THE ASHBY FEDERATION

CALCULATION - SUBTRACTION POLICY

Approved by:	Executive Head Teacher
Last reviewed on:	November 2021
Next review due by:	November 2023
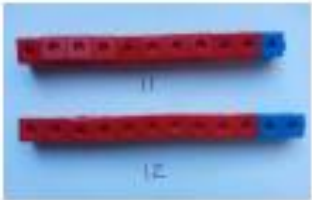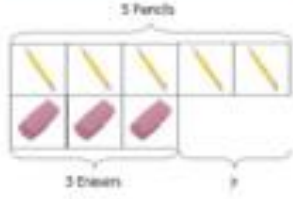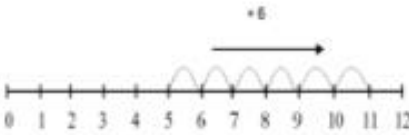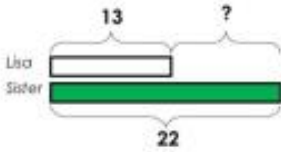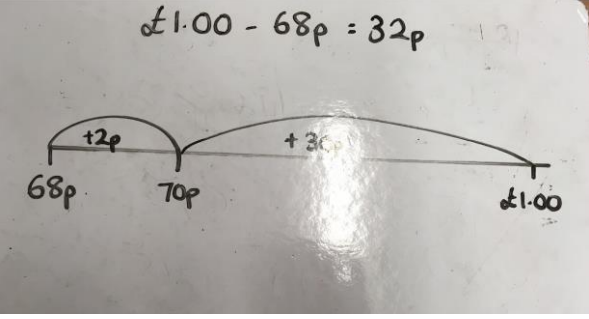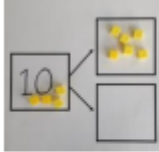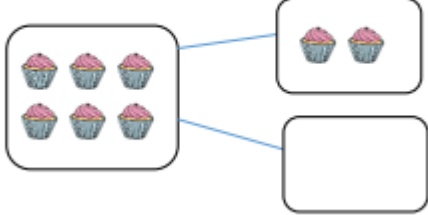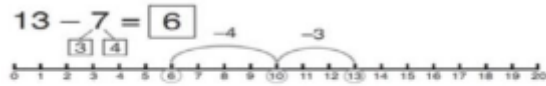
SUBTRACTION STAGE 1			
Progression	**Concrete**	**Pictorial**	**Abstract**
Uses the language of subtraction – how many are left? Vocabulary: take away, left.	 Activities where they have to take some away and then count how many are left.		
Subtraction as taking away using objects e.g. 7 – 2 = 5 because 7 objects take 2 away = 5. Vocabulary: fewer, minus, subtract, equals.	Use physical objects, counters, cubes etc to show how objects can be taken away. 6 – 2 = 4	Cross out drawn objects to show what has been taken away. 15 – 3 = 12	$18 - 3 = 15$ $8 - 2 = 6$
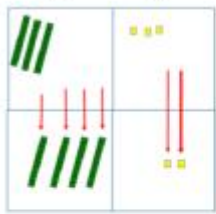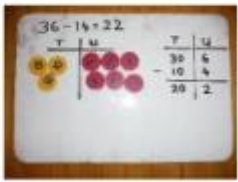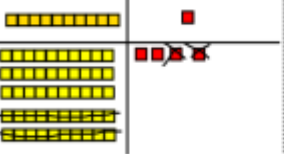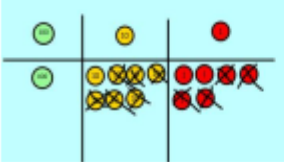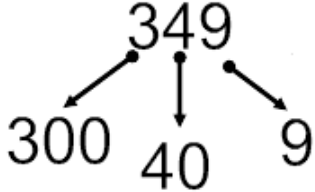
Subtraction on a numbered number-line by jumping backwards.	Make the larger number in your subtraction. Move the beads along your bead string as you count backwards in ones. 13 – 4 Use counters and move them away from the group as you take them away counting backwards as you go.	Count back on a number line or number track 9 10 11 12 13 14 15 Start at the bigger number and count back the smaller number showing the jumps on the number line. -10 -10 -1 -1 -1 34 35 36 37 47 57 This can progress all the way to counting back using two 2 digit numbers.	Put 13 in your head, count back 4. What number are you at? Use your fingers to help.

Underlying skills
- Find one less than a number up to 10.
- Children need to learn number facts e.g. learning that 7+4=11 they also know 11-4=7.

Active Learning Through Models and Images

Objects in two colours

Imagine one less spot

SUBTRACTION STAGE 2			
Progression	**Concrete**	**Pictorial**	**Abstract**
Compare two sets to find the difference. Finding the difference by counting on from the smallest number on a numbered number-line. Vocabulary: minuend, subtrahend, difference.	Compare amounts and objects to find the difference. Use cubes to build towers or make bars to find the difference 5 Pencils 3 Erasers Use basic bar models with items to find the difference Count on with coins to find the difference as a shopkeeper would.	Count on to find the difference. 0 1 2 3 4 5 6 7 8 9 10 11 12 **Comparison Bar Models** Draw bars to find the difference between 2 numbers. Lisa is 13 years old. Her sister is 22 years old. Find the difference in age between them. 13 ? Lisa Sister 22 £1.00 - 68p = 32p +2p + 30 68p 70p £1.00	Hannah has 23 sandwiches, Helen has 15 sandwiches. Find the difference between the number of sandwiches.
Part-Whole Model	Link to addition- use the part whole model to help explain the inverse between addition and subtraction. 10 If 10 is the whole and 6 is one of the parts. What is the other part? 10 - 6 =	Use a pictorial representation of objects to show the part part whole model.	5 10 Move to using numbers within the part whole model.

