

1 Pupils recognise one, two and three objects without needing to count (subitise) and recognise iconic images of numbers up to ten e.g. dice patterns, ten frames etc.

1. Show the child the resources (animals, a dice and number frames) and ask them if they have seen these before – let them handle the resources.

Move the resources out of the way and put a piece of green paper on the carpet and say:

- **This is a field**

Animals: place three animals on the paper and say:

- **I wonder how many animals there are in the field.**

Dice: show the dice five and ask:

- **Do you know what number this is?**

- **Can you find four on the dice for me?**

Number frames: show a nine frame and ask:

- **Do you know what number this is?**

- **Can you find the six frame for me?**

Fingers: show seven on your fingers (five and two) and ask:

- **Do you know what number this is?**

- **Can you show me ten with your fingers?**

Expect the child to be able to:

- say there are three animals without counting (subitise)
- say the dice is showing five without counting
- find the four on the dice without counting
- identify the nine frame as nine without counting
- find the six frame without counting
- say there are 7 fingers without counting
- show ten with their fingers without counting

Not yet meeting this expectation. The child:

- counts aloud to identify any of the following: three animals, four/five dots, six/nine frames or seven/ten fingers
- counts in their head – perhaps nodding or using eyes to keep track – to identify any of the following: three animals, four/five dots, six/nine frames or seven/ten fingers
- pauses for a long time before answering correctly revealing that they have had enough time to count e.g. they are not subitising or recognising iconic representations
- uses fingers to match to animals/dots/frame in order to identify any of the following: three animals, four/five dots or six/nine frames
- does not correctly identify three animals, four/five dots, nine/six frame, seven/ten fingers

Resources: Small world animals¹, piece of green paper, large dice, number frames

6. Pupils represent and explain what happens when doubling and halving in different contexts (including measures) and use this understanding to solve problems

6a. Give each child a piece of A4 paper, a ball of modelling material and an even number of counters and ask:

- **Can you show me half of your piece of paper, ball of modelling material and pile of counters?**
- **How do you know you have half?**
- **What is the same about what you have done with each thing?**

Expect the children to:

- make sure that each half is the same size/number/shape, for example the children:
 - fold the paper in half so that the pieces lay on top of each other
 - roll out the modelling material and then fold into two equal length pieces or try to make two balls of the same size and weight
 - share the counters into two equal piles
- explain that each time they have tried to split the one thing into two which are equal in length/size/number

Not yet meeting this expectation.

The children:

- *are unable fold/share/manipulate the resources into two equal sizes/numbers/shapes*
- *are unable to explain what is the same about what they have done to all three resources*

Resources: A4 paper, modelling material, counters

6b. Give each child a Numicon plate below 6, a Cuisenaire rod shorter than green and the same pile of counters from question 6a and ask:

- **Can you double each of the things in front of you?**
- **How do you know you have double?**
- **What is the same about what you have done with each thing?**

Expect the children to:

- double the Numicon and Cuisenaire by either finding an identical second plate/rod and putting it with the one they have (e.g. they are given a three plate and put another three plate with it or they are given a yellow rod and put another yellow rod with it) or finding a plate/rod that is double in size (e.g. they are given a three plate and choose a six plate or they are given a yellow rod and they choose an orange rod)
- count out a second pile of counters with the same number as their first pile
- explain that each time they have got two lots of their resource or something which is twice as long/the size/as many

Not yet meeting this expectation.

The children:

- *are unable to choose a second item that is either the same size/number/length as their original or is double the size*
- *are only able to choose a second item for one or two of the things but not all three*
- *are unable to explain what is the same about what they have done to all three resources*

Resources: Numicon, Cuisenaire, counters

End of KS1 Working Towards

4. The pupil can recall at least four of the six number bonds for 10 and reason about associated facts (e.g. $6 + 4 = 10$, therefore $4 + 6 = 10$ and $10 - 6 = 4$)

4a. Show the children the picture of the two trampolines. Explain that there are 10 children who are playing on the trampolines. Ask:

- **How many children could be on each trampoline? Write down your answer,**
- **Is there another possibility you can write down?**
- **And another?**
- **And another?**

Children assessed as working towards are likely to:

