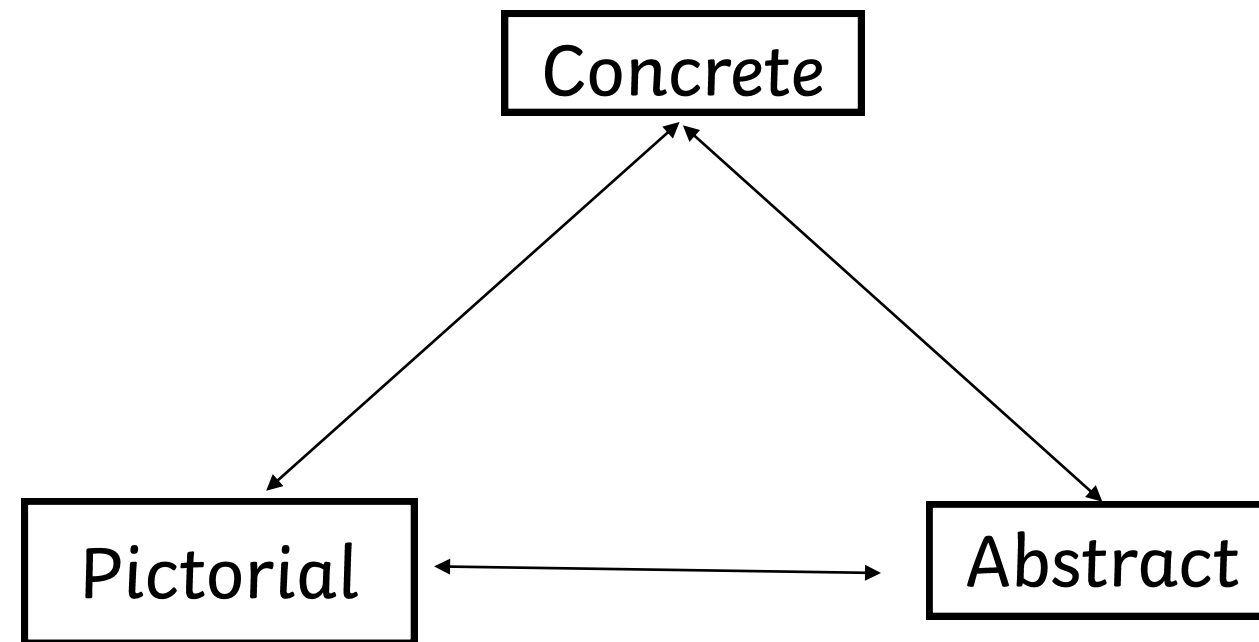
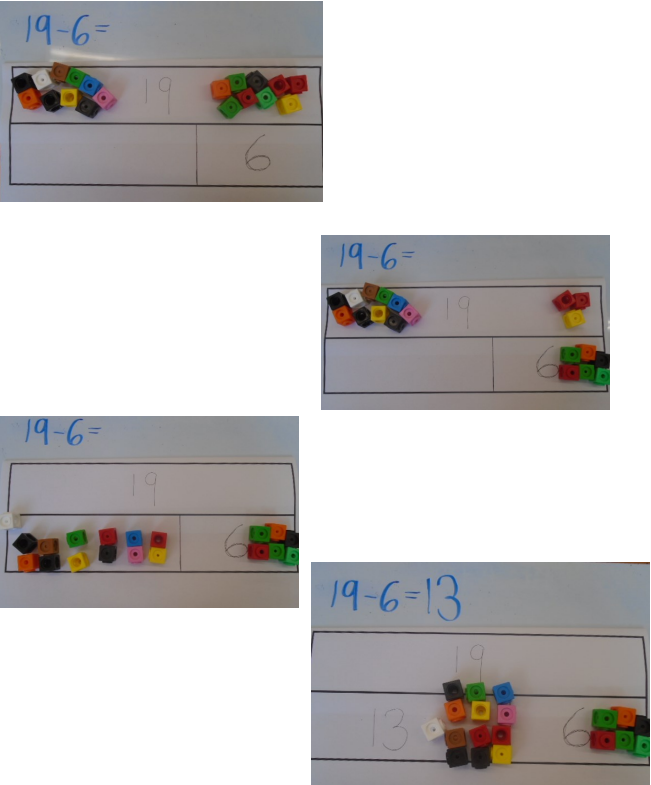
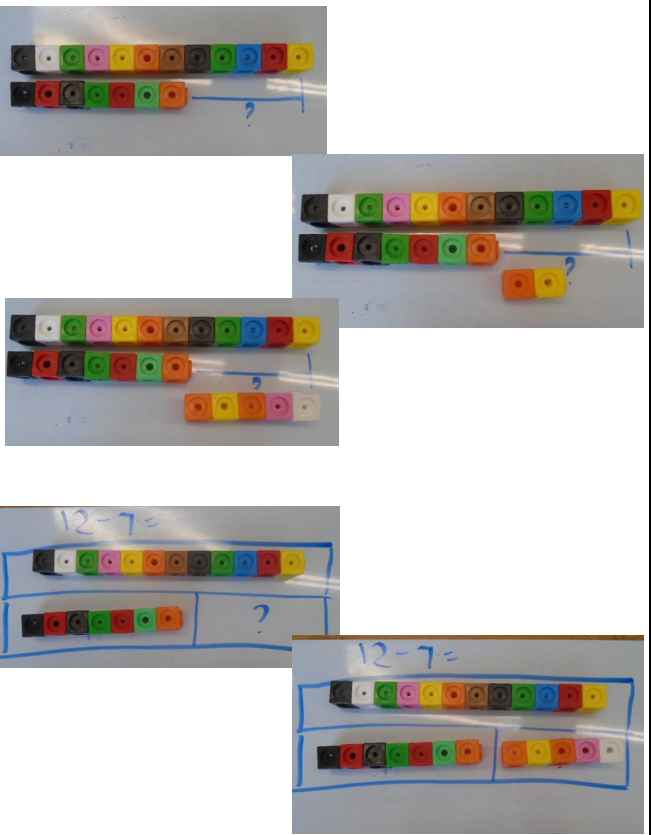
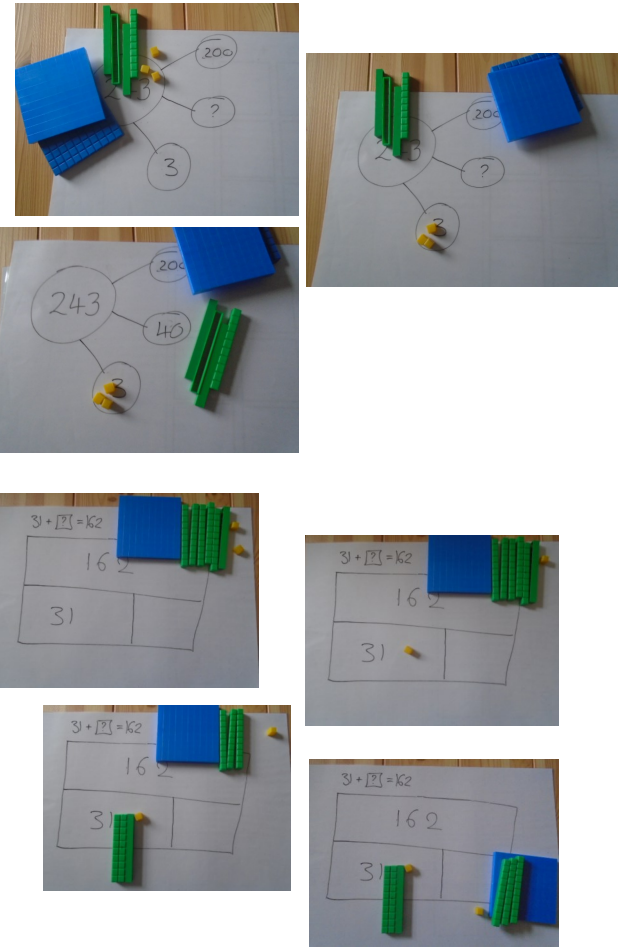
