Year 1 Mathematics

Australian Curriculum v9.0: Using complexity and familiarity to create questions in Mathematics

The QCAA Mathematics standards elaborations use complexity and familiarity to describe the discernible differences between performance levels. Complexity and familiarity are described in the standard elaborations Notes section — Table 2. This resource provides examples of questions with different levels of complexity and familiarity for Year 1.

Aspect of the achievement standard	Related content description/s	Examples of evidence	Mathematical proficiencies
Students connect number names, numerals and quantities, and order numbers to at least 120.	**Number** • recognise, represent and order numbers to at least 120 using physical and virtual materials, numerals, number lines and charts AC9M1N01	• connecting number names, numerals and quantities to at least 120	Understanding
		• ordering numbers to at least 120	Fluency
Students partition collections into equal groups and skip count in twos, fives or tens to quantify collections to at least 120.	**Number** • quantify sets of objects, to at least 120, by partitioning collections into equal groups using number knowledge and skip counting AC9M1N03	• quantifying collections to at least 120 by partitioning collections into equal groups and skip counting in twos, fives or tens	Fluency

Complexity annotations	Complex unfamiliar questions (A or equivalent)	Familiarity annotations	Complexity annotations	Complex familiar questions (B or equivalent)	Familiarity annotations	Complexity annotations	Simple familiar questions (C or equivalent)	Familiarity annotations
Students connect number names, numerals and quantities, to recognise and represent a collection of 36 $1 coins using physical materials. They quantify the collection by partitioning the coins into equal groups and use skip counting. Students explain their thinking. Interpretation is required to develop a response.	*I have a coin collection.* *There are 36 $1 coins.* *Represent the collection by showing groups.* *Your teacher will give you $1 coins to use.* *[Teacher to insert a photograph in the space below.]* *Explain to your teacher how the coins have been grouped.* The teacher organises enough $1 coins or other representations, e.g. counters. They take a photograph of the grouping strategies. The teacher asks the student to explain the strategy used and records the student's thinking.	All the information to solve the problem is not immediately identifiable as the question is posed in a problem-solving situation. The required procedure is not clear from the way the problem is posed. Students have had limited prior experience with the question's context in the teaching and learning program.	Students make connections between number names, numerals and quantities. Students may use skip counting to quantify collections. Students then order the posters from smallest number to largest number by recording 1 to 4. Some interpretation is required to develop a response.	*These posters show different numbers.* *Write 1, 2, 3, 4 below the posters to show the order from smallest number to largest number.* 5 tens and 4 ones [dot array] 108 [base-ten blocks]	All the information to solve the problem is identifiable. The required procedure is clear from the way the problem is posed. The context is familiar to students as it was a focus in the teaching and learning program.	Students use skip counting in tens to quantify the sets of objects that have been partitioned into equal groups. They make connections between the number name, numeral and quantity.	*Each box has 10 apples.* *Write the total number of apples by skip counting in tens.* [six boxes of apples] The teacher observes the student's skip counting in tens. They provide physical materials if needed.	All the information to solve the problem is identifiable. The required procedure is clear from the way the problem is posed. The context of quantifying sets of objects is familiar to students as it was a focus in the teaching and learning program.