Maths and Calculations Policy

Date: June 2025

Review date: June 2026

Approved by the Advisory Board: June 2025

Signed

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Version Control

Version	Date of review/change(s)	Page and paragraphs affected	Summary of update
New policy	July 2023		
V2	June 2024	P3 Implementation	[students are able to take] Functional Skills (Entry Level, Level 1 or Level 2) - *Replaced with* the Edexcel Level 1/Level2 GCSE (9 to 1) in mathematics and/or the Edexcel Entry Level Certificate in mathematics (level 1, 2 or 3).
		P3 Impact	[RAG their] 'effort and understanding' replaced with 'work'
V3	June 2025	P3 Implementation 3rd para.	Removed: 'Students continue to learn maths based on the stage they were at the end of KS3. A further 2 stages cover GCSE maths topics for the Foundation and Higher papers. This allows'
		P3 Impact	1st line removed: 'Students complete lesson reflections and RAG their work at the end of each lesson which allows them to reflect on what they have achieved in the lesson. Teachers also RAG the lesson objectives' [core numeracy topics] 'as well as geometry and statistics' - added
		P12	Stage 5 changed to Stage E
V4	September 2025	P3 Implementation 3rd paragraph	Edexcel changed to AQA
		Appendix one	Page 15: Stage A amended to Stage A & B 'Abstract' column: graphic removed Page 16 Stage A: removed 'multiplication' P20 Stage B: removed 'multiplication' P21 Stage C onwards: removed 'Division' P22 Stage C: removed 'multiplication' P23-24 Stage D Onwards: removed 'multiplication'

Intent

Our vision for maths at All Saints School is for every students' maths learning to support their unique journey in education and develop their maths skills for life. Our aim is for students to have developed secure numeracy skills to allow them to access the next stage of education that they would like to follow as well as give them the mathematical and problem solving skills that will support them in adult life.

Many students starting at All Saints have gaps in their maths education and also lower reading abilities which makes accessing the reading of maths material difficult.

The teaching of maths at All Saints School is student focused to ensure students feel comfortable, confident and secure in their maths class while at the same time ensuring students follow a learning path that ensures they achieve the best possible outcome and results in their maths to help them take their next steps in both education and life.

Implementation

To achieve this in KS2 and KS3 maths is taught in "stages" (based on students' current mathematical understanding) rather than in year groups. This allows teaching to be focused at a level appropriate to students and allows teachers to support any gaps in understanding, misconceptions and allows for consolidation of topics.

Students build on their knowledge as they move through the stages (there are 6 stages in KS2/KS3). Students begin at the school at the stage which is appropriate for them and progress through the stages based on the development of their own mathematical knowledge. This method of teaching ensures students' progress at the rate that is right for them and each student reaches their full potential.

We see Key Stage 4 as a natural continuation from KS3. Students follow the path that is right for them and are entered into the most suitable maths qualification for them. Students are able to take the Edexcel Level 1/Level2 GCSE (9 to 1) in mathematics and/or the AQA Entry Level Certificate in mathematics (level 1, 2 or 3).

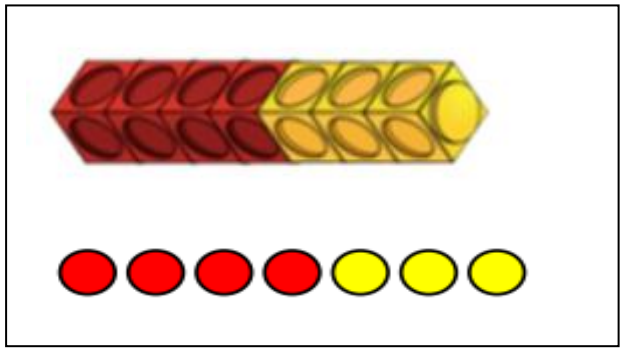
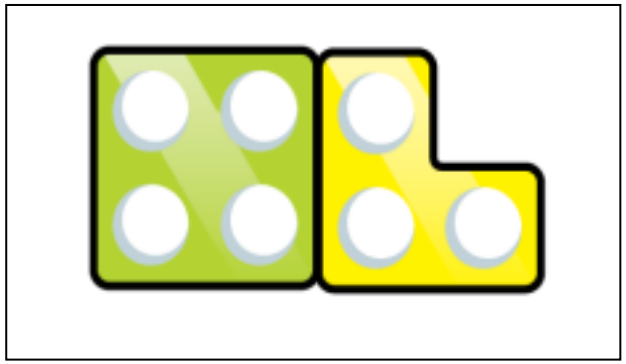
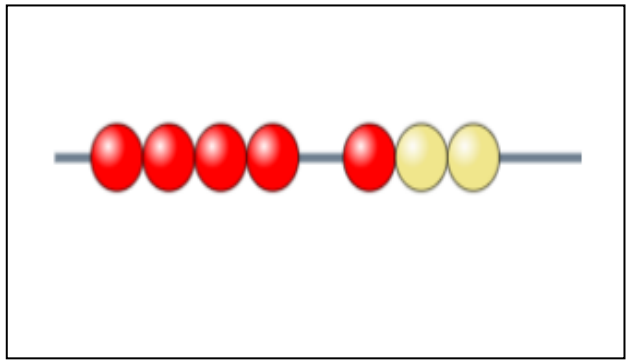
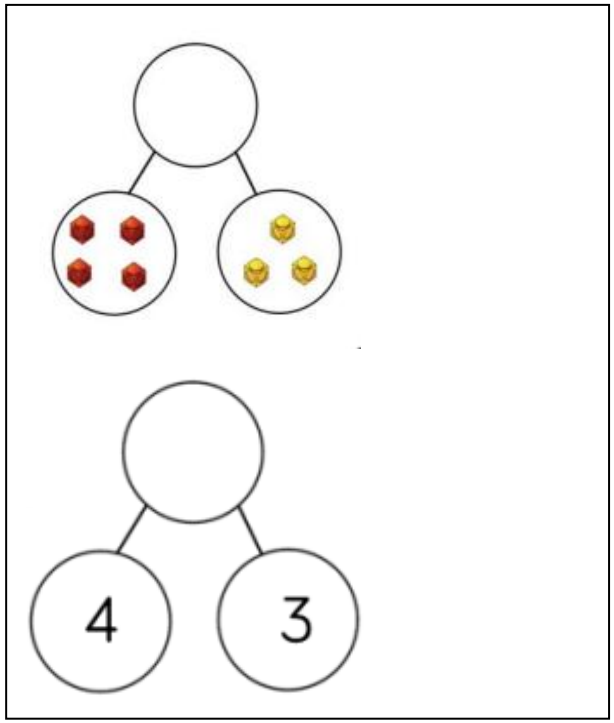
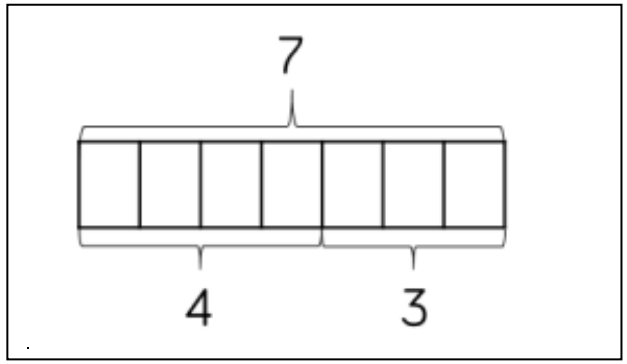
For teaching KS2 and some KS3 maths we use the White Rose Maths resources which follow a mastery approach using concrete, pictorial and abstract techniques to develop students understanding of topics. Appendix one sets out our calculation policy giving guidance on the techniques used to teach students.

Impact:

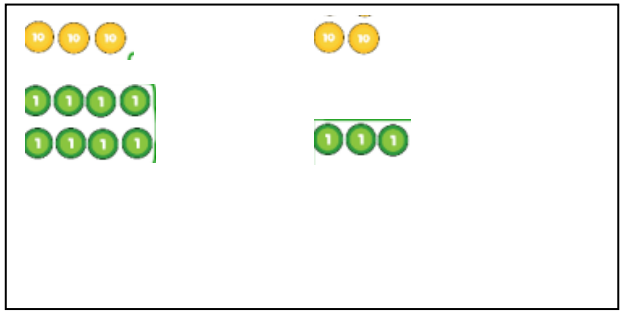
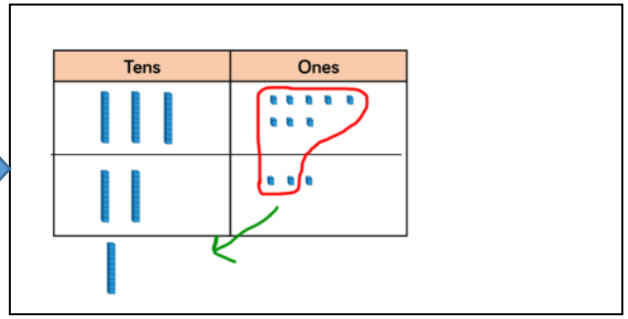
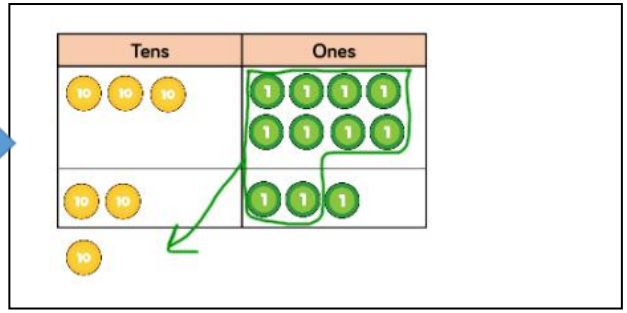
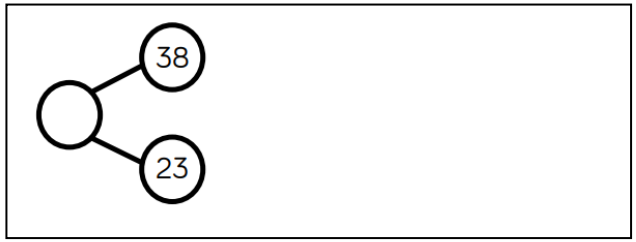
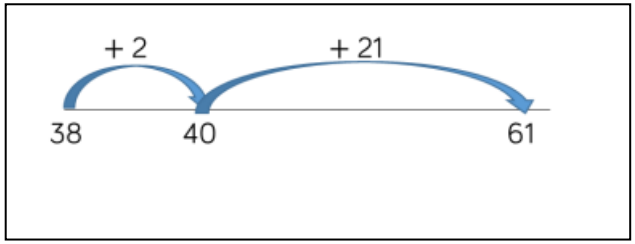
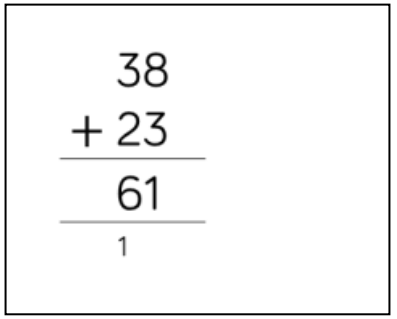
Benchmark assessments are completed by students at the beginning and the end of core numeracy topics, as well as geometry and statistics. Assessments evidence the progress that students are making. A year-end assessment will also track students' progress over the year and assess their readiness to move to the next stage.

