Learning and Assessment Framework Level Descriptions

LAF Level	Level Description
8	Can use appropriate representations, language and symbols to solve and justify a wide range of problems involving unfamiliar multiplicative situations including fractions and decimals. Can justify partitioning. Can use and formally describe patterns in terms of general rules. Beginning to work more systematically with complex, open-ended problems
7	Able to solve and explain one-step problems involving multiplication and division with whole numbers using informal strategies and/or formal recording. Can solve and explain solutions to problems involving simple patterns, percent and proportion. May not be able to show working and/or explain strategies for situations involving larger numbers or less familiar problems. Locates fractions using efficient partitioning strategies. Beginning to make connections between problems and solution strategies and how to communicate this mathematically
6	Can work with the Cartesian Product (for each) idea to systematically list or determine the number of options. Can solve a broader range of multiplication and division problems involving 2 digit numbers, patterns and/or proportion but may not be able to explain or justify solution strategy. Able to rename and compare fractions in the halving family and use partitioning strategies to locate simple fractions. Developing sense of proportion, but unable to explain or justify thinking. Developing a degree of comfort with working mentally with multiplication and division facts
5	Systematically solves simple proportion and array problems suggesting multiplicative thinking. May use additive thinking to solve simple proportion problems involving fractions. Able to solve simple, 2-step problems using a recognised rule/relationship but finds this difficult for larger numbers. Able to order numbers involving tens, ones, tenths and hundredths in supportive context. Able to determine all options in Cartesian product situations involving relatively small numbers, but tends to do this additively. Beginning to work with decimal numbers and percent but unable to apply efficiently to solve problems. Some evidence that multiplicative thinking being used to support partitioning. Beginning to approach a broader range of multiplicative situations more systematically
4	Solves more familiar multiplication and division problems involving two-digit numbers. Tend to rely on additive thinking, drawings and/or informal strategies to tackle problems involving larger numbers and/or decimals and less familiar situations. Tends not to explain their thinking or indicate working. Able to partition given number or quantity into equal parts and describe part formally. Beginning to work with simple proportion, eg, can make a start, represent problem, but unable to complete successfully or justify their thinking.
3	Demonstrates intuitive sense of proportion. Works with 'useful' numbers such as 2 and 5, and strategies such as doubling and halving. May list all options in a simple Cartesian product, but cannot explain or justify solutions. Uses abbreviated methods for counting groups, eg, doubling and doubling again to find 4 groups of, or repeated halving to compare simple fractions. Beginning to work with larger whole numbers and patterns but tends to rely on count all methods or additive thinking to solve problems
2	Trusts the count for groups of 2 and 5, that is, can use these numbers as units for counting, counts large collections efficiently, systematically keeps track of count (for instance, may order groups in arrays or as a list) but needs to 'see' all groups. Can share collections into equal groups. Recognises small numbers as composite units (eg, can count equal groups, skip count by twos, threes and fives). Recognises multiplication is relevant but tends not to be able to follow this through to solution. Can list some of the options in simple Cartesian Product situations. Some evidence of MT as equal groups/shares seen as entities that can be counted systematically
1	Can solve simple multiplication and division problems involving relatively small whole numbers, but tends to rely on drawing, models and count-all strategies. May use skip counting (repeated addition) for groups less than 5. Can make simple observations from data given in a task and extend a simple pattern number pattern. Multiplicative thinking (MT) not really apparent as no indication that groups are perceived as composite units, dealt with systematically, or that the number of groups can be manipulated to support a more efficient calculation