C:\Users\Andrew Tagg\Desktop\Capture.PNG

Explore the mathematics framework and unpack some of the illustrations

This activity is intended to be used by a group of teachers to explore the mathematics framework and develop their understanding of its structure.

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| **1.** | **Ordering illustrations** | | |
| The mathematics framework comprises eight progressions which describe the different aspects of mathematics and statistics that should be considered to get a comprehensive view of students’ progress. Each progression is set out using significant signposts that all students are expected to move past as they increasingly develop and apply their knowledge and skills from school entry to the end of year 10.  The level of student expertise at each signpost is clearly described using sets of illustrations. The illustrations are student work that has been annotated to highlight how a student has used their mathematics and statistics knowledge and skills to solve problems. | | | |
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| **What to do …** | |  | **Record your answers** |
| Look at the three illustrations included at the end of this document. They have been taken from the mathematics framework.  Pay particular attention to the annotations as they are designed to draws teachers’ attention to the most significant elements of the student’s response.  Order the three illustrations from least to most sophisticated, thinking about what makes them more or less sophisticated than the others. | |  | *Type your answers here* |

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| **2.** | **Thinking about the levels of the NZC** | | |
| The mathematics framework, with its signposts for each aspect, provides a high-level map to help you understand what progress looks like from school entry to the end of year 10. It illustrates this progress by showing how students respond when problems get more challenging. | | | |
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| **What to do …** | |  | **Record your answers** |
| Look at the three illustrations again, this time thinking about the mathematics learning area of the NZC. Which level of the curriculum do you think is the best match for the complexity of each illustration?  We will come back to your thoughts on curriculum level later in this activity. | |  | *Type your answers here* |

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| **3.** | **Identifying the aspect** | | |
| The eight aspects of the mathematics framework cover the breadth of the mathematics and statistics learning area and emphasise making sense of mathematical ideas and reasoning mathematically. Four of the aspects address key ideas in the number and algebra strand, two address the measurement and geometry strand, and two address the statistics strand.  The four number and algebra related aspects draw heavily on the findings from the Numeracy Development Projects. One key difference was the decision to embed the development of fractional knowledge and proportional reasoning in the multiplicative and algebra related aspects. | | | |
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| **What to do …** | |  | **Record your answers** |
| Turn to the mathematics framework and read each of the aspect descriptions. Which aspect of the mathematics framework do these three illustrations belong to? | |  | *Type your answers here* |

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| **4.** | **A look at the signpost descriptors** | | |
| The mathematics framework describes students’ developing expertise as they respond to increasingly more complex problems. Although the framework incorporates knowledge and skills, its main focus is on supporting teachers to consider how students are using these to solve problems. | | | |
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| **What to do …** | |  | **Record your answers** |
| Look at the signpost descriptors for the aspect *multiplicative thinking*, and identify the signpost that each of the illustrations belongs to. (Try not to peek at the illustrations themselves!)  Look at the illustrations within the signposts you identified. Did you identify the correct signposts? If not, reconsider the connections between the illustrations and the signpost descriptors.  Identify and record the ‘step-up’ that occurs between each signpost. Which achievement objective/s are most closely associated with each illustration? | |  | *Type your answers here* |