STAGE A – Addition and Subtraction

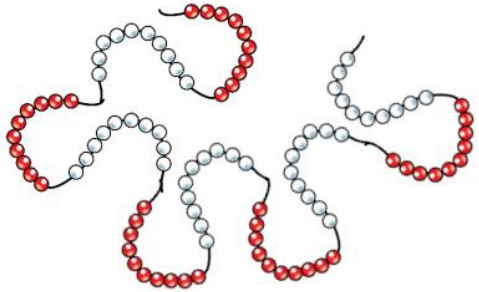
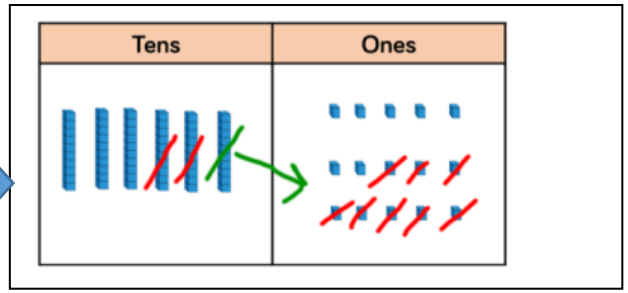
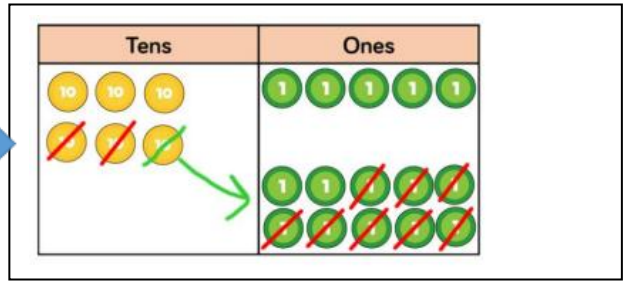
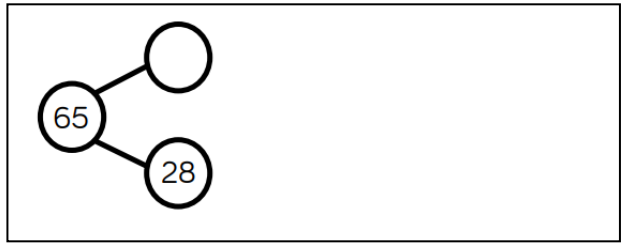
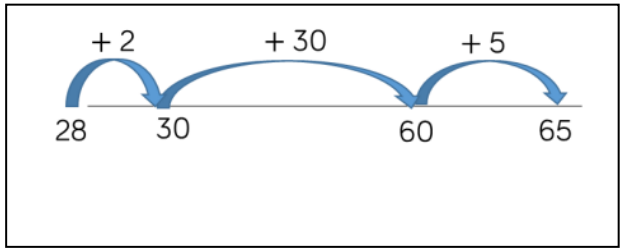
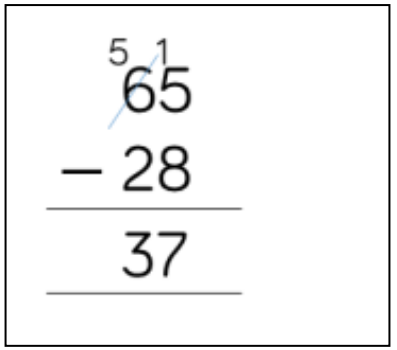
Appendix one

Objective	Concrete	Pictorial	Abstract
Students will understand number bonds up to 100 Number bonds let students split number in useful ways. Example: 3 + 4 = 7	Counters/cubes  Numicon  Beads  Note: for 2-digit numbers dienes may also be used.	Part whole model  Bar model  	Seven (7) can be split different ways: 1 and 6 2 and 5 3 and 4

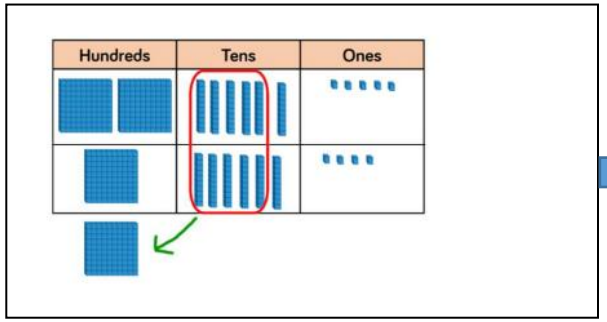
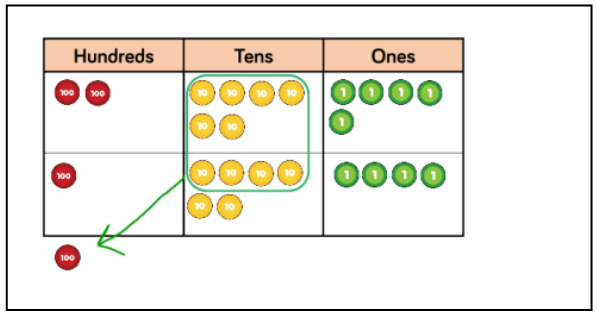
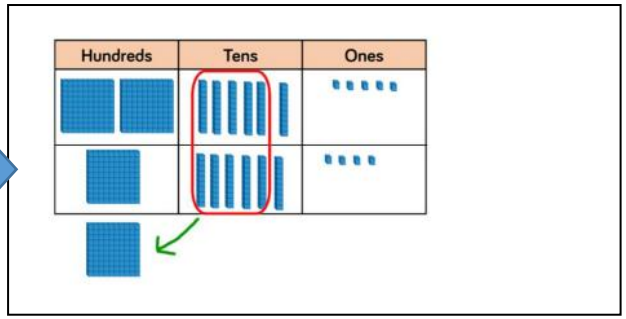
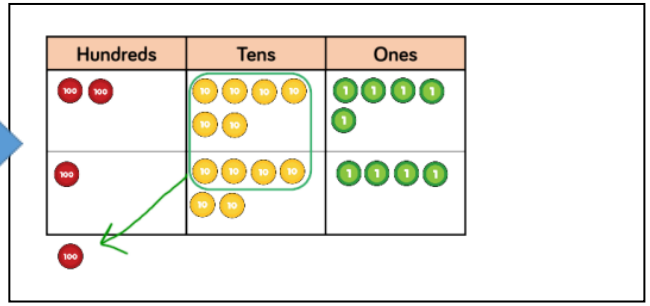
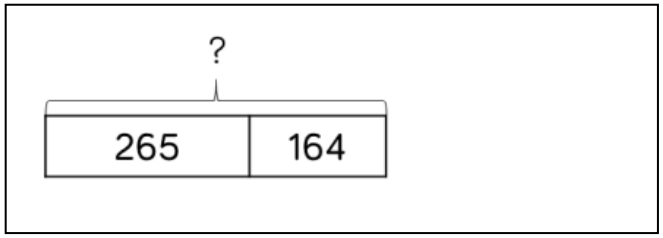
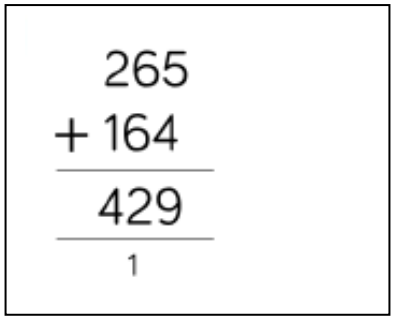
STAGE A – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to add up to 2 digit numbers from 2 digit numbers with 1 exchange. Example: 38 + 23 = 61	Dienes  Counters 	Draw dienes on PV chart  Draw counters on PV chart  Part Whole Model  Number Line  	Column Method 

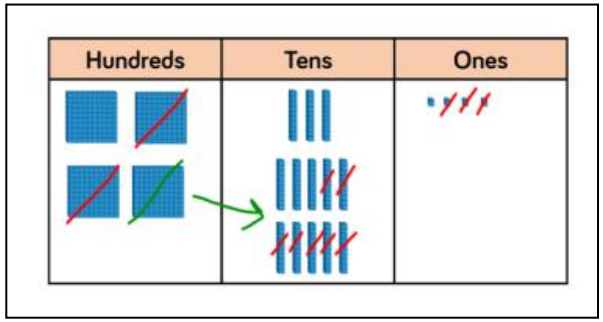
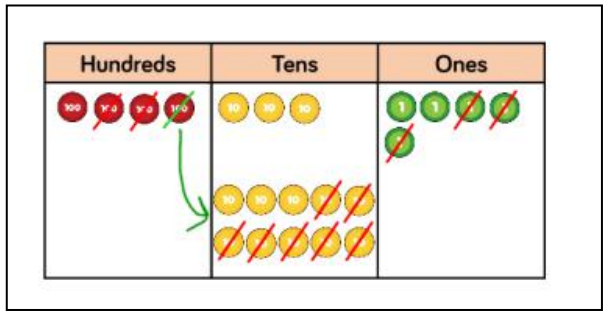
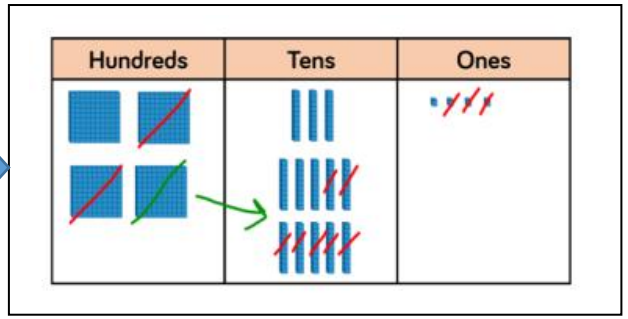
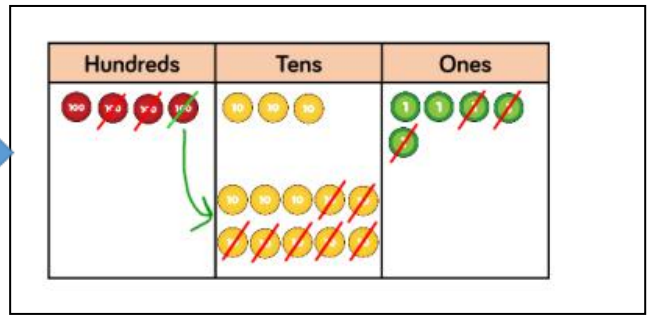
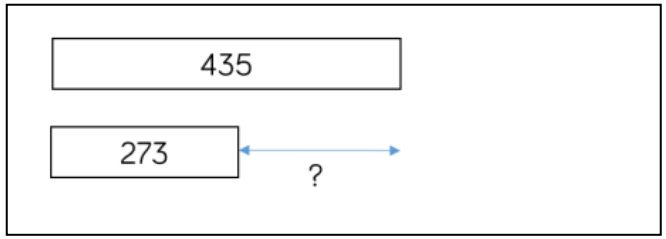
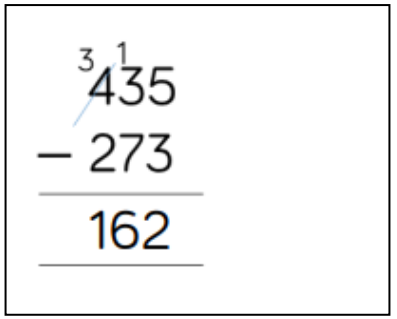
STAGE A – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to subtract up to 2 digit numbers from 2 digit numbers with 1 exchange. Example: 65 - 28 = 37	Dienes  Swap one ten block for 10 units and then subtract 28 Counters  Swap one ten counter for 10 unit counters and then subtract 28 Beads 	Draw dienes on PV chart  Draw counters on PV chart  Part Whole Model  Number Line  	Column Method 