- know at least four of the following are possible:
 - 10 children on one trampoline and 0 on the other
 - 9 children on one trampoline and 1 on the other
 - 8 children on one trampoline and 2 on the other
 - 7 children on one trampoline and 3 on the other
 - 6 children on one trampoline and 4 on the other
 - 5 children on one trampoline and 5 on the other

Children not yet meeting 'working towards':

- *do not identify four of the six different possibilities above*
- *offer four possibilities but some are repeats; for example, four on one trampoline and six on the other and six on one trampoline and four on the other*
- *offer four possibilities but some are incorrect; for example 8 and 3.*
- *counts to find possible solutions*

4b. Explain that there are ten children playing on the trampolines and after a while 2* children leave to go home. Ask:

- **How many children are left playing on the trampolines?**
- **How do you know? Can you explain or show me how you know with a resource?**

*or 3 or 4 etc. Choose a number that links with one of the facts that the children know from 4a

Children assessed as working towards are likely to:

- say that there are eight children left (adjust as appropriate to the number used)
- explain how they know there are eight left (for example 'I know eight and two is ten so if two leave there will be eight left') or show with a resource (for example showing that as eight and two beads making ten on a bead string, removing two leaves eight)

Children not yet meeting 'working towards':

- *do not know there are two* children left*
- *calculate to solve the subtraction, for example count back, rather than reasoning*
- *cannot explain or show how they know there are two children left on the trampolines*

Resources: Trampolines (P), number frames, 10/20 bead string

1. The pupil can read scales in divisions of ones, twos, fives and tens

1. Show the children the three graphs without a scale and explain that three classes in one school collected money for three different charities, Children in Need, Sport Relief and Comic Relief, and that the graphs show how much each class collected.

Give each child one of the charity cards.

Ask:

- **Which class do you think raised the most money for your charity?**
 - **Why do you think this?**
- Now show the children the three graphs with a scale and say:
- **Now the graphs have a scale, what do you notice?**
 - **Which class do you now think raised the most money for your charity?**
 - **How do you know? Why is this different to what you first thought?**

Resources: Three graphs without a scale (P), three graphs with a scale (P), charity cards (P)

Children assessed as 'expected' are likely to:

- notice the three different scales
- identify the class that raised the most money for the charity on their card by reading the scale on each graph, paying attention to the scale not the relative heights of the charity's bar on each graph
- explain in their own words how, having read the scale on each graph, they know which class has raised the most money; for example 'I've changed my mind, I thought it was the one that was highest, but this is 50' (pointing to class 3 Children in Need)

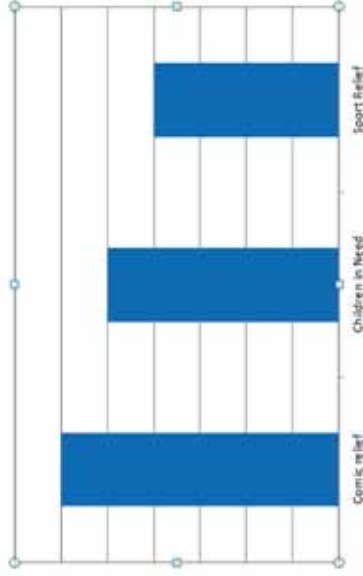
Children not yet meeting 'expected':

- do not notice the three different scales
- cannot read the scales on all the graphs
- are unable to compare the numbers for each class and only use the height of the bars to decide which class raised the most money
- cannot explain how to read the scale on the graphs

