

## SUPPORTED BY



Enhancing Mathematical Learning through Talk

## Mathematics Monitoring Tasks for Year 1

Tracking Progress against the NC Programme of Study

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### Managing the monitoring process

Complete the following six tasks with a group of four children. You will need one task booklet for each group. Once you have completed the tasks with a group, transcribe the marks and any additional notes onto the separate class summary grid. In order to keep the time taken to complete the tasks manageable and appropriate to the age of the children, it is recommended that you complete the tasks in at least two blocks: tasks 1, 2 and 3 in one session and 4, 5 and 6 in another.

The resources that you will need for each task are detailed in the table below. Copies of most of the resources can be found at the end of this booklet – some of the resources will need to be photocopied. Any additional classroom resources required to complete the tasks are also listed in the table below.

Task	Resources provided in pack	Additional resources required
1		Mini whiteboards, whiteboard pens and whiteboard erasers
23	Photocopiable number sentences sheet for children to 'mark' – one sheet per child	A pencil for each child. Mini whiteboard, whiteboard pen and eraser for teacher
2b	Missing number cards (need to be cut up) The cards are optional as the missing number sentences can be written onto the teacher's mini whiteboard if preferred	Mini whiteboards, whiteboard pens and whiteboard erasers. Multilink cubes or similar equipment
3	Two photocopiable number and symbol cards sheets = one complete set (one set needed for each child)	Mini whiteboards, whiteboard pens and erasers
4	Number sequence cards (need to be cut up)	
5	Cotton buds, gummed squares and fraction picture card	Scissors for each child
6	Clear plastic wallets including money (1 × 1p, 2 × 2p, 3 × 5p, 3 × 10p, 3 × 20p, 1 × 50p, 1 × £1, 1 × £2). Picture of sweets priced 30p and ball priced £1.50	You may wish to exchange plastic money for real money. Mini whiteboards, whiteboard pens and erasers

#### Awarding marks and monitoring reasoning

The maximum number of marks which can be awarded for each task can be found in the top right cell of each page. The maximum total mark for all six tasks is 30.

There is also an opportunity to give points for the children's reasoning by using the following scale:

- o Incorrect answers
- 1 Some correct answers with no reasoning
- 2 Some correct answers with some attempt at reasoning
- 3 All correct answers with some attempt at reasoning
- 4 All correct answers with clear reasoning

Once all of the assessments have been completed, the marks for each task and an average point score for the children's reasoning (along with any other notes that you make) should be transferred to the whole class summary proforma provided separately.

Task 1 Counting Resources: Mini whiteboard, whiteboard pen and eraser for each child and the teacher.		Child's Name		
<ul> <li>National Curriculum: Number – number and place value</li> <li>count to [and across] 100, forwards and backwards, beginning with 0 or 1, or from any given number</li> <li>count [read] and write numbers to 100 in numerals</li> <li>given a number, identify one more and one less</li> </ul>				
Instructions for the Teacher	Monitoring Focus	Marks	(Maximum m	arks for tasks = 5)
Provide each child with a mini whiteboard, whiteboard pen and eraser. Remind the children that you are interested in their thinking and so you are going to ask them some questions. Explain that they should write their answer on the whiteboard and 'hug' it to themselves when they have finished but that they shouldn't say the answer out loud. The children may find it difficult not to say their answers out loud and so have a practice go with 'what number comes after 3?' Repeat the question once more. Ask the children to show you their answers on the white board. Remind them not to say their answers out loud.	What number comes after 7? (8)			
	What is one more than 46? (47)			
	What number comes before 12? (11)			
make sure that the children have understood the question. After each question wait for all the children to write an answer then ask them to show you their whiteboard (you could say, 'one two, three, show me')	What number comes after 29?			
Provide some thinking time for the children at the same time as maintaining a sensible pace.				
Record the children's responses on the marking grid. Use a tick if they have the right answer but if they have an incorrect answer record their actual answer.	What is one less than 100? (99)			
Record a score for their level of reasoning. Record any notes to support your judgement overleaf.	Total marks for		 	
Give each child the opportunity to explain their answers at least once in this t	each pupil Reasoning Score (o-4) ask and record your notes overleaf.			