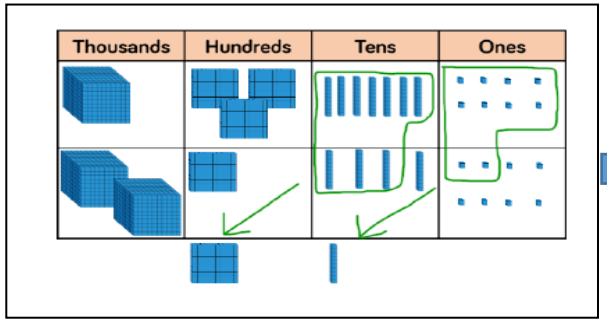
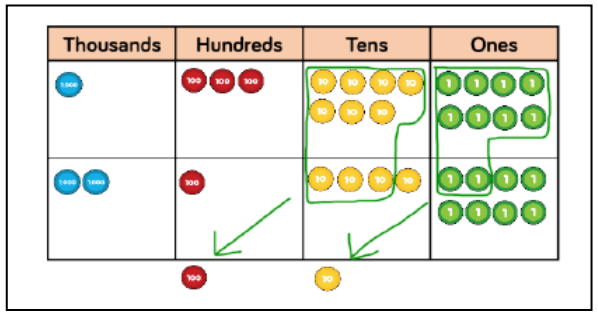
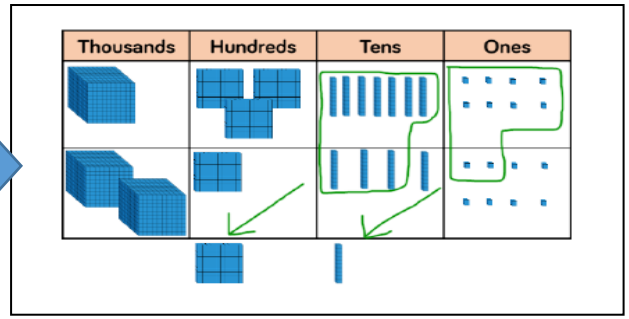
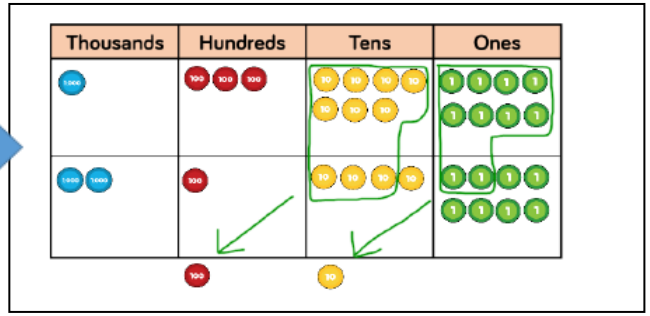
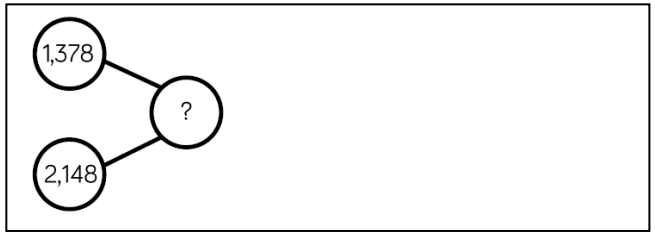
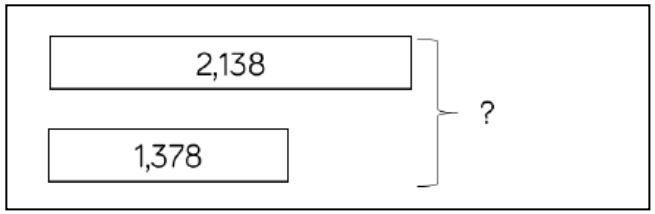
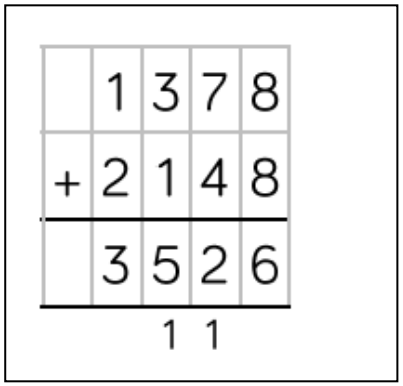
STAGE B – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to add up to 3 digit numbers from 3 digit numbers with 1 or more exchange. Example 265 + 164	Dienes placed on PV chart  Counters placed on PV chart  	Draw dienes on PV chart  Draw counters on PV chart  Part Whole Model  Bar Model  	Column Method 

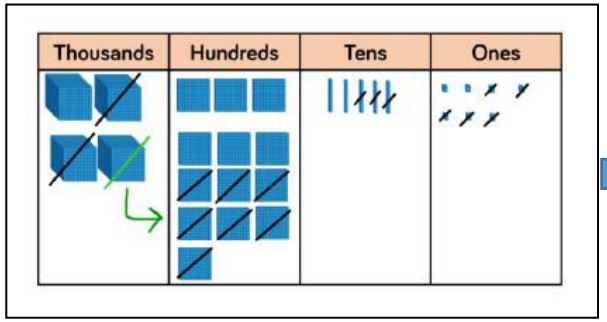
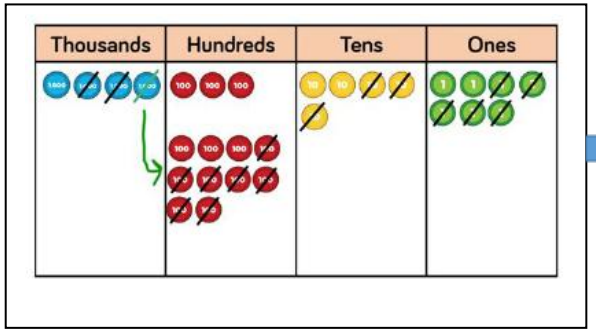
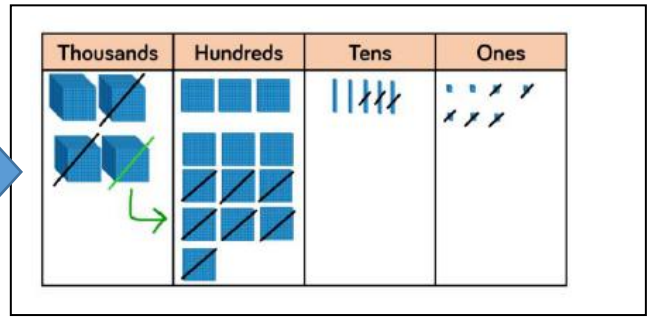
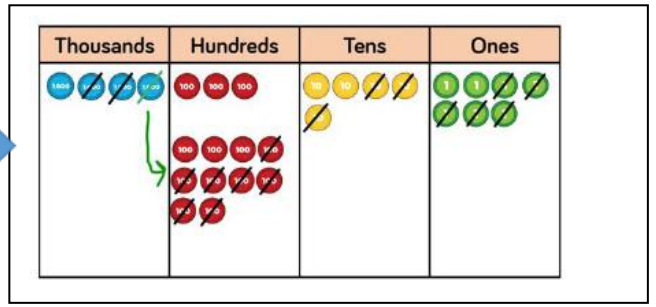
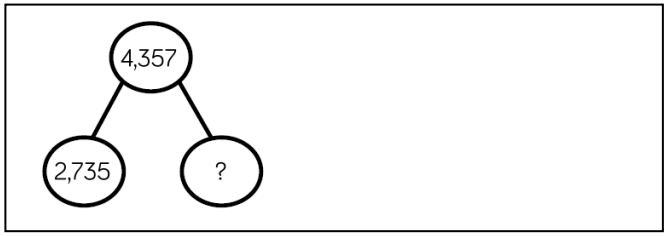
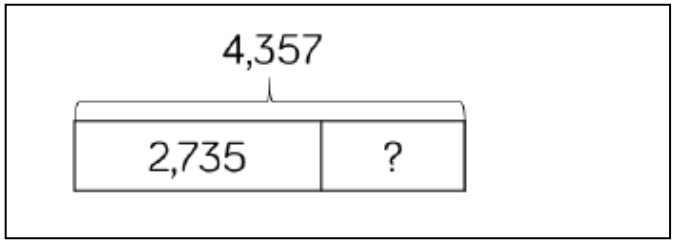
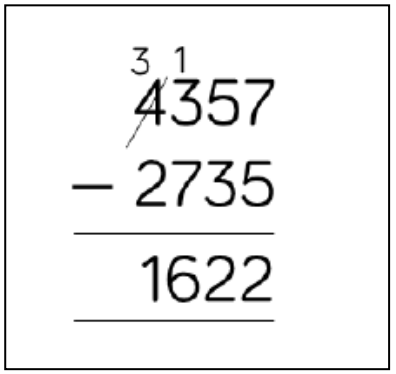
STAGE B – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to subtract up to 3 digit numbers from 3 digit numbers with 1 or more exchange. Example 435 - 273	Dienes placed on PV chart  Counters placed on PV chart  	Draw dienes on PV chart  Draw counters on PV chart  Part Whole Model  Bar Model  	Column Method 