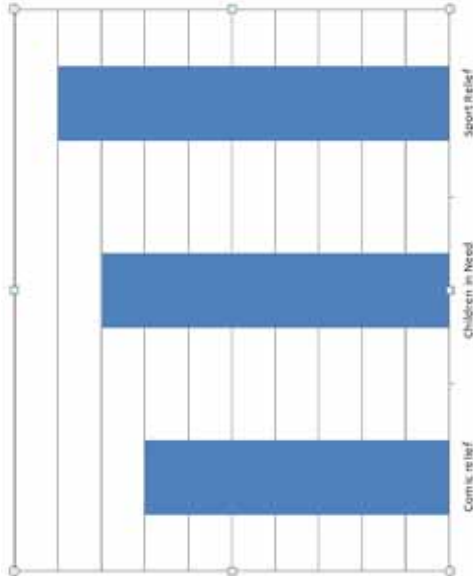
Appendix 2a: Question 1

Question 1

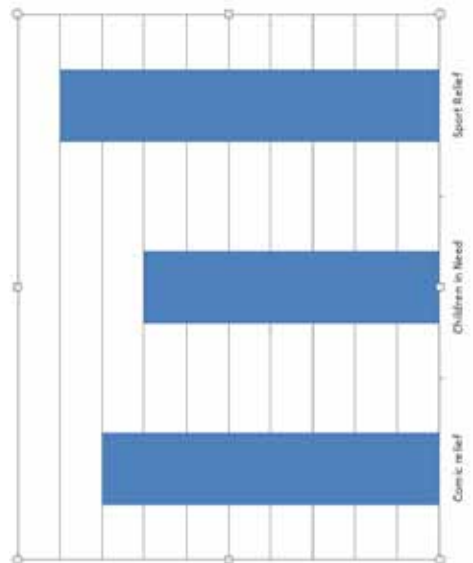
Class 3:



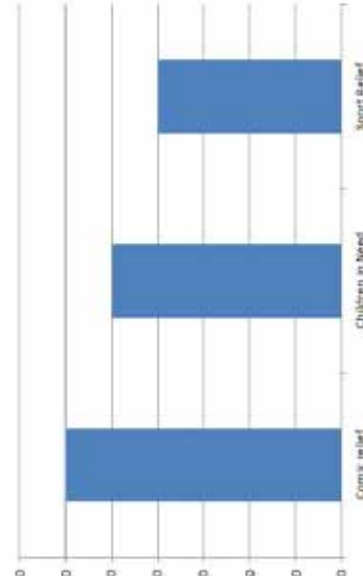
Class 2:



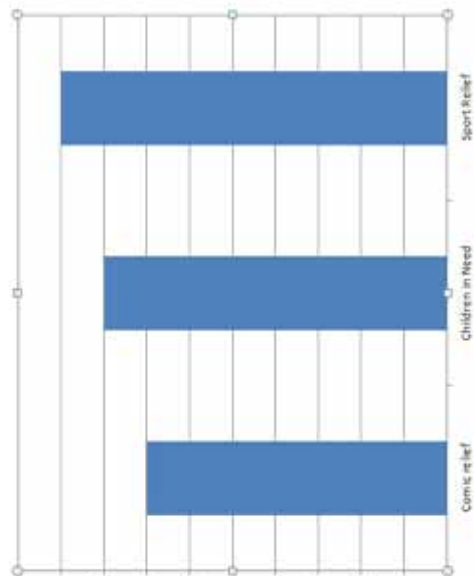
Class 1:



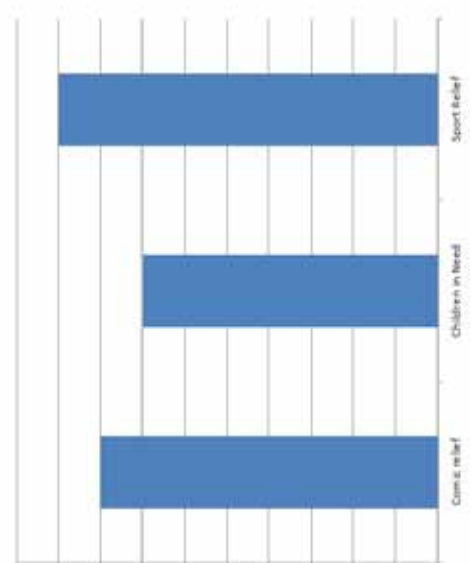
Class 3:



Class 2:



Class 1:



2. Recall and use multiplication and division facts for 2, 5 and 10 and make deductions outside known multiplication facts. Solve unfamiliar word problems that involve more than one step (e.g. 'which has the most biscuits, 4 packets of biscuits with 5 in each packet or 3 packets of biscuits with 10 in each packet?')