| Make 10 | 14-9 =   Make 14 on the ten frame. Take away the four first to make 10 and then takeaway one more so you have taken away 5. You are left with the answer of 9. | 13 − 7 = 6   Start at 13. Take away 3 to reach 10. Then take away the remaining 4 so you have taken away 7 altogether. You have reached your answer. | 16 − 8= How many do we take off to reach the next 10? How many do we have left to take off? |

Underlying skills	**Active Learning Through Models and Images**
• Be able to count on and back from any number. • Know by heart subtraction facts for numbers to 10.	6 + ? = 10 ? + 6 = 10 10 − 6 = ? 10 − 4 = 6

SUBTRACTION STAGE 3			
Progression	**Concrete**	**Pictorial**	**Abstract**
Subtraction without regrouping	Use Base 10 to make the bigger number then take the smaller number away. Show how you partition numbers to subtract. Again make the larger number first.	Draw the Base 10 or place value counters alongside the written calculation to help to show working.	$47 - 24 = 23$ $\begin{array}{r} 40 + 7 \\ -\ 20 + 4 \\ \hline 20 + 3 \end{array}$
Underlying skills • Partitioning hundreds, tens and units.			

SUBTRACTION STAGE 4			
Progression	**Concrete**	**Pictorial**	**Abstract**
Subtraction with regrouping. Vocabulary: exchange, regroup, inverse.	Use Base 10 to start with before moving on to place value counters. Start with one exchange before moving onto subtractions with 2 exchanges. Make the larger number with the place value counters Start with the ones, can I take away 8 from 4 easily? I need to exchange one of my tens for ten ones. 	Draw the counters onto a place value grid and show what you have taken away by crossing the counters out as well as clearly showing the exchanges you make. When confident, children can find their own way to record the exchange/regrouping. Just writing the numbers as shown here shows that the child understands the method and knows when to exchange/regroup.	 Children can start their formal written method by partitioning the number into clear place value columns. Moving forward the children use a more compact method.
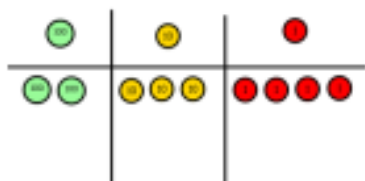
Now I can subtract my ones.
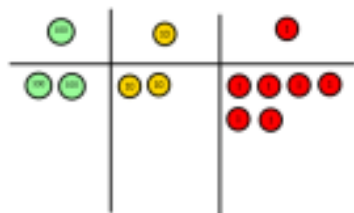
Now look at the tens, can I take away 8 tens easily? I need to exchange one hundred for ten tens.

Now I can take away eight tens and complete my subtraction

Show children how the concrete method links to the written method alongside your working. Cross out the numbers when exchanging and show where we write our new amount.

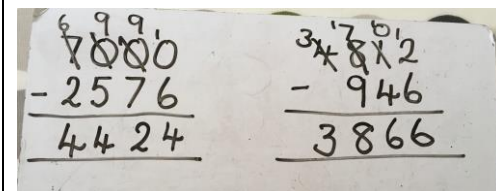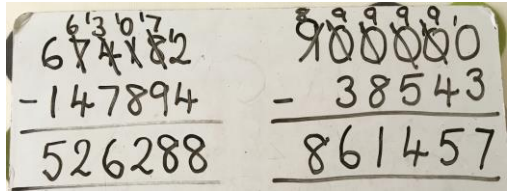| Underlying skills	$124 = 100 + 20 + 4$		
• Good understanding of place value and partitioning. • Counting on in steps of 10,100 and 1000. • Subtract multiple of 10, 100 and 1000.	$124 = 100 + 10 + 14$ $124 = 110 + 24$ $24 - 19 = 24 - 20 + 1 = 5$ $458 - 71 = 458 - 70 - 1 = 387$		

SUBTRACTION STAGE 5			
Progression	**Concrete**	**Pictorial**	**Abstract**
Standard written method for TU - TU, HTU - HTU, ThHTU – ThHTU and any combination of these.			Ch use formal method of column subtraction, including subtraction where exchanging needs to take place across many columns:

Standard written method for subtracting to 2dp.			Ch use the formal written method of column subtraction for subtractions involving money and measure, remembering to insert place holders. $$\begin{array}{ccccc} & 5 & 12 & & 1 \\ 2 & \cancel{6} & \cancel{3} & . & \textbf{0} \\ - & & 2 & 6 & . & 5 \\ \hline 2 & 3 & 6 & . & 5 \end{array}$$

SUBTRACTION STAGE 6			
Progression	**Concrete**	**Pictorial**	**Abstract**
Standard written method for larger numbers, including with different numbers of digits knowing that place value columns need to be lined up and place holders inserted to make all numbers have the same number of digits.			$$\begin{array}{r} 674182 \\ -147894 \\ \hline 526288 \end{array} \qquad \begin{array}{r} 900000 \\ -\ 38543 \\ \hline 861457 \end{array}$$
Standard written method for subtracting decimals with up to 3 digits after the decimal point.			$$6.4 - 2.976 =$$ $$\begin{array}{r} 6.400 \\ -2.976 \\ \hline 3.424 \end{array}$$