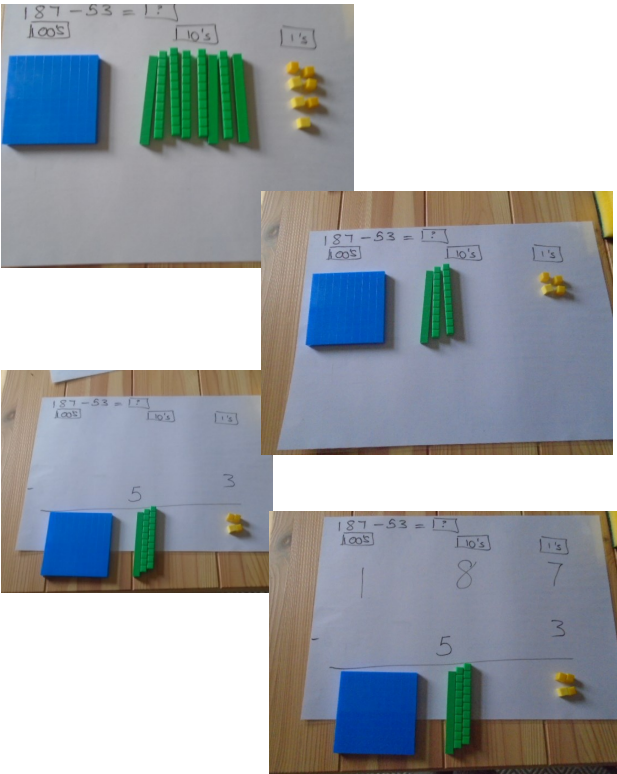


Subtraction

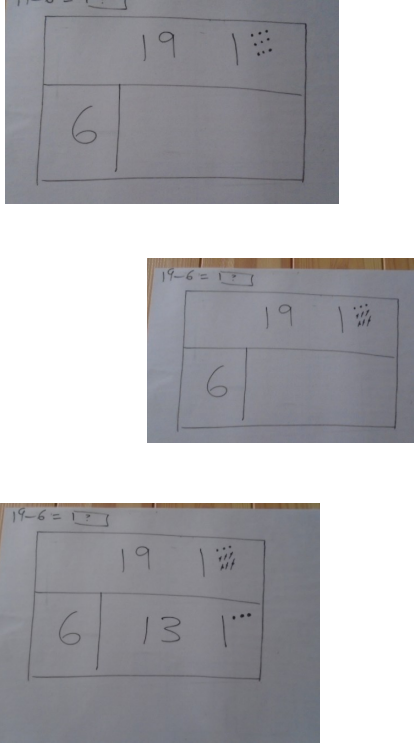
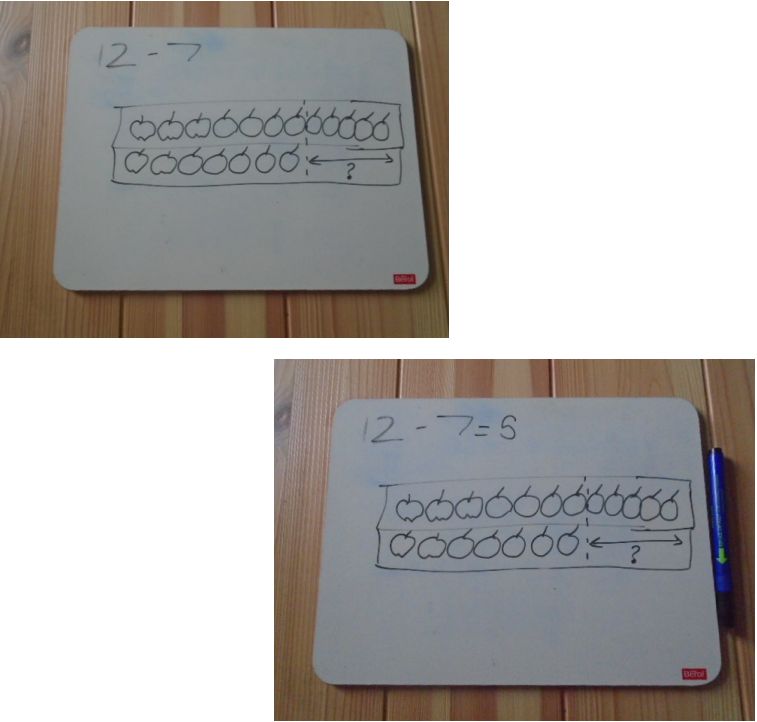
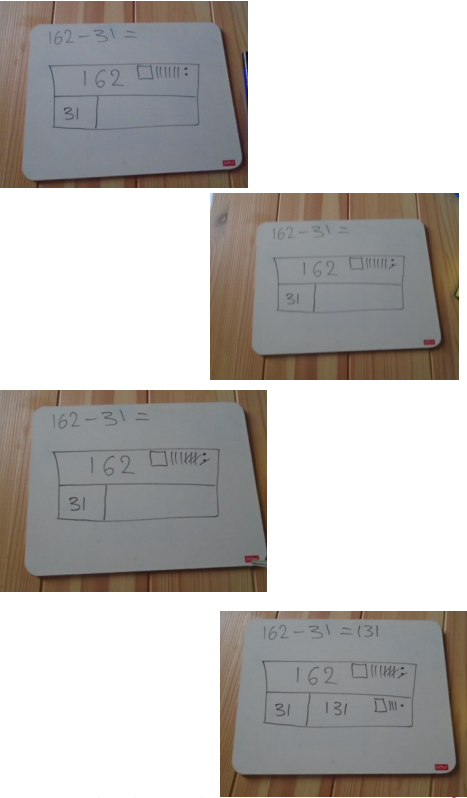