Task 1 Counting		
Child's name	Notes on reasoning	Any other additional notes

Task 2 (Part a) Calculating         Resources: Number sentences sheet and pencils – one per child, mini whiteboard and pen for teacher.		Child's Name		
<ul> <li>National Curriculum: Number – addition and subtraction</li> <li>read, [write] and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>[represent and] use number bonds and related subtraction facts within 20</li> <li>add and subtract one-digit and two-digit numbers to 20 [including 0]</li> </ul>				
Instructions for the Teacher	Monitoring Focus	Marks	(Maximum m	arks for tasks = 4)
Hold up one copy of the number sentences sheet and explain to the children that you are going to give them their own sheet with number sentences. Explain that they are going to be like a teacher and look at the sentences to see if they are right or wrong. Tell them that they will have a pencil to 'mark' the number sentences using a tick if the sentence is right	8 + 4 = 16 🗡			
and a cross (X) if it is wrong. Explain that you will help them to practise being the teacher first and then give out the sheets and pencils. Ask the children to look at and read the first number sentence: 2+2=10. Write the sentence out on your own small whiteboard so that you can discuss with the group whether it is right or wrong and then demonstrate how to put a cross (or a tick). The children can then 'mark' the first number sentence on their own sheet.	13 - 10 = 3 ✓			
Repeat the same process with the second practice example: 10-2=8				
Explain to the group that they have finished practising and that they are now going to carry on as the teacher and mark the rest of the number sentences without any help from you or each other. Remind them that they should not say anything out loud and to put a	19 – 9 = 1 <b>X</b>			
children at the same time as maintaining a sensible pace.				
Make sure the children put their names on their sheet before you collect them in. It may be easier to record the children's responses to this task by looking at their sheets at the end of the session. Record one mark for each correct answer.	12 + 4 = 16 √			
Record a score for their level of reasoning. Record any notes to support your judgement overleaf.	Total marks for each pupil			
Reasoning Score (o-4) Give each child the opportunity to explain their answers at least once in this task and record your notes overleaf.				

Task 2a Calculating		
Child's name	Notes on reasoning	Any other additional notes

Task 2 (Part b) Calculating involving missing number problem         Resources: Missing number cards, mini whiteboards, markers and erasers, multilink or similar.		Child's Name		
<ul> <li>National Curriculum: Number – addition and subtraction</li> <li>read, [write] and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs</li> <li>[represent and] use number bonds and related subtraction facts within 20</li> <li>add and subtract one-digit and two-digit numbers to 20 [including 0]</li> <li>solve one-step problems that involve addition and subtraction [using concrete objects and pictorial representations]and missing number problems such as 7 = -9</li> </ul>				
Instructions for the Teacher	Monitoring Focus	Marks	(Maximum m	arks for tasks = 4)
Explain that you have some more number sentences for them to look at but that this time one of the numbers has been accidentally rubbed out from each sentence! Tell them that you don't need them to mark the sentences but that you do need them to help you by working out what the missing number is and writing it onto their whiteboard. Show them the following example $5 + \Box = 10$ by writing it on your whiteboard and point out the missing number. Work out the missing number with the group and help the children	7 + [] = 10 (3)			
to practise writing it on their whiteboard. (The children can write out the whole number sentence if you or they prefer.) Tell the children that you are now going to show them some more missing number sentences for them to work out by themselves. Remind them that you are interested in their thinking and they should 'hug' their whiteboards to them once they have finished but not to say anything out loud. Indicate that the multilink is available.	10 − □ = 7 (3)			
Show the three number sentence cards in turn (or write the number sentences on your whiteboard).				
Provide some thinking time for the children at the same time as maintaining a sensible pace. If needed, reassure the children that if they can't find an answer you will help them to work it out another time.	7 = 🗌 – 9 (16) (2 marks)			
Record the children's responses on the marking grid. Use a tick if they have the right answer but if they have an incorrect answer record their actual answer.				
Record a score for their level of reasoning. Record any notes to support your judgement overleaf.	Total marks for each pupil			
Give each child the opportunity to explain their answers at least once in this task and	Reasoning Score (o-4) d record your notes overleaf.			