<p>2a. Show the pictures of packets of balloons and explain that balloons come in packets of two, packets of five and packets of ten.</p> <p>Say:</p> <ul style="list-style-type: none"> • A dad buys 18 packets (show the number card 18) of five balloons and he tells his daughter he has 92 balloons (show the number card 92). Is he right? • How do you know? 	<p>Children assessed as 'greater depth' are likely to:</p> <ul style="list-style-type: none"> • know that it can't be 92 because 92 is not multiple of 5, for example saying 'The only numbers in the 5 times table end in 5 or 0, none end in a 2 so it can't equal 92' <p>Children not yet meeting 'greater depth':</p> <ul style="list-style-type: none"> • <i>agree with the dad, that it is 92 balloons</i> • <i>disagree with the dad but cannot explain how they know it cannot 92 balloons</i> • <i>calculate 5×18 in order to say whether the dad is right</i>
<p>2b. Use the same pictures of the packets of balloons. Say:</p> <ul style="list-style-type: none"> • A grannie buys 27 packets (show the number card 27) of 2 balloons. Has she bought 54, 53 or 60 balloons altogether (show the cards 54, 53 and 60)? • How do you know? 	<p>Children assessed as 'greater depth' are likely to:</p> <ul style="list-style-type: none"> • say there are 54 • explain why it must be 54 balloons for example saying 'it has to be an even number and 30 packets would be 60 balloons' <p>Children not yet meeting 'greater depth':</p> <ul style="list-style-type: none"> • <i>say there are 53 or 60 balloons</i> • <i>calculates 2×27 in order to say there are 54 balloons and cannot explain in any other way</i>
<p>2c. Use the same pictures of the packets of balloons.</p> <p>Ask:</p> <ul style="list-style-type: none"> • Do you have more balloons if you buy seven packets of five balloons or three packets of ten balloons? • How do you know? <p>Resources: Packets of balloons (P), number cards (P)</p>	<p>Children assessed as 'greater depth' are likely to:</p> <ul style="list-style-type: none"> • say that seven packets of five balloons is more than three packets of ten balloons • explain how they know for example saying: 'I know because this one is 35 and that one is only 30' or 'Six packets of five would be the same as three packets of ten so seven packets of five is more.' <p>Children not yet meeting 'greater depth':</p> <ul style="list-style-type: none"> • <i>say that three packets of ten balloons is more than seven packets of five balloons</i> • <i>solve the problem by counting in fives and/or counting in tens</i> • <i>say that seven packets of five balloons is more than three packets of ten balloons because seven packets is more than three packets or cannot explain how they solved the problem</i>

2. Pupils represent and explain addition and subtraction problems involving four-digit numbers in different contexts (including extracting information from graphs, charts, tables and measuring scales). They solve these problems by taking account of the numbers involved, appropriately choosing mental or column methods using what they know and understand, explaining their decisions and justifying their solutions

2b. Give each child an attractions card.

Ask:

- Can you estimate the total number of visitors to these two attractions and explain your estimate?
- Can you work out the actual total and explain how you worked it out and why you chose to use this method?

Say:

In 2015 the number of visitors to one of your attractions went up by 999

Ask:

- Can you work out the total number of visitors to your attraction in 2015 and explain how you did it

Expect the children to:

- be able to extract the numbers from the table for the attractions on their card
- round one or both of their numbers so that they can estimate the total, for example $4481 + 3852$ is approximately $4500 + 4000$ which is 8500
- calculate the total correctly, explain how they worked it out and why they chose their method, for example a child says that for $4481 + 3852$ they decided to use the written method and explain that one add two is three, that eighty add fifty is one hundred and thirty, that four hundred add eight hundred is one thousand two hundred plus the one hundred from adding the tens makes one thousand three hundred, and four thousand plus three thousand and the one thousand from adding the hundreds makes eight thousand in total
- calculate the total number of visitors to one of their attractions by adding 999 mentally to one of their numbers
- explain their mental steps, for example a child explains that they added 1000 to 4481 to make 5481 and then subtracted 1, resulting in 5481

Not yet meeting this expectation.

The children:

- are unable to extract the two numbers they need from the table
- are unable to use rounding to make a sensible estimate
- are unable to calculate the addition correctly
- choose an inefficient method to add the two numbers, for example counting
- are unable to explain their efficient method of addition
- do not use what they know about adding 1000 to add 999 efficiently
- choose a written method to add 999

Resources: Attractions table (P), attraction cards (P)