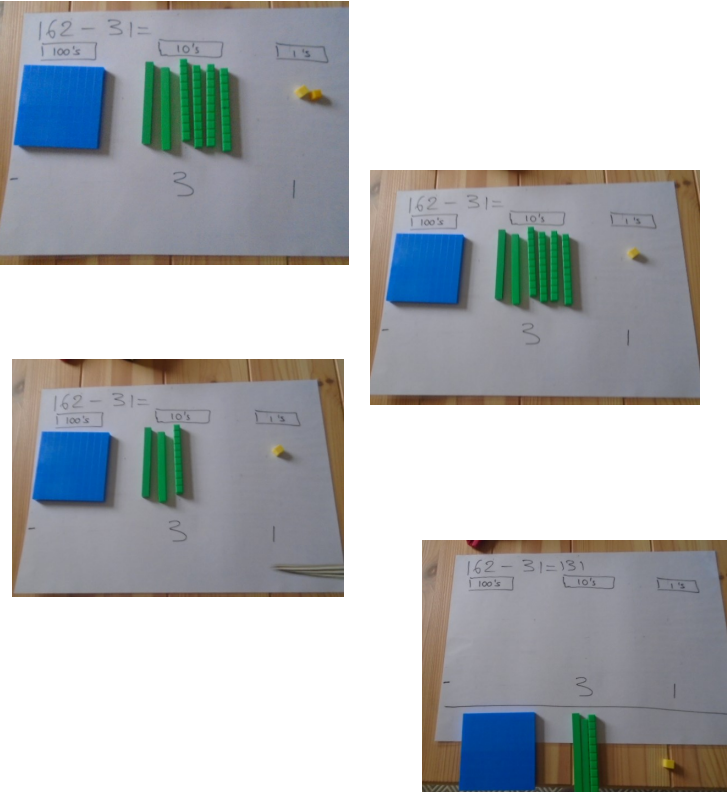


Children to be able to move through towards the stages as they feel ready, concrete resources to always be available to check calculation or reinforce method as needed. Using digits alone should be avoided until the child is secure in the method and able to apply it independently and reason using that skill in problem solving.