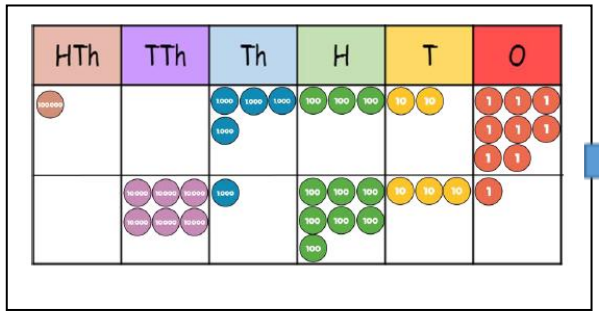
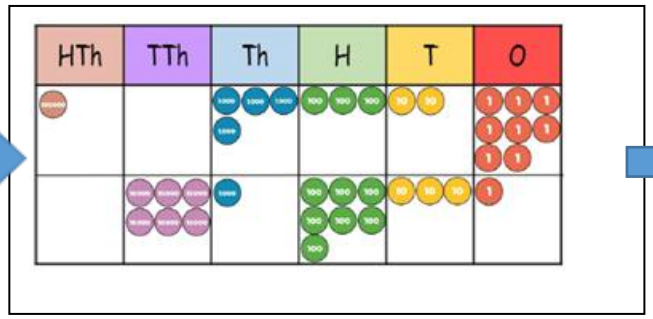
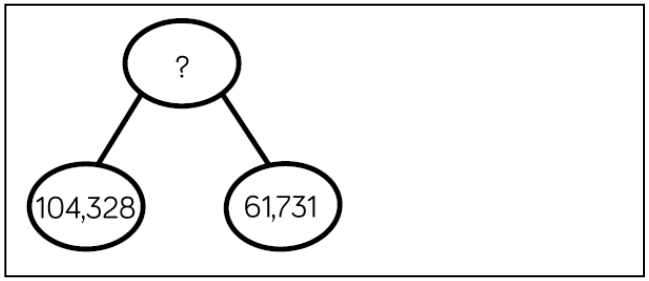
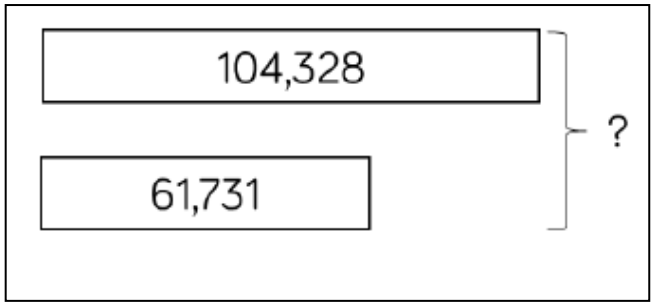
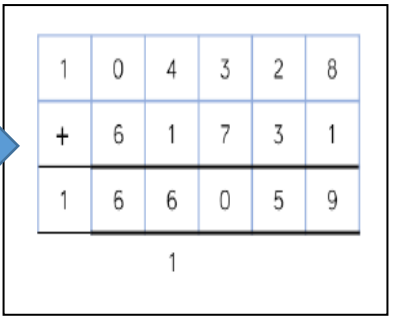
Stage C and D – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to add up to 4 digit numbers from 4 digit numbers with 1 or more exchange. Example 1,378 + 2,148	Dienes placed on PV chart  Counters placed on PV chart  	Draw dienes on PV chart  Draw counters on PV chart  Part Whole Model  Bar Model  	Column Method 

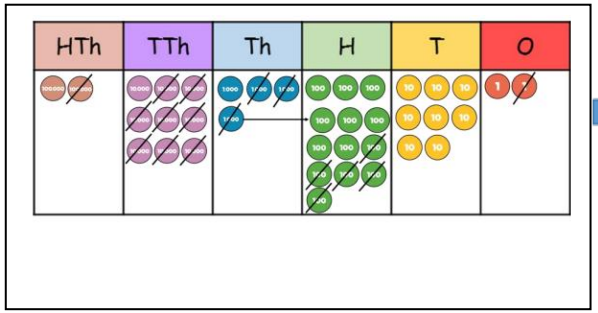
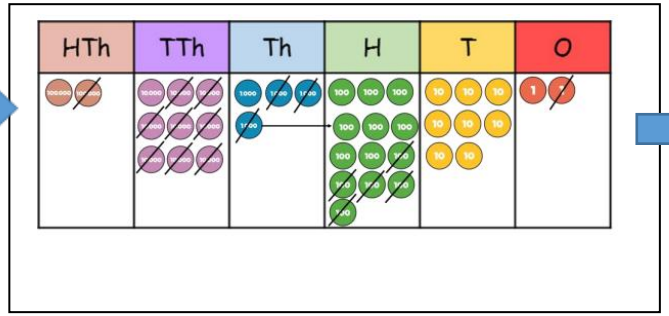
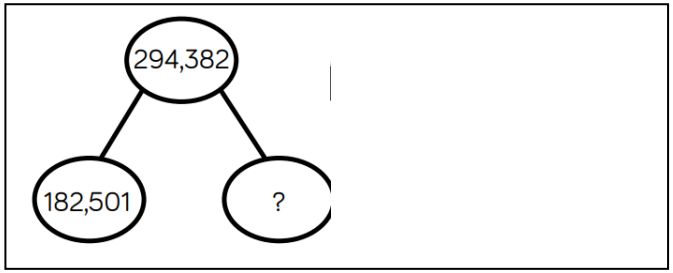
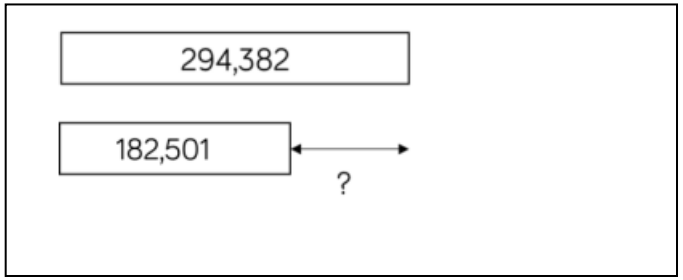
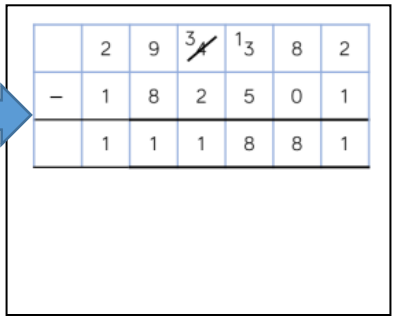
Stage C and D – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to subtract up to 4 digit numbers from 4 digit numbers with 1 or more exchange. Example 4,357 – 2,735	Dienes placed on PV chart  Counters placed on PV chart  	Draw dienes on PV chart  Draw counters on PV chart  Part Whole Model  Bar Model  	Column Method 

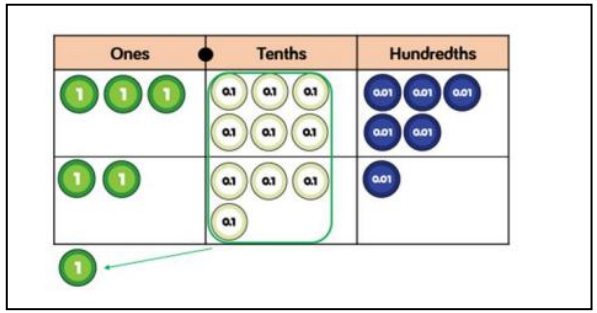
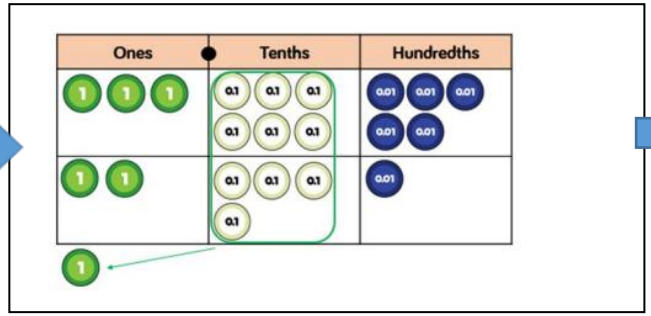
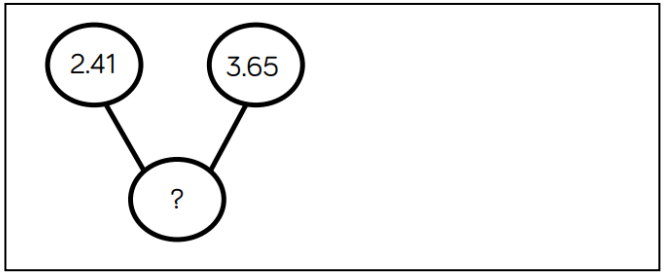
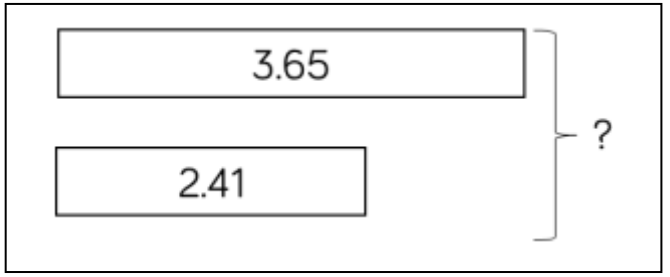
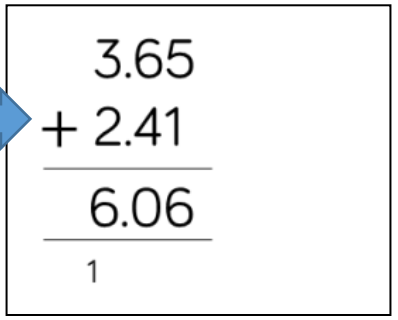
Stage E onwards – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to add any number of positive integers Example 104,328 + 61,731	Counters placed on PV chart 	Draw counters on PV chart  Part Whole Model  Bar Model 	Column Method 

