equivalent.
16a	10	1	
16b	Four intervals shaded, to show 20, in the column for cows: $u^{25} = \frac{1}{20} + \frac{1}{10} + \frac{1}{10$	1	Accept slight inaccuracies in drawing, provided the child's intention is clear. Accept any clear indication of 20 on the bar chart, eg a horizontal line drawn at 20 in the space for the cows column, or a single vertical line stopping at 20.





Maximum 30 marks

Level 3

Examples of responses from question 12

These examples should be used in conjunction with the guidance in the mark scheme.

Correct method

Incorrect method

Chloe has provided a sufficient description of how to work out the multiplication with her use of the phrase 'lots of'. However, she made an arithmetical error when completing her calculation to reach an incorrect answer. Chloe can be awarded one mark for a complete and viable method, but she cannot be awarded the second mark since her answer is incorrect. Mohammed has not shown how to work out the multiplication since he has merely restated the given multiplication. Mohammed can be awarded one mark for the correct answer, but cannot be awarded the second mark since his method gives insufficient detail.



Thomas has used a repeated addition method. He recorded the correct number of fives, but made an arithmetical error in adding them to reach an incorrect answer. Thomas can be awarded one mark for a complete and viable method, but he cannot be awarded the second mark since his answer is incorrect. Emily has attempted to use a counting method. She has recorded five rows of lines but has not shown sufficient evidence that she intended to record 16 lines in each row. Emily can be awarded one mark for a correct answer, but cannot be awarded the second mark since her method is not complete.



Jasmine has started at zero on a number line and has counted on 16 lots of five. This is a complete and viable method. She can be awarded two marks since she has also recorded the correct answer. Daniel has also used a number line. He has counted up in fives and multiples of five. His number line shows the correct number of fives altogether. However, he chose to start at 16 rather than zero. Daniel cannot be awarded any marks since his method is not viable and he has not given the correct answer.



Examples of responses from question 12 – continued

Correct method

Incorrect method

Kian has used a pictorial method. While this is an inefficient method, he has recognised that a hand has five digits and that counting the digits on 16 hands will give the correct answer. Kian can be awarded two marks since he has recorded a complete and viable method along with the correct answer. Samuel has recognised that he could use the ×5 multiplication table. However, he has failed to provide a sufficient description of how he would do this. Samuel cannot be awarded any marks since his method fails to give sufficient detail and he has failed to give an answer.



Charlotte has partitioned the given multiplication into two separate multiplications, 5×10 and 5×6 . Although she has not recorded the second of these multiplications we can assume that she carried it out correctly, as she has then added the answers 50 and 30. Charlotte can be awarded two marks since she has used a complete and viable method and has given the correct answer. Lauren has recorded two additions, which both have 80 as their answer. However, she has failed to show how either of these additions relate to the given multiplication. Therefore Lauren's method is incomplete so cannot be awarded a mark. However, she can be awarded one mark for recording the correct answer.



Callum has chosen to work with sixteens. His method uses a mixture of multiplication and addition to find the total of five sixteens. Callum can be awarded two marks since he has recorded a complete and viable method and he has given the correct answer. Shannon has used a repeated addition method; she has started with 16 and has added four lots of 10. Shannon's method is incomplete since she has failed to add the remaining four lots of six. Shannon cannot be awarded any marks since her method is incomplete and she has given an incorrect answer.



Level 3

Examples of responses from question 17

These examples should be used in conjunction with the guidance in the mark scheme.

1 or 2 marks

0 or 1 marks

Benjamin can be awarded two marks for a correct answer, even though he has not recorded any method. This is because this question does not have a *Using and applying mathematics* mark for communicating a correct method. Ellie has recorded the same number as Benjamin but used incorrect notation. Even though she has not recorded a method we can assume that she used an appropriate mental method since she reached the correct numerical answer. Ellie can be awarded one mark despite the use of incorrect notation.