Task 2b Calculating involving missi	ng number	
Child's name	Notes on reasoning	Any other additional notes

Task 3 Creating Number Sentences Resources: Number and symbol cards – one set per child (one set = 2 photocopiable sheets)		Child's Name		
<ul> <li>National Curriculum: Number – addition and subtraction</li> <li>[represent and] use number bonds and related subtraction facts within 20</li> <li>add and subtract one-digit and two-digit numbers to 20 including zero</li> </ul>				
Instructions for the Teacher	Monitoring Focus	Marks	(Maximum m	arks for tasks = 3)
Use the number cards to demonstrate to the children how you can choose some cards to make a number sentence: 2+7 =9. Copy your number sentence onto a mini whiteboard. Ask the children to use the cards to make a number sentence that is different to yours. Remind them that you are interested in their thinking. The children can either use the cards and then copy the sentence or, use the cards laid out before them as a reference and write some number sentences directly onto their whiteboard. Record up to three number sentences that each child makes. NB. There are duplicate numbers and symbols in the resources so that some children may choose to put together a more complex sentence, for example: 2+2 +3=7 Don't demonstrate this kind of example but accept and record any responses of this kind from the children. Ask each child to explain/describe one of their sentences in turn. Record the children's number sentences on the grid and/or take a photograph of their whiteboards. Record a score for the level of reasoning. Record any notes to support your judgement overleaf.	Up to three number sentences			
	Total marks for each pupil			
Reasoning Score (o-4) Give each child the opportunity to explain their answers at least once in this task and record your notes overleaf.				

Task 3 Creating Number Sentences		
Child's name	Notes on reasoning	Any other additional notes

Task 4 Counting in 2s, 5s and 1os         Resources : Number sequence cards		Child's Name		
<ul> <li>National Curriculum: Number – place value</li> <li>count in multiples of twos, fives and tens</li> </ul>				
Instructions for the Teacher	Monitoring Focus	Marks	(Maximum m	arks for tasks = 5)
Explain that you are going to show them some number sequence cards but that there is	20 30 40 <u></u> 60 ( <i>50</i> )			
a missing number on each card! Tell them that their job will be to work out the missing numbers each time. Say that you will work out the first missing number together and that after that they will be working out the missing number in the sequences by themselves and writing it on their whiteheard. Say that comparisons you will ack and of them to compare their approach to you	25 30 35 <u>45</u> (40)			
Show and read the first card $2 4-8$ 10 and discuss/identify the missing number with the children. Ask the group how they know that the missing number is 6 (how do you know? or, can you explain why it's? or, why do you think it's?)	8 6 <u>2</u> 0 (4)			
Read the cards out in turn and ask the children to write the missing number onto their whiteboard and hug it to themselves. Ask the children to show their answer by counting 1,2,3 show.	18 20 22 <u>2</u> 26 (24)			
Give each child the opportunity to explain their answer at least once in this task (how do you know it's?)				
Record the children's responses on the marking grid. Use a tick if they have the right answer but if they have an incorrect answer record their actual answer.	50 40 <u>20</u> 10 (30)			
Record a score for the level of reasoning. Record any notes to support your judgement overleaf.	Total marks for each pupil			
Give each child the opportunity to explain their answers at least once in this task an	Reasoning Score (o-4) d record your notes overleaf.			

Task 4 Counting in 2s, 5s and 1os		
Child's name	Notes on reasoning	Any other additional notes