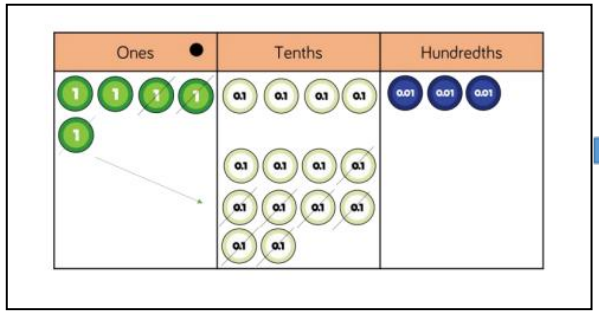
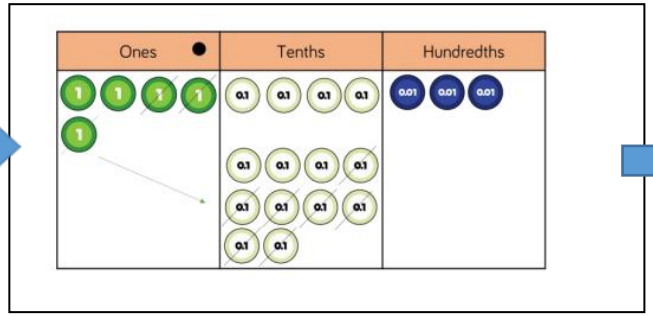
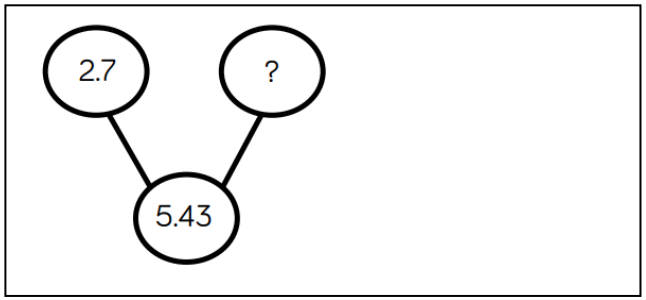
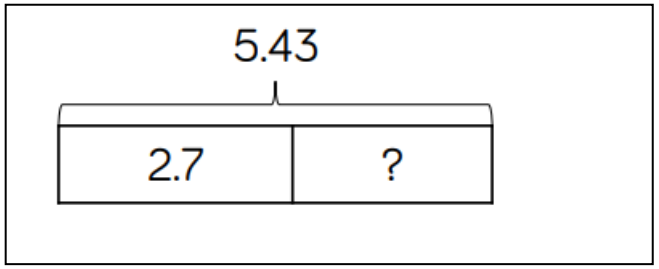
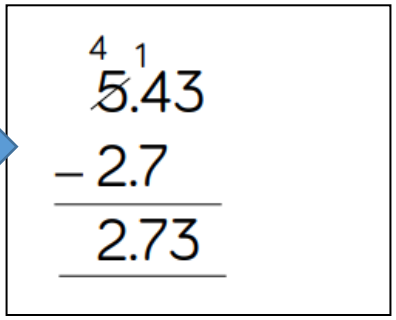
STAGE E onwards – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to subtract any number of positive integers Example 294,382 – 182,501	Counters placed on PV chart 	Draw counters on PV chart  Part Whole Model  Bar Model 	Column Method 

STAGE E onwards – Addition and Subtraction

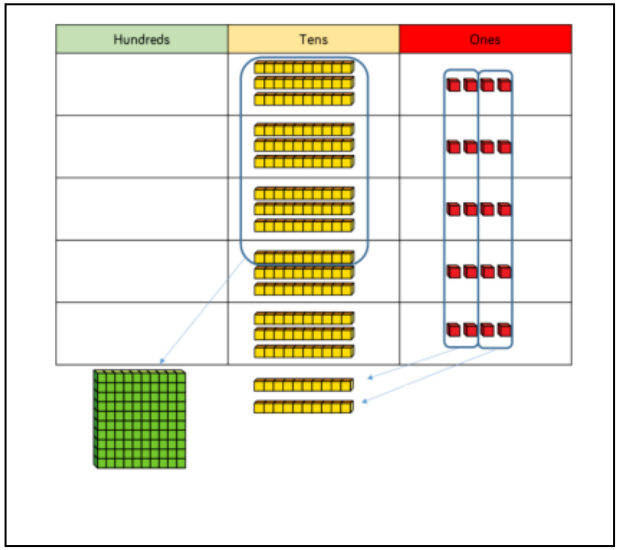
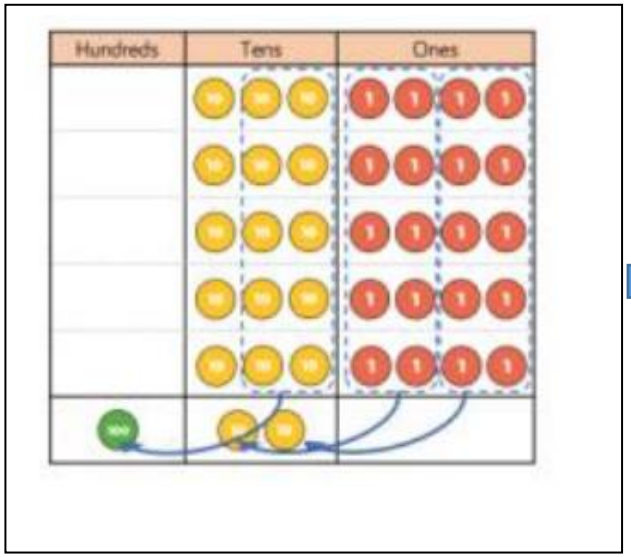
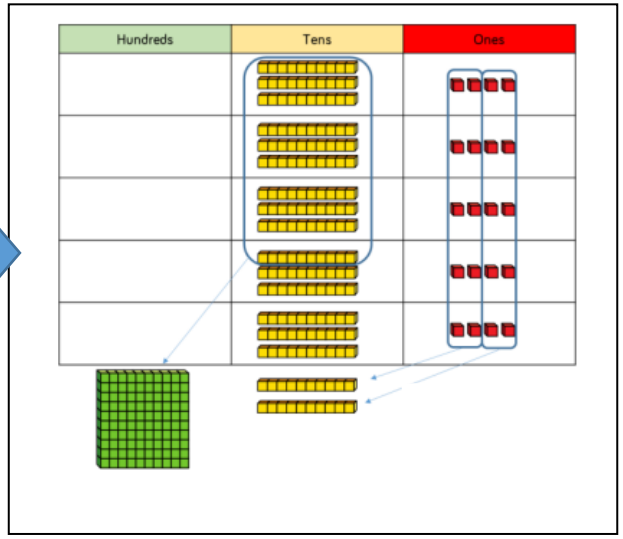
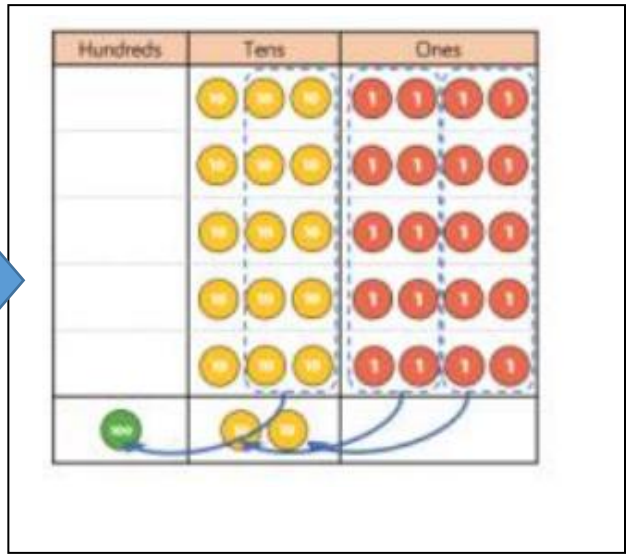
Objective	Concrete	Pictorial	Abstract
Students will be able to add any number with decimal places* Example 3.65 + 2.41 *Note: Stage E (up to 2 decimal places) Stage F onwards (any number of decimal places)	Counters placed on PV chart 	Draw counters on PV chart  Part Whole Model  Bar Model 	Column Method 

STAGE E onwards – Addition and Subtraction

Objective	Concrete	Pictorial	Abstract
Students will be able to subtract any number with decimal places* Example 5.43 – 2.7 *Note: Stage E (up to 2 decimal places) Stage F onwards (any number of decimal places)	Counters 	Counters (PV chart)  Part Whole Model  Bar Model 	Column Method 

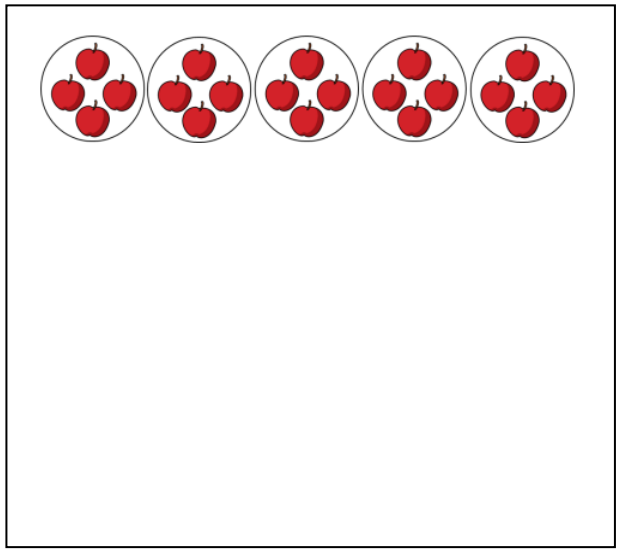
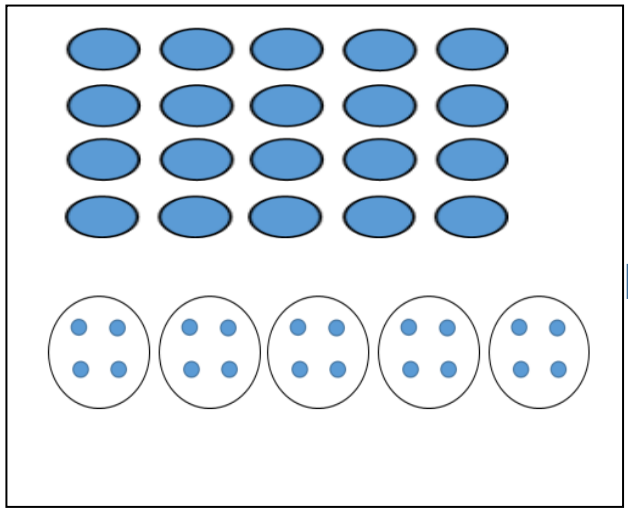
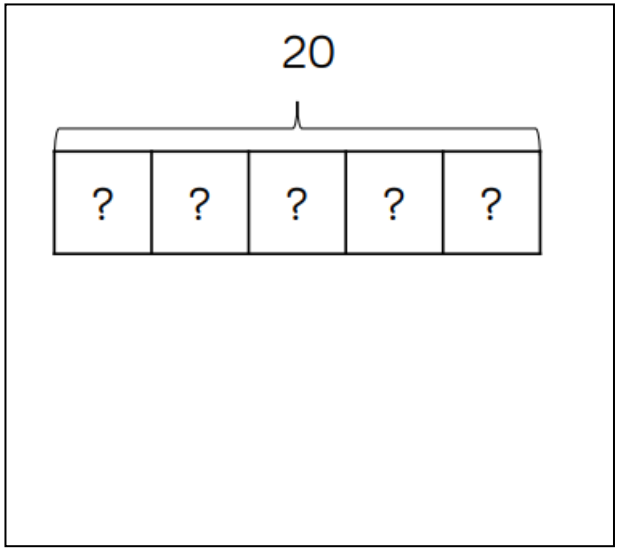
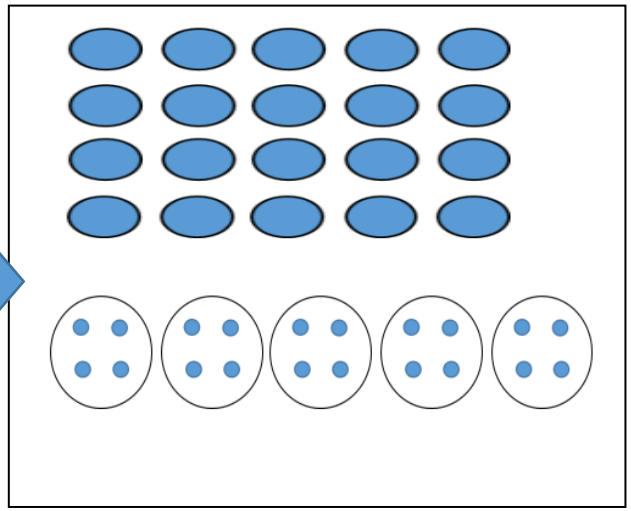
STAGE A and B – Multiplication