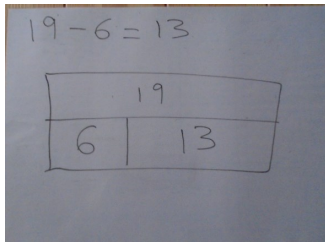
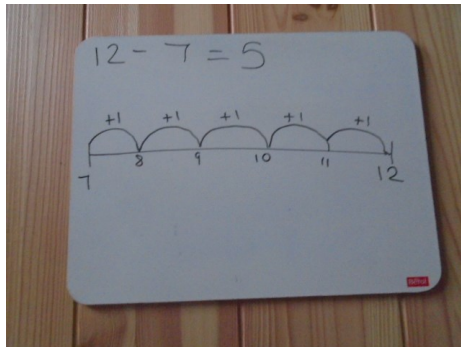
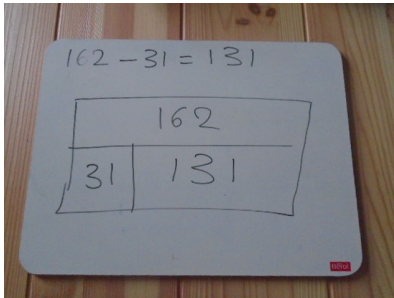
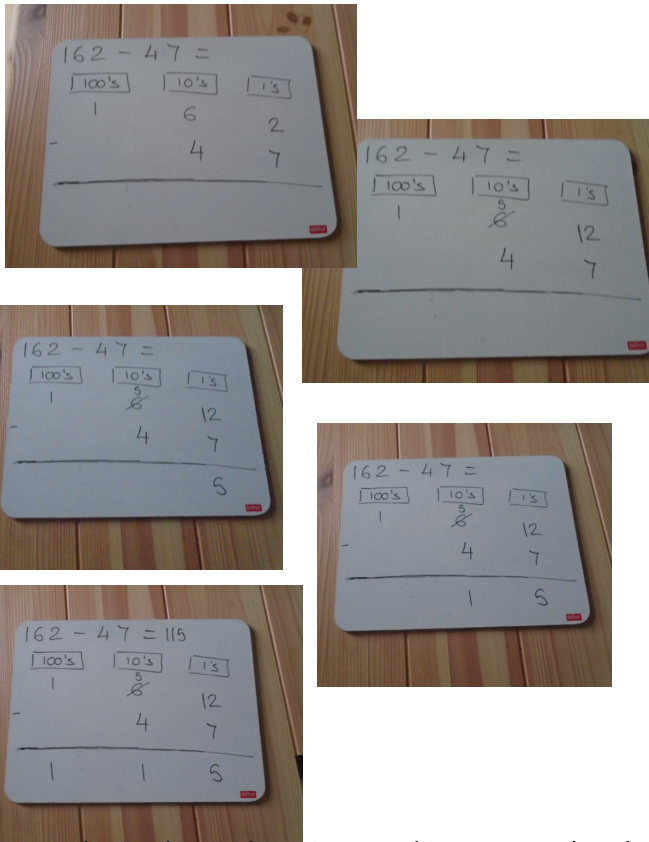
Concrete

Subtraction	Subtracting Ones	Find the Difference	Part + Part = Whole	Formal Method	Formal Method (with exchanging)
Vocabulary	parts, whole, group, bar, together, number, same as, equal, larger number, less than, subtract, take away, smaller number, calculation, answer, tens, ones, without, difference,	how many more, how many less, difference, tens, ones, fewer, shortest, tallest, bar, more than, less than, subtract, calculation, equals, same as, smaller number, larger number,	part, whole, add, subtract, difference, fewer, less, missing, without, more, left, exchange, hundreds, tens, ones, bar, equal, same,	Number bonds, partition, smaller, column, tens, ones, hundreds, thousands, place value, exchange, number bonds, partition, without, less than, more than, difference, together, fewer,	
Concrete	 Looking at the first number in the calculation, children count out this number of cubes, they then separate or move away from these the number of objects in the second part of the calculation. Using the bar, the first number is the whole amount, going on the top of the bar. The second number is one part of the whole, and is shown in one of the parts below. The amount “left” is the missing part and the answer. Calculation to be displayed and digits can be used alongside objects.	 Similar to counting on in addition, children using counting on to find the difference between the first number in the calculation and the second number. This could be presented in the form of towers of objects, or using the bar model, where there first number is the whole and the second is a part. The missing part is the difference between the two amounts. Calculation to be displayed along side resources.	 Using the bar diagram, children try to find the missing part of the whole. Similar to find the difference and subtracting ones using the bar. This can be presented as in the form of missing number questions.	 Using resources, children partition the first number of the calculation into hundreds, tens, ones. They arrange them into a place value columns. The children subtract the second amount column by column always starting with the ones and working right to left, writing the remaining amounts below the line first horizontal line. Exchange is to be shown by regrouping above the digits, Number sentence to be displayed and digits should accompany objects.	