Leon has worked out the correct totals of 10p, 5p and 2p coins. Although he did not record the calculations to find the total for each coin value we can assume that he used viable mental methods since each answer was correct. He then attempted to add his totals, but made an arithmetical error to reach an incorrect final value. Leon can be awarded one mark for using a complete and viable method. Alisha has worked out the correct totals for the 5p and 2p coins. However, she only found the total for six of the 10p coins. Therefore her method is not correct and she cannot be awarded a mark.



Grace has recorded an addition that involves adding the correct amounts of coins. However, she made an arithmetical error in completing her addition to reach an incorrect final answer. Despite this error, Grace can be awarded one mark for a complete and viable method. Cameron has recognised the need to use all of the numbers in the table. However, it is unclear whether he intended to add or multiply the numbers to find the total value for each coin type. Cameron's method is not viable so he cannot be awarded a mark.



Examples of responses from question 17 – continued

1 mark

0 marks

Freya recorded all of the coins to be added in a single addition. However, she made an arithmetical error in adding up the coins to reach an incorrect final answer. Freya can be awarded one mark for a complete and viable method. Paolo added the 10p coins, then the 5p coins, and then the 2p coins, before adding his answers together. However, he only added three 2p coins, which means that his method is incorrect. Paolo cannot be awarded a mark.



Elena drew pictures of all of the coins that she needed to add. Although she has not added the coins, we can regard her method as complete since she has recorded the correct combination of coins. Elena can be awarded one mark for a complete and viable method. Holly recognised that she needed to add eight 10p coins. However, she became confused with the 5p and 2p coins to add 5p and then 4p. Holly's method is not correct, so she cannot be awarded a mark.



Joshua has recorded the correct amounts, eight tens, four fives and five twos, on a number line. However, he has made an arithmetical error in adding these numbers to reach an incorrect answer. Despite this error, Joshua's method is complete and viable so can be awarded one mark. Adam has not recognised the significance of the numbers in the right-hand column of the table. As a result he has added the coin values in the left-hand column and ignored the right-hand column. Adam's method is not viable or complete so cannot be awarded a mark.



Finding the level

Add up each child's total score for the test out of the maximum of (not including the practice questions), and write this total in the bo 'Score' on the front of the child's test booklet. Then refer to the tal find whether the level was achieved, and enter this on the front of in the box marked 'Level'. This information will then be available onto any recording or reporting document.											
Evidence shows that it is easy to make careless slips in adding up total sco and these slips could disadvantage the child. Particular attention should be paid to two-mark questions and those instances where two marks should be awarded for recording a correct answer only. Thorough checking and rechecking are, therefore, strongly recommended.											
If a child does not achieve level 3 in this test, and has not already been assessed at level 2, you may decide to enter him or her for the level 2 test although you do not have to.											
Number of marks	0–11	12–30									
Level	Level 3 not achieved	Level 3 achieved									

Age standardised scores

This section provides age standardised scores from the 2009 key stage 1 mathematics tests. The scores are for optional use, and you need only refer to this section if you wish. The purpose of the information set out here is to allow you to convert the child's actual score in the tests – the 'raw score' – to an age standardised score. Age standardised scores take into account the child's age in years and months, so you have an indication of how each child is performing relative to other children of the same age. However, age standardised scores will not affect the child's level of achievement in the national curriculum as awarded by the outcome of the tests.

The tables were calculated from the results of standardisation trials of each test with over 2,000 children in a nationally representative sample of schools. The information in the tables is specific to each test and cannot be used for any others.

Calculating age standardised scores

You will need each child's test score and age at the time of testing, in years and completed months. For example, a child born on 30 March 2002 and tested on 15 May 2009 would be 7 years and 1 month old.

Using the tables on pages 57 and 58 you can convert the raw test score into an age standardised score by:

- locating the child's age in years and completed months at the time the test was taken, along the top of the table
- locating the child's raw test score down the left side of the table
- reading off the standardised score from where the row and column meet.

The average standardised score is 100. A higher score is above average and a lower score is below average. About two-thirds of the children will have standardised scores of between 85 and 115. Almost all children fall within the range of 70 to 130, so scores outside this range can be regarded as exceptional.

Making use of age standardised scores

If you choose to find the age standardised scores, you may use this additional information about the children's performance in any way you wish.