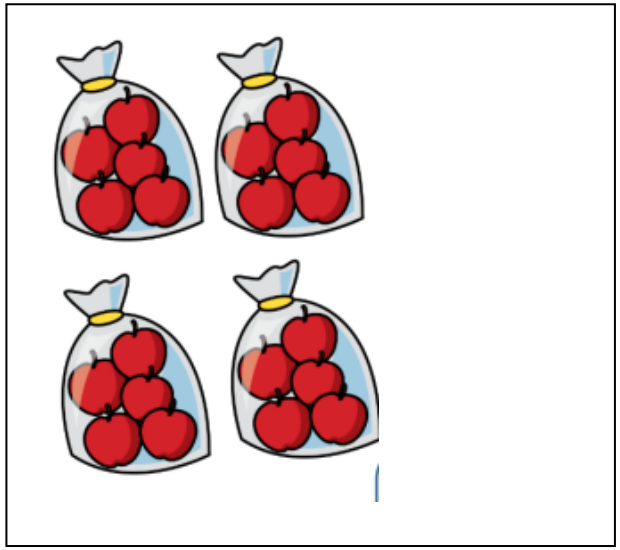
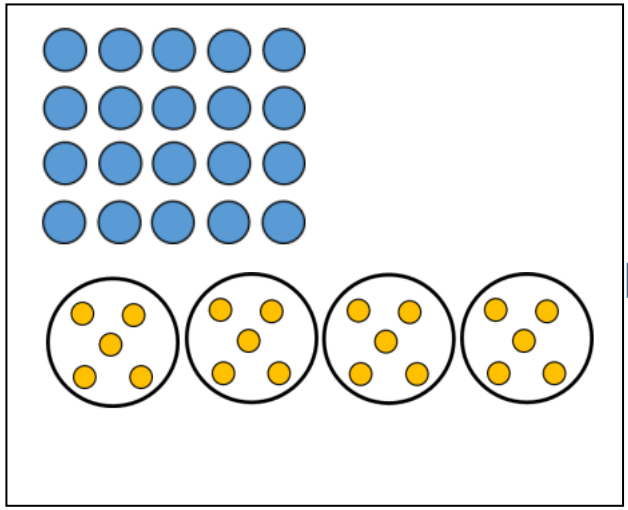
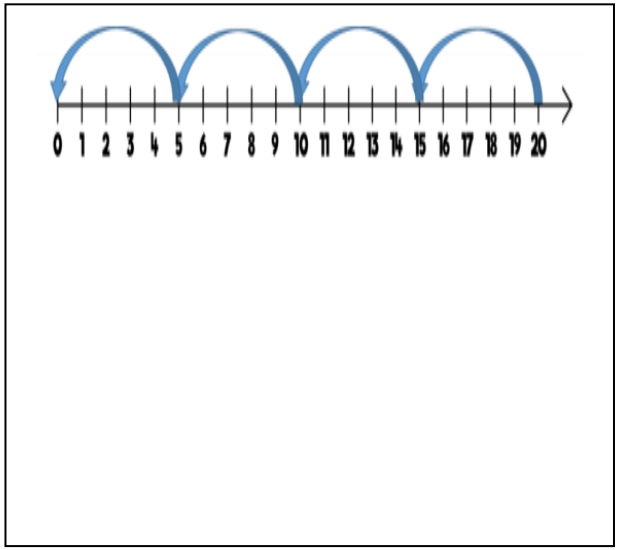
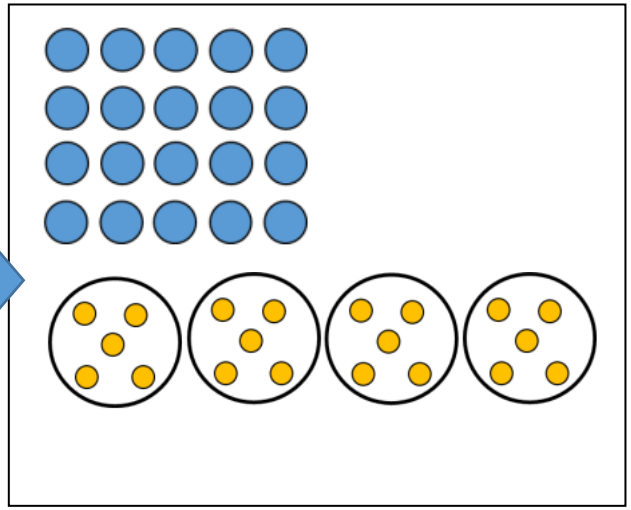
Appendix one

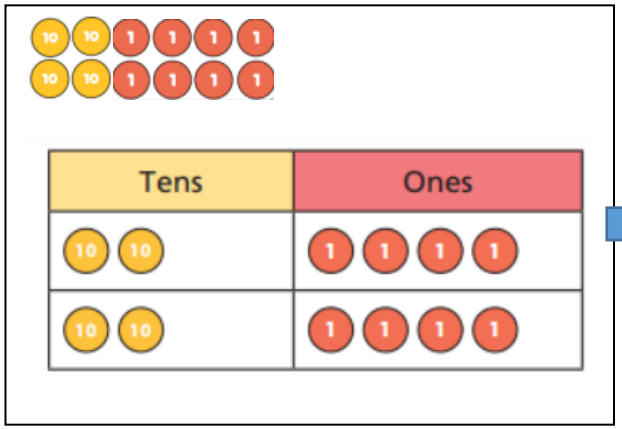
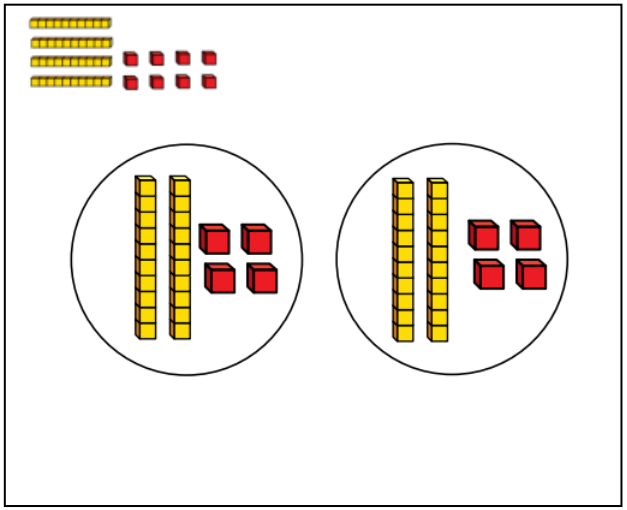
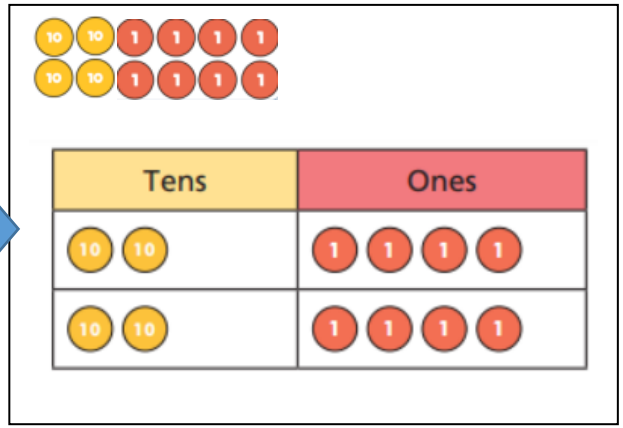
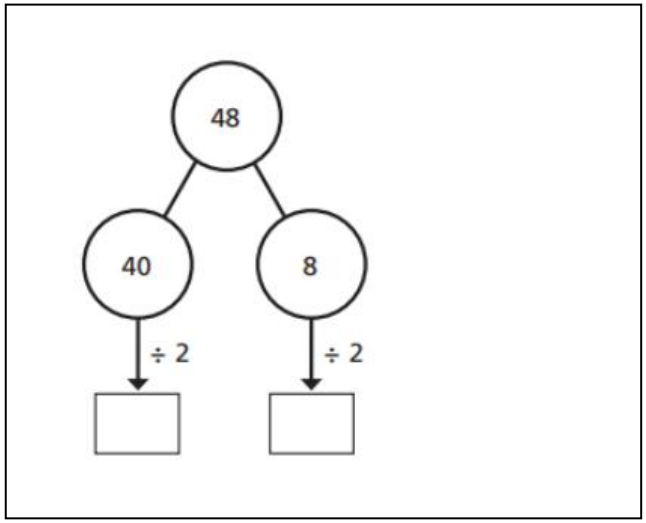
Objective	Concrete	Pictorial	Abstract
Students will work towards understanding how to multiply two digits by one digit Example: 34 x 5 = 170	Dienes  Counters  	Draw dienes on PV chart  Draw counters on PV chart  	