	Possible Resources cubes, counters, topic related objects, dienes, bars,	Possible Resources cubes, counters, topic related objects, dienes, bars, number lines,	Possible Resources bar, whiteboards and pens, dienes, bead strings,	Possible Resources laminated column subtraction mats, dienes, place value counters,	
	How it would look in books Photograph	How it would look in books Photograph	How it would look in books Photograph	How it would look in books Photograph	

Pictorial

Subtraction	Subtracting Ones	Find the Difference	Part + Part = Whole	Formal Method	Formal Method (with exchanging)
Vocabulary	parts, whole, group, bar, together, number, same as, equal, larger number, less than, subtract, take away, smaller number, calculation, answer, tens, ones, without, difference,	how many more, how many less, difference, tens, ones, fewer, shortest, tallest, bar,	part, whole, add, subtract, difference, fewer, less, missing, without,	Number bonds, partition, smaller, column, tens, ones, hundreds, thousands, place value, exchange, number bonds, partition, without, less than, more than, difference, together, fewer,	
Pictorial					
	Using the bar to show to the whole amount, the jottings or pictures are crossed out as they are subtracted.. Calculation to be displayed and digits shown alongside jottings. When children are more secure, jottings or pictures can be displayed without the bar, below the corresponding number and crossed out as they are subtracted.	Similar to counting on in addition, children using counting on to find the difference between the first number in the calculation and the second number. Using the bar, children put the first amount in the whole at the top of the bar. They then put second amount underneath and count the difference. This can be shown using jottings, pictures of objects or paper dienes. Additionally, children may find the difference using a number line. Finding the second number on the number line and counting up to the larger number.	Using the bar, children use jottings of pictures of objects to show the first amount. They then cross out the amount of the part they know, counting what is “left” to find the missing part. Digits to be used as well as jottings or pictures. Calculation is written next to the bar.	Using place value grid, children use jottings or paper dienes to build the first number in the calculation. Starting with the ones, children cross out those that are being subtracted. The amount left for each column is written below the first horizontal line. Exchange to be shown by the crossing out and re-drawing, for example, crossing out one ten and re-drawing in the correct column as 10 ones. Digits to be used along side and calculation to be written near each calculation.	
	<u>Possible Resources</u> green and yellow paper to represent dienes, pictures of topic objects, explanation of ‘fish, chips, peas’ for jottings	<u>Possible Resources</u> green and yellow paper to represent dienes, pictures of topic objects, explanation of ‘fish, chips, peas’ for jottings, number lines,	<u>Possible Resources</u> bar, whiteboards and pens, dienes, bead strings,	<u>Possible Resources</u> laminated column subtraction mats, green and yellow paper to represent dienes, explanation of ‘fish, chips and peas’ for jottings.	
	<u>How it would look in books</u>	<u>How it would look in books</u>	<u>How it would look in books</u>	<u>How it would look in books</u>	

Abstract

Subtraction	Subtracting Ones	Find the Difference	Part + Part = Whole	Formal Method	Formal Method (with exchanging)
Vocabulary	parts, whole, group, bar, together, number, same as, equal, larger number, less than, subtract, take away, smaller number, calculation, answer, tens, ones, without, difference,	how many more, how many less, difference, tens, ones, fewer, shortest, tallest, bar,	part, whole, add, subtract, difference, fewer, less, missing, without,	Number bonds, partition, smaller, column, tens, ones, hundreds, thousands, place value, exchange, number bonds, partition, without, less than, more than, difference, together, fewer,	
Abstract					
	Still using the bar, jottings and objects are replaced with digits. Children may still use jottings to help their understanding. Number sentence to be written next to the bar. Additionally, without the bar, again, jottings or objects are replaced by digits.	Concrete resources are replaced with digits, children may still using jottings to aid understanding. Using the bar, children put the whole amount at the top and the second number in one of the parts before finding the difference to find the missing part. Additionally, children may find the difference using a numbered or blank number line. Finding the second number on the number line and counting up to the larger number.	Using the bar, children replace jottings or objects with digits. Jottings may still be used to aid understanding. Calculation is written next to or above the bar.	Using place value grid, jottings or objects are replaced with digits, although jottings may still be used to aid understanding or to check an answer. Exchange to be shown by the crossing out the amount that is exchanged and showing the movement to the next place value columns.	
	<u>Possible Resources</u> pre-printed bars,	<u>Possible Resources</u> pre-printed bars, blank and number lines.	<u>Possible Resources</u> pre-printed bars,	<u>Possible Resources</u> laminated column subtraction mats, green and yellow paper to represent dienes, explanation of 'fish, chips and peas' for jottings.	
	<u>How it would look in books</u>	<u>How it would look in books</u>	<u>How it would look in books</u>	<u>How it would look in books</u>	