For example:

• You may decide to inform parents about how a child's performance in the test related to his or her age at the time the test was taken, eg *a standardised score of 112 shows that the child's performance was above average for his or her age*.

- The progress made by a class or a school can be monitored from one year to the next. Age standardised scores can be calculated and reported for individual children. However, because of the nature of the scores and the fact they are statistical estimates (see confidence bands below), the scores are much more reliable when calculating for groups of children. In addition, if reported to parents, the fact that a child who is making typical progress from year to year will remain on a similar age standardised score will need to be explained.
- Similarly, standardised scores could be used to consider differences in performance between boys and girls, or between children who are learning English as an additional language and those who are not, in your school. (This will give you useful information only if the group is reasonably large; the average of just a few children is not a reliable indicator.)

National comparisons – using the shaded bands

The tables of standardised scores are divided into five shaded bands. These bands give an indication of how the scores relate to the national population. The band nearest the top of a table contains the scores that correspond to the lowest fifth of the population; the next band, the next fifth; and so on. If a child has a score in the final band, you know that his or her score is in the top 20 per cent nationally, once age has been taken into account. The level 3 test provides bands for the top three-fifths of the population only.

Low scores and high scores

Very low and very high standardised scores are printed in the table as ***. This means that they would be below the lowest score in the table or above the highest, but cannot be calculated with the necessary degree of statistical reliability. If an exact score is needed, for example to calculate an average for the class, the next score below or above should be used as appropriate for these children. For example, 97 or 141 should be used in the level 3 test.

Confidence bands

Any scores derived from a short test are subject to some margin of error. A margin of error does not mean children have been assessed incorrectly. It is simply a statistical estimate, based on the fact that tests can only sample the particular area of learning that they assess. To indicate how wide this margin of error is likely to be, a '90 per cent confidence band' has been calculated. This means that you can be 90 per cent sure that the child's true score lies within the confidence band. The 90 per cent confidence band is plus or minus 8 marks for the level 2 test and plus or minus 10 marks for the level 3 test. So, for example, if a child has a standardised score of 110 in the level 2 test, you can be 90 per cent certain that the true score is between 102 and 118.

	6.05	6.06	6.07	6.08	6.09	6.10	6.11	7.00	7.01	7.02	7.03	7.04	7.05	7.06	7.07	7.08	7.09	7.10	7.11
0	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
1	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3	76	76	75	75	74	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4	79	79	78	78	77	77	76	76	75	75	***	***	***	***	***	***	***	***	***
5	82	81	81	80	79	79	78	78	77	77	76	76	75	***	***	***	***	***	***
6	84	84	83	82	82	81	80	80	79	79	78	77	77	76	76	75	75	***	***
7	87	86	85	84	84	83	82	82	81	80	80	79	79	78	78	77	77	76	75
8	89	88	87	87	86	85	84	84	83	82	82	81	80	80	79	79	78	78	77
9	91	90	89	89	88	87	86	86	85	84	83	83	82	81	81	80	80	79	78
10	93	92	91	90	90	89	88	87	87	86	85	84	84	83	82	82	81	80	80
11	95	94	93	92	92	91	90	89	88	88	87	86	85	85	84	83	83	82	81
12	96	96	95	94	93	93	92	91	90	89	89	88	87	86	86	85	84	84	83
13	98	97	96	96	95	94	93	93	92	91	90	90	89	88	87	87	86	85	84
14	99	99	98	97	97	96	95	94	94	93	92	91	90	90	89	88	87	87	86
15	101	100	99	99	98	97	97	96	95	94	94	93	92	91	91	90	89	88	88
16	102	102	101	100	100	99	98	98	97	96	95	95	94	93	92	91	91	90	89
17	104	103	102	102	101	100	100	99	98	98	97	96	95	95	94	93	92	92	91
18	105	104	104	103	102	102	101	100	100	99	98	98	97	96	96	95	94	93	93
19	106	106	105	104	104	103	103	102	101	101	100	99	99	98	97	97	96	95	94
20	108	107	107	106	105	105	104	103	103	102	102	101	100	100	99	98	98	97	96
21	110	109	108	108	107	106	106	105	104	104	103	102	102	101	101	100	99	99	98
22	111	111	110	109	109	108	107	107	106	105	105	104	104	103	102	102	101	100	100
23	113	113	112	111	111	110	109	109	108	107	107	106	105	105	104	103	103	102	102
24	115	115	114	113	113	112	111	111	110	109	109	108	107	107	106	105	105	104	104
25	118	117	117	116	115	115	114	113	112	112	111	110	110	109	108	108	107	106	106
26	120	120	119	119	118	117	117	116	115	115	114	113	113	112	111	111	110	109	109
27	***	123	122	122	121	121	120	119	119	118	117	117	116	115	115	114	113	113	112
28	***	***	***	***	***	***	***	***	***	122	122	121	121	120	119	119	118	118	117
29	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
30	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Mathematics test – level 2