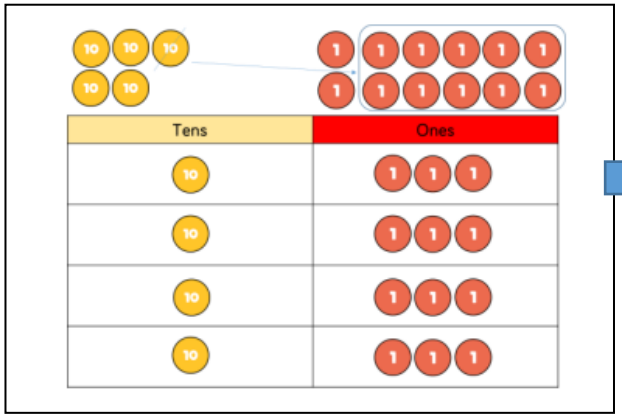
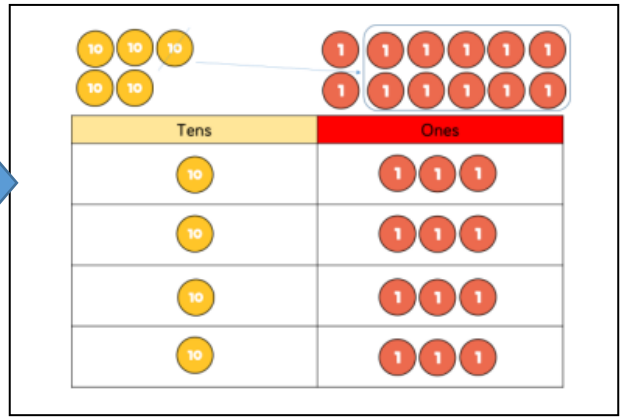
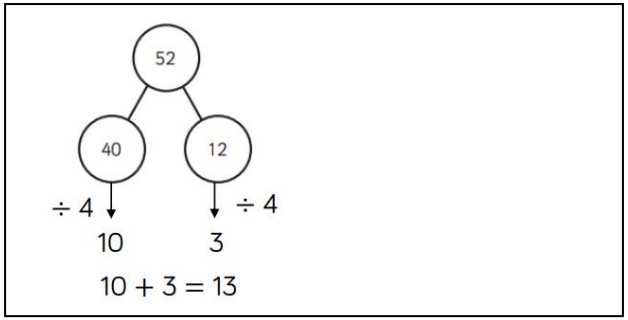
STAGE A – Division

Appendix one

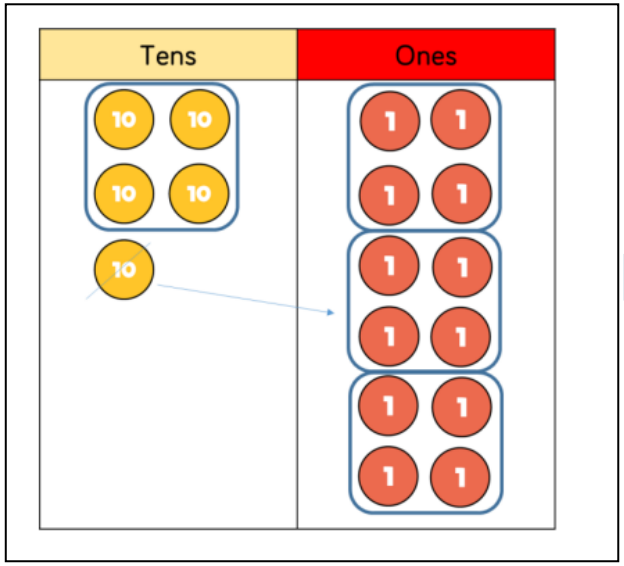
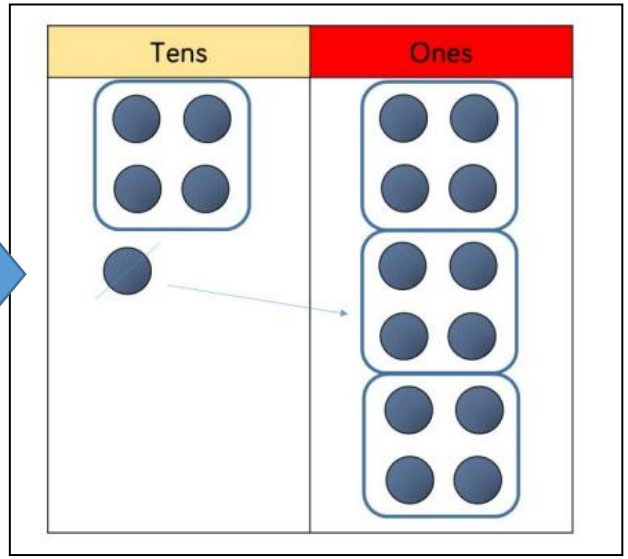
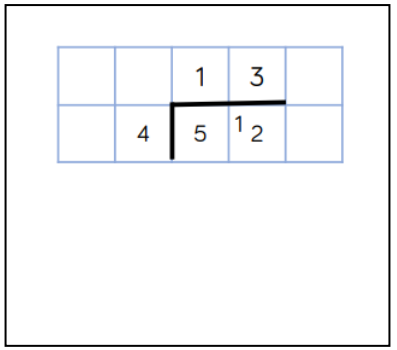
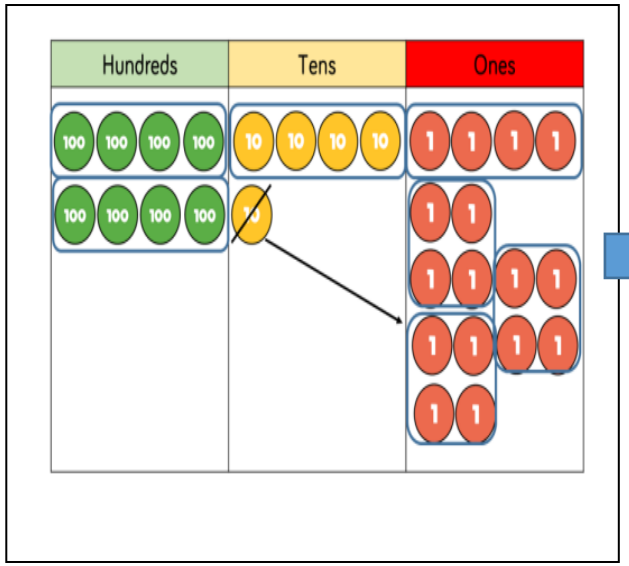
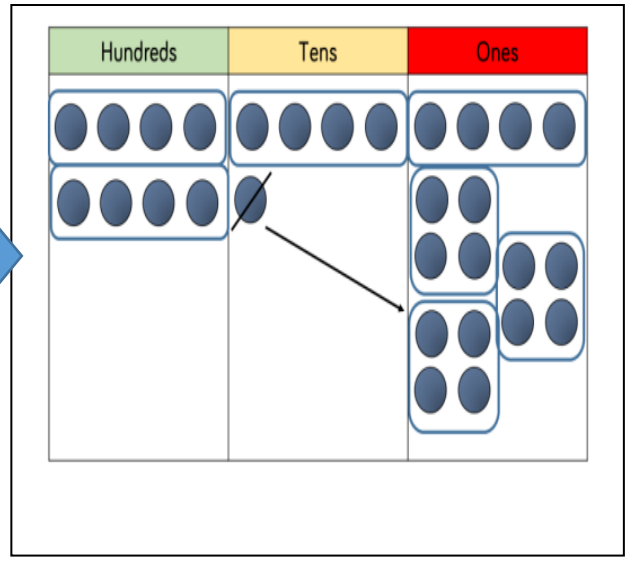
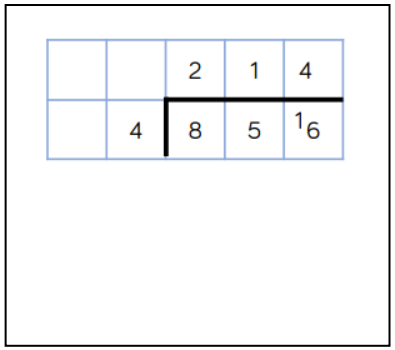
Objective	Concrete	Pictorial	Abstract
Students will begin to understand how to **share** objects Example There are 20 apples altogether. They are shared equally between 5 bags. How many apples are in each bag?	Apples  Counters 	Bar Model  Draw counters 	Understand divide sign $20 \div 5 = 4$

Objective	Concrete	Pictorial	Abstract
Students will begin to understand how to **group** objects Example There are 20 apples altogether. They are put in bags of 5. How many bags are there?	Apples  Counters 	Number line  Draw counters 	Understand divide sign $20 \div 5 = 4$