Task 5 Fractions         Resources: cotton buds, gummed squares, scissors for each child, fraction picture card		Child's Name		
<ul> <li>National Curriculum: Number – fractions</li> <li>recognise, find [and name] a half as one of two equal parts of an object, shape or [quantity]</li> <li>recognise, find [and name] a quarter as one of four equal parts of an [object] shape or [quantity]</li> </ul>				
Instructions for the Teacher	Monitoring Focus	Marks	(Maximum m	arks for tasks = 4)
Tell the children that you are interested in their thinking about halves and guarters. Give	a. halving cotton bud			
<ul> <li>a. Give each child a cotton bud and a pair of scissors and ask them to cut the cotton bud in half.</li> </ul>	b. cutting the square in half.			
<ul> <li>b. Give each child a gummed square and ask them to cut the square into half.</li> <li>c. Give each child a different coloured gummed square and ask them to cut the square in quarters. The children should demonstrate a reasonable level of accuracy i.e. if the cutting is not quite an accurate half but nearer to a half than a quarter then that is acceptable.</li> </ul>	c. cutting the square into quarters.			
<ul> <li>d. We asked another year 1 class to colour half of a square. Here are their answers (show fraction picture card.) Choose one picture and explain why you think it is right or wrong.</li> <li>ord a score for the level of reasoning. Record any notes to support your judgement rleaf.</li> </ul>	d. half a square			
	Total marks for each pupil			
Reasoning Score (o-4) Give each child the opportunity to explain their answers at least once in this task and record your notes overleaf.				

Task 5 Fractions					
Notes on reasoning	Any other additional notes				
	lotes on reasoning				

Task 6 Money         Resources: Purse with coins : (1 × 1p, 2 × 2p, 3 × 5p, 3 × 10p, 3 × 20p, 1 × 50p, 1 × £1, 1 × £2).         Picture of sweets priced 30p and ball priced £1.50. Mini whiteboards for each child.		Child's Name			
<ul> <li>National Curriculum: Measurement         <ul> <li>recognise and know the value of different denominations of coins [and notes]</li> </ul> </li> <li>Number – addition and subtraction         <ul> <li>solve one-step problems that involve addition [and subtraction]</li> </ul> </li> </ul>					
Instructions for the Teacher	Monitoring Focus	Marks		(Maximum m	arks for tasks = 5)
<ul> <li>Tell them that you are going to show them two pictures (one at a time) and ask them to show you which coins they would use to pay for the items (things) on the picture. The cost of the item is on the picture. N.B. Don't read or tell the children the price.</li> <li>a. Show picture of sweets priced 30 pence. Ask the children to find the coins from their purse to buy the sweets and to hide them under their whiteboard until you ask them to show you. When all of the children are ready ask them to show you their coins by picking up their whiteboards to show you the coins underneath. When you have recorded all the children's responses, ask them to put their coins back into their purse.</li> </ul>	a. Which coins would you use to buy (pay for) the sweets? (2 marks)				
	<ul> <li>b. Which coins would you use to buy (pay for) the ball?</li> </ul>				
b. Show the picture of the ball priced £1.50. Ask the children to find the coins from their purse to buy the ball and to hide them under their whiteboard until you ask them to show you. When all of the children are ready ask them to show you their coins by picking up their whiteboards. When you have recorded all the children's responses, ask them to give you the coins to pay for the ball.	(2 marks) c. Ask the children to look in their purses				
c. Ask the children to look in their purses and find the coin that is left with the most value. If they have tipped all of the coins out then just ask them which of the coins has the most value.	and find the coin that is left with the most value. (1 mark for correct answer)				
Record the children's actual responses on the marking grid.					
Record a score for the level of reasoning. Record any notes to support your judgement overleaf.	Total marks for each pupil				
Reasoning Score (o-4) Give each child the opportunity to explain their answers at least once in this task and record your notes overleaf.					

Task 5 Fractions					
Notes on reasoning	Any other additional notes				
	lotes on reasoning				

## Resources

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## 7 + 🗌 = 10

Task 2 (Part b): Missing number cards

# 10 - 🗌 = 7

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 $\mathbf{X}$ 

Task 2 (Part b): Missing number cards

## 7 = 🗌 - 9

Task 2 (Part b): Missing number cards



10	11	12	13	2
Task 3: Number and symbol cards				
14	15	16	17	3
Task 3: Number and symbol cards				
18	19	20	4	5

Task 3: Number and symbol cards

## 2 10 2 Task 4: Number sequence cards $\mathbf{X}$ 20 30 40 60 Task 4: Number sequence cards $\mathbf{X}$ 25 30 35 45 Task 4: Number sequence cards $\mathbf{X}$

Task 4: Number sequence cards

# 18 20 22 \_ 26

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Task 4: Number sequence cards

## 50 40 \_ 20 10

Task 4: Number sequence cards









