NZ Curriculum

This resource matches the New Zealand Maths Curriculum.

Phase One

During Year One, students are to "explore addition facts up to 10" and during Year 2, are required to "recall addition facts up to 10". These are the RED and ORANGE strategies.

During Year One, students are to apply the commutative property of addition. This is taught and referred to, throughout the whole resource.

One of the teaching considerations is to "connect students' subitising with pattern understanding". Tens frames have been used to show how strategies work when applicable.

During Year One, students need to "investigate and generalise adding 0 to or subtracting 0 from a number." This is called the Additive Identity, and is taught in the '+0, -0' strategy.

During Year Two, students are expected to be able to "add and subtract numbers up to 100 without renaming". As this is dependent on their basic facts, lessons have been included to teach '2 digits + 2 digits', '2 digits – 2 digits', '2 digits + 1 digit' and '2 digits – 1 digit'. The '2 digits and 2 digits' is specifically taught before the '2 digits and 1 digit' as some students really struggle to understand that there is 'nothing' in the tens place.

During Year Three students need to "recall addition facts up to 20 and their corresponding subtraction facts (families of facts), including doubles and halves." They also need to "recall multiplication and corresponding division facts for 2s, 3s, 5s and 10s". YELLOW and GREEN teach these. The times tables are taught clearly explaining the link between skip counting and multiplication.

The last five addition and subtraction strategies are taught in BLUE as Year Three students already have 16 strategies to learn.

Families of Facts are taught and referred to throughout the whole programme, and one of their practise games is 'Family of Facts'.

During Year Three, the students need to be able to "explain and use the multiplicative identity". This was taught in the 'x1, divided by 1' strategy.

Phase Two

During Year 4, students need to "recall multiplication and corresponding division facts for 4s and 6s". These are taught in BLUE.

One of the teaching considerations is to "use families of facts to show the connection between factors and multiples" and "explain how to use family of facts to 'work backwards' (e.g.

7x8=56, so 56÷8=7)". These are clearly taught in the resource, so hopefully students find division easy. There are also the Family of Facts games for the Times Tables.

Another teaching consideration is to "provide a range of tasks for students to practise and develop fluency in new and previously learned multiplication and division facts". The games, practise booklets, and laminated practise cards provide this.

During Year 5, students need to "recall multiplication facts for 7s, 8s and 9s and corresponding division facts". These are taught in INDIGO. The 9x table is taught before x7 and x8 as it has a very cool hands strategy that the students love. Since this resource has taught the commutative property all the way through, there are only 3 equations left to learn in x9, two in x7, and only one equation in x8.

During Year 6, students need to "recall multiplication facts to at least 10x10 and corresponding division facts". All multiplication facts up to 10x10 and how to use families of facts for division have already been taught, so there are 10 speed quizzes provided in INDIGO for students to practise their accuracy and to practise reading questions carefully. There is a graph provided for them to record their accuracy as a bar graph and their speed as a line graph. Instructions are provided and there is also a video to help them understand how to do the graph.

Phase Three

During Year 7, students are required to "recall multiplication facts to at least 10x10 and identify and describe the divisibility rules for 2, 3, 5, 9, 10". Since the wording is 'to at least 10x10', lessons are provided in VIOLET for x11, divided by 11, x12 and divided by 12. The divisibility rules were covered when teaching 'divided by' each number, so where to find them is listed so they can be gone back to as necessary. The divisibility rules for 3 and 9 have been included again in the INDIGO booklet and video section on the website.

During Year 8, students are required to "identify and describe the divisibility rules for 2-11". VIOLET teaches the remaining divisibility rules for divisibility by 4, 6, 7, and 8. Divisibility by 12 has also been taught to complete the set. It is taught separately to divided by 12 as that had enough content already.

Please note:

When teaching 2-digit or 3-digit addition, subtraction, multiplication or division, it is wise to only give practise equations using the Basic Facts and Times Tables that the students already know. This reduces their cognitive load so they are able to learn the new strategy, and helps them to experience success which then influences their love of maths.

E.g. 1

Year Fours are to learn to add and subtract two-digit and three-digit numbers, but may only be starting to learn the strategies + 8, + 9, - 9, and - 8. It would be better to give them practise

equations that they can do using the basic facts strategies they already know, such as Double Numbers, Doubles +1, and Balance to a Double.

E.g. 2

Year Fours need to learn how to multiply a two-digit number by a one-digit number, but are only learning their 4x and 6x tables. So when teaching how to multiply a two-digit number by a one-digit number, use equations that have x2, x3, and x5 that they already know, and only use x4 and x6 once they have memorised those. Do not include the x7, x8 or x9 equations that they do not know.