**PATTERNS AND ALGEBRA 1 – STAGE 1**

**OUTCOMES**

A student:

* MA1-1WM - describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols
* MA1-2WM - uses objects, diagrams and technology to explore mathematical problems
* MA1-8NA - creates, represents and continues a variety of patterns with numbers and objects

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| **CONTENT** | **plan** |
| **Investigate and describe number patterns formed by skip counting and patterns with objects (ACMNA018)** |  |
| * identify and describe patterns when skip counting forwards or backwards by ones, twos, fives and tens from any starting point | * 1 |
| * use objects to represent counting patterns (Communicating) | * 1 |
| * investigate and solve problems based on number patterns (Problem Solving) CT | * 2 |
| * represent number patterns on [number lines](http://syllabus.bos.nsw.edu.au/glossary/mat/number-line/?ajax" \t "_blank" \o "Click for more information about 'number lines') and number charts | * 2 |
| * recognise, copy and continue given number patterns that increase or decrease, eg 1, 2, 3, 4, …   20, 18, 16, 14, … | * 2 |
| * describe how number patterns are made and how they can be continued (Communicating, Problem Solving)CT | * 3 |
| * create, record and describe number patterns that increase or decrease | * 3 |
| * recognise, copy and continue patterns with objects or symbols | * 4 |
| * recognise when an error occurs in a pattern and explain what is wrong (Communicating, Problem Solving)  CT | * 4 |
| * create, record and describe patterns with objects or symbols | * 5 |
| * describe a repeating pattern of objects or symbols in terms of a 'number' pattern, eg  http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | * 5 |
| * make connections between repeating patterns and counting, eg a 'three' pattern and skip counting by threes (Communicating, Reasoning) | * 6 |
| * model and describe '[odd](http://syllabus.bos.nsw.edu.au/glossary/mat/odd-number/?ajax" \t "_blank" \o "Click for more information about 'odd')' and '[even](http://syllabus.bos.nsw.edu.au/glossary/mat/even-number/?ajax" \t "_blank" \o "Click for more information about 'even')' numbers using counters paired in two rows | * 6 |
| * describe the pattern created by modelling odd and even numbers (Communicating) | * 6 |

**PATTERNS AND ALGEBRA 2 – STAGE 1**

**OUTCOMES**

#### A student:

* MA1-1WM - describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols
* MA1-2WM - uses objects, diagrams and technology to explore mathematical problems
* MA1-3WM - supports conclusions by explaining or demonstrating how answers were obtained
* MA1-8NA - creates, represents and continues a variety of patterns with numbers and objects

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| **CONTENT** | **plan** |
| **Describe patterns with numbers and identify missing elements (ACMNA035) http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png** |  |
| * describe a number pattern in words, eg 'It goes up by threes' http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | 7 |
| * determine a missing number in a number pattern, eg 3, 7, 11, \_\_, 19, 23, 27 CT | 8 |
| * describe how the missing number in a number pattern was determined (Communicating, Reasoning) | 8 |
| * check solutions when determining missing numbers in number patterns by repeating the process (Reasoning) | 9 |
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| **Solve problems by using number sentences for addition or subtraction (ACMNA036)** |  |
| * complete number sentences involving one [operation](http://syllabus.bos.nsw.edu.au/glossary/mat/operation/?ajax" \t "_blank" \o "Click for more information about 'operation') of addition or subtraction by calculating the missing number | 10 |
| * make connections between addition and related subtraction facts to at least 20 (Reasoning) CT | 11 |
| * describe how a missing number in a number sentence was calculated (Communicating, Reasoning) CT | 10 |
| * solve problems involving addition or subtraction by using number sentences http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | 11 |
| * represent a word problem as a number sentence (Communicating, Problem Solving) http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | 12 |
| * pose a word problem to represent a number sentence (Communicating, Problem Solving) http://syllabus.bos.nsw.edu.au/wsimages/cca/l.png | 12 |