Age in years and months

Raw score

Very low and very high scores are printed in the table as ***. This means that they would be below 74 or above 123.

	6.05	6.06	6.07	6.08	6.09	6.10	6.11	7.00	7.01	7.02	7.03	7.04	7.05	7.06	7.07	7.08	7.09	7.10	7.11
0	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
1	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
2	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
3	98	98	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***
4	101	100	100	99	99	98	98	***	***	***	***	***	***	***	***	***	***	***	***
5	104	103	102	102	101	101	100	99	99	98	98	***	***	***	***	***	***	***	***
6	106	106	105	104	104	103	102	102	101	100	100	99	99	98	98	***	***	***	***
7	109	108	107	107	106	105	104	104	103	102	102	101	100	100	99	99	98	98	***
8	111	110	110	109	108	107	106	106	105	104	104	103	102	102	101	100	100	99	99
9	113	113	112	111	110	109	108	108	107	106	105	105	104	103	103	102	101	101	100
10	115	115	114	113	112	111	110	110	109	108	107	106	106	105	104	104	103	102	102
11	117	117	116	115	114	113	112	112	111	110	109	108	107	107	106	105	104	104	103
12	119	118	118	117	116	115	114	113	113	112	111	110	109	108	108	107	106	105	105
13	121	120	119	119	118	117	116	115	114	114	113	112	111	110	109	109	108	107	106
14	123	122	121	120	120	119	118	117	116	115	115	114	113	112	111	110	110	109	108
15	124	124	123	122	121	120	120	119	118	117	116	115	115	114	113	112	111	110	110
16	126	125	124	124	123	122	121	121	120	119	118	117	116	116	115	114	113	112	111
17	127	127	126	125	125	124	123	122	121	121	120	119	118	117	117	116	115	114	113
18	129	128	128	127	126	125	125	124	123	122	122	121	120	119	118	118	117	116	115
19	130	130	129	128	128	127	126	126	125	124	123	123	122	121	120	119	119	118	117
20	131	131	130	130	129	129	128	127	127	126	125	124	124	123	122	121	120	120	119
21	133	132	132	131	131	130	129	129	128	128	127	126	125	125	124	123	122	122	121
22	134	133	133	133	132	132	131	130	130	129	129	128	127	127	126	125	124	124	123
23	135	135	134	134	133	133	132	132	131	131	130	130	129	128	128	127	126	126	125
24	136	136	136	135	135	134	134	133	133	133	132	132	131	130	130	129	129	128	127
25	137	137	137	136	136	136	135	135	135	134	134	133	133	132	132	131	131	130	130
26	138	138	138	138	137	137	137	136	136	136	135	135	135	134	134	133	133	132	132
27	139	139	139	139	139	138	138	138	138	137	137	137	136	136	136	135	135	135	134
28	140	140	140	140	140	140	139	139	139	139	139	139	138	138	138	138	137	137	137
29	***	***	***	***	***	***	***	***	***	***	140	140	140	140	140	140	140	140	139
30	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***	***

Mathematics test – level 3

Age in years and months

Raw score

Very low and very high scores are printed in the table as ***. This means that they would be below 98 or above 140.

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