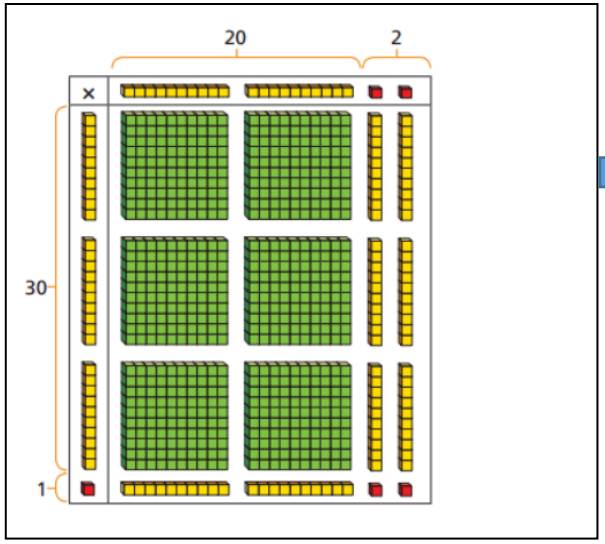
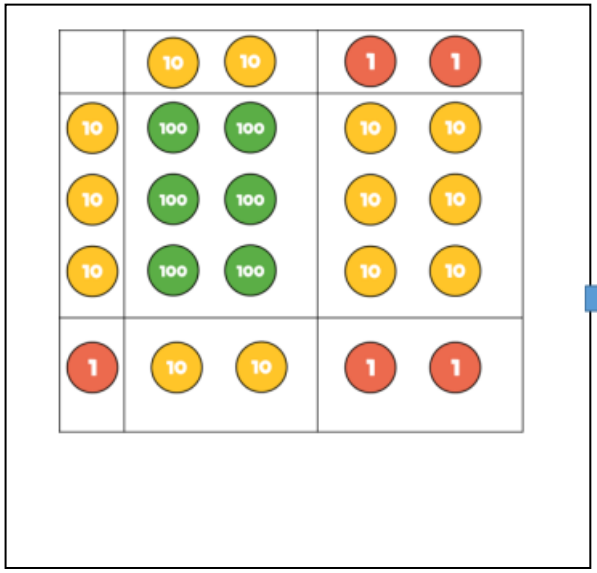
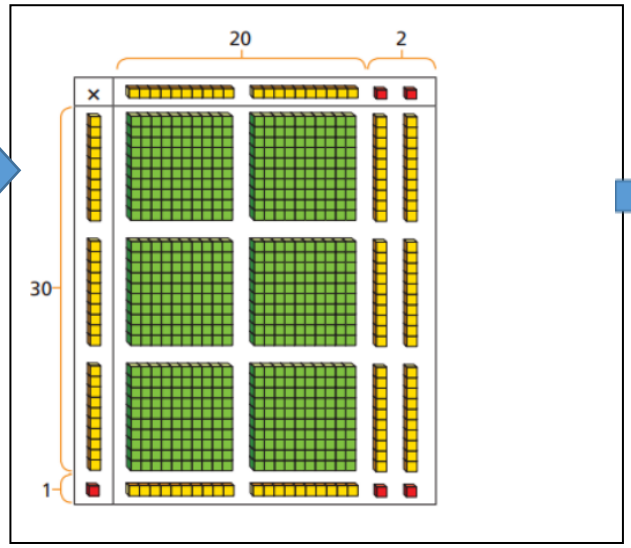
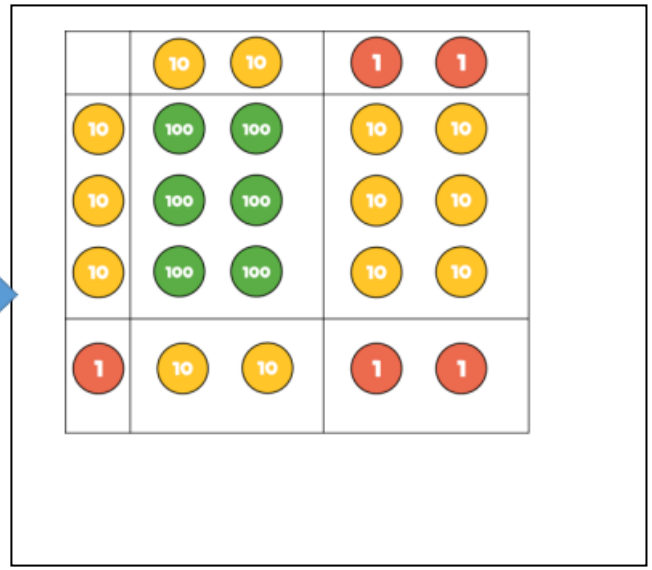
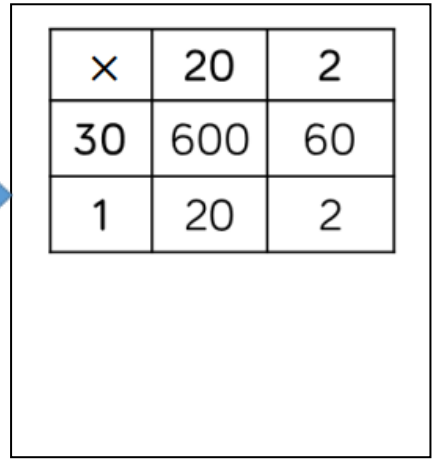
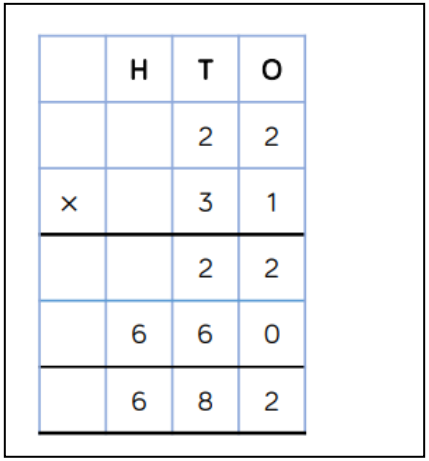
Objective	Concrete	Pictorial	Abstract
Students will begin to understand how to divide 2 digits by 1 digit (**sharing** with no exchange) Example $48 \div 2 = 24$	Counters  Dienes 	Draw Counters in books  Part whole model  	Understand divide sign $48 \div 2 = 24$

Objective	Concrete	Pictorial	Abstract
Students will begin to understand how to divide 2 digits by 1 digit (**sharing** with exchange) Example $52 \div 4 = 13$	Counters  Dienes  	Draw counters in books  Draw dienes  Part whole model  	Understand divide sign $52 \div 4 = 13$

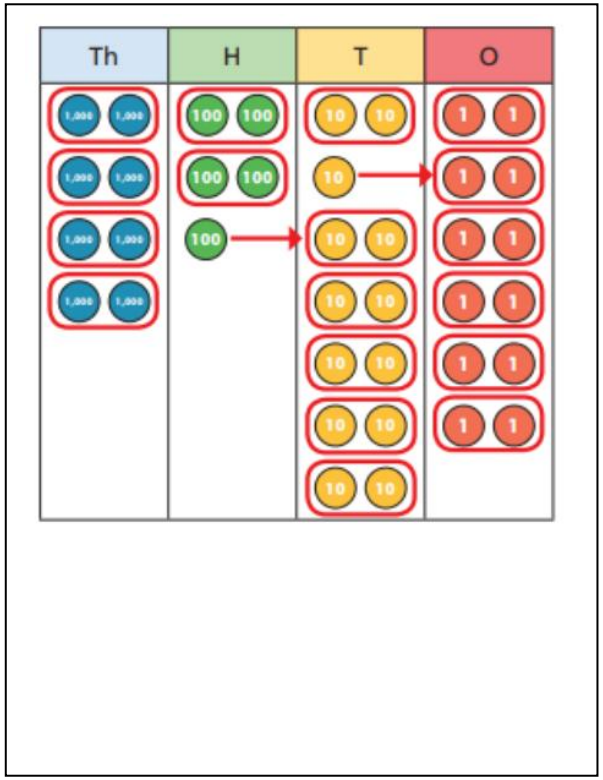
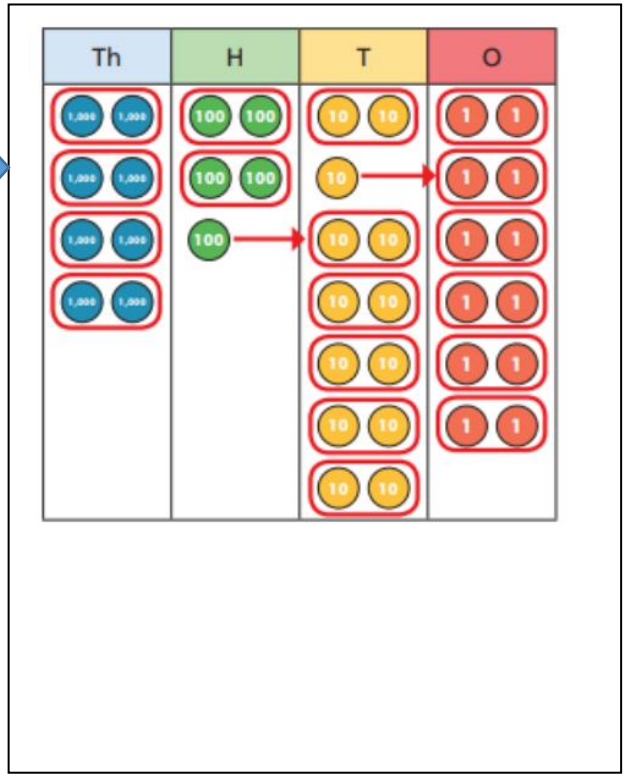
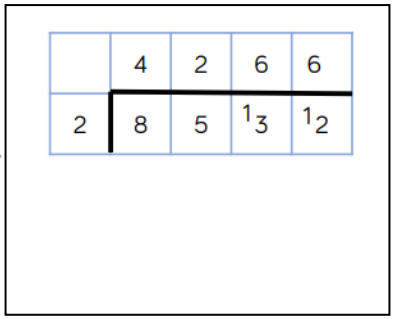
STAGE B – Division

Objective	Concrete	Pictorial	Abstract
Students will begin to understand how to divide 2 digits by 1 digit (**grouping**). Example: $52 \div 4 = 13$	Counters 	Draw counters in books 	Written Method 
Students will begin to understand how to divide 3 digits by 1 digit (**grouping**). Example: $856 \div 4 = 214$	Counters: 	Draw counters in books 	Written Method 

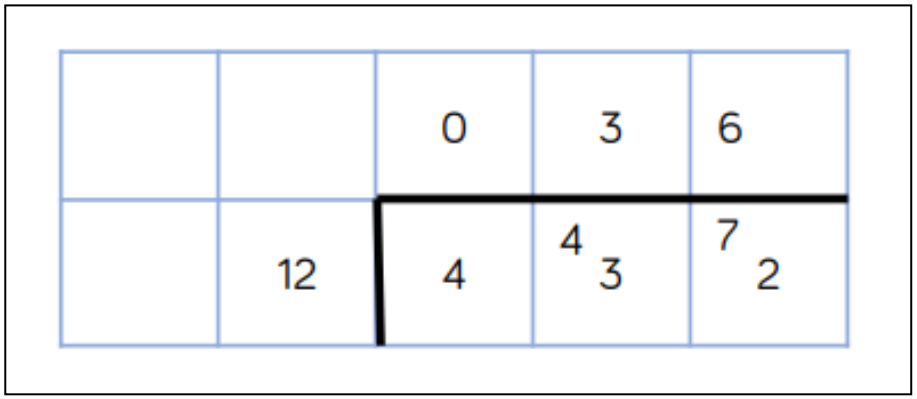
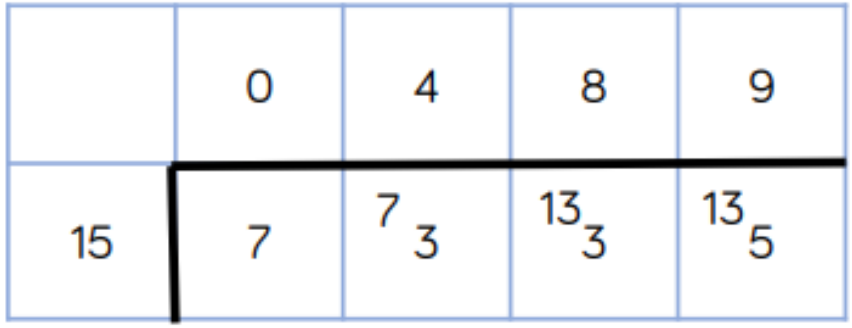
STAGE C onwards – Multiplication

Objective	Concrete	Pictorial	Abstract
Students will begin to understand how to multiply 2 or 3 digits by 2 digits Example: $22 \times 31 = 682$	Dienes (Area model)  Counters  	Draw dienes in books  Draw counters in books  	Grid Method  Formal Written Method 

STAGE C – Division

Objective	Concrete	Pictorial	Abstract
Students will begin to be able to divide 4 digits by 1 digit (**grouping**)(with/without remainders) Example $8{,}532 \div 2 = 4{,}266$	Counters 	Draw counters in books 	Column Method 

Stage D onwards – Division

Objective	Concrete	Pictorial	Abstract
Students will be able to divide any number of digits by 2 digits using **short division** (with/without remainders) Example $432 \div 12 = 36$ Example $7{,}335 \div 15 = 489$	Not used	Not used	Written Method   It may help students to write out the multiples of 15 to support them in the calculations 15 30 45 60 75 90 105 120 135 150

Stage D onwards – Division

Objective	Concrete	Pictorial	Abstract
Students will be able to divide any number of digits by 2 digits using **long division** (with/without remainders). Example **432 ÷ 12 = 36** Example **7,335 ÷ 15 = 489**	Not used	Not used	Written Method