**MATHEMATICS STAGE 2**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 2 | STRAND: Number and Algebra | **SUB-STRAND:** Patterns and Algebra 1 | WORKING MATHEMATICALLY: MA2-1WM, MA2-2WM, MA2-3WM, MA2-8NA |
| OUTCOMES:MA2-8NA | | **Generalises properties of odd and even numbers, generates number patterns, and completes simple number sentences by calculating missing values** | | |
| **CONTENT:** | | **Investigate the conditions required for a number to be [even](http://syllabus.bos.nsw.edu.au/glossary/mat/even-number/?ajax" \t "_blank" \o "Click for more information about 'even') or [odd](http://syllabus.bos.nsw.edu.au/glossary/mat/odd-number/?ajax" \t "_blank" \o "Click for more information about 'odd') and identify even and odd numbers (ACMNA051)**  - model even and odd numbers of up to two digits using [arrays](http://syllabus.bos.nsw.edu.au/glossary/mat/array/?ajax" \t "_blank" \o "Click for more information about 'arrays') with two rows  - compare and describe the difference between models of even numbers and models of odd numbers (Communicating) L  - recognise the connection between even numbers and the [multiplication](http://syllabus.bos.nsw.edu.au/glossary/mat/multiplication/?ajax" \t "_blank" \o "Click for more information about 'multiplication') facts for two (Reasoning)  - describe and generalise the conditions for a number to be even or oddLCCT  - recognise the significance of the final digit of a whole number in determining whether a given number is even or odd (Reasoning)  - identify even or odd numbers up to four digits | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | * Have students write or draw everything they know about even and odd numbers. | | |
| WARM UP / DRILL | | * **Skip counting**   Daily practice of counting forwards and backwards by 2’s from any starting point. (go from 1 digit up to 3 and 4 digit numbers) | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | |  | | |
| QUALITY TEACHING ELEMENTS | | **INTELLECTUAL QUALITY** | **QUALITY LEARNING ENVIRONMENT** | **SIGNIFICANCE** |
| * Deep knowledge * Deep understanding * Problematic knowledge * Higher-order thinking * Metalanguage * Substantive communication | * Explicit quality criteria * Engagement * High expectations * Social support * Students’ self-regulation * Student direction | * Background knowledge * Cultural knowledge * Knowledge integration * Inclusivity * Connectedness * Narrative |
| RESOURCES | | Array sheet, hundred chart, number cards, ipads, drawing paper, counters, 0-9 wheel | | |

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| Lesson 1Define the terms odd and even. Using an array of 2 rows, call out various odd and even numbers and have students draw or cover up dots to show the number stated. This gives a visual representation. Discuss the differences between the even models and the odd models.     * **Lesson 2**   Use a hundred chart and circle all of the multiples of 2 in red. Discuss and reflect upon how these results are linked to the work done in week 1, Lesson 1 with the multiples of 4, 6 and 8.   * **Lesson 3**   Final digit of a number  Demonstrate using cards up to four digits and identifying even or odd numbers by using the final digit of the whole number. | LEARNING SEQUENCERemediationS2 | * Focus on arrays using multiples only. Use counters well to show arrays. * Using hundreds chart. Complete odd numbers starting from 1. Colour multiples 5 and make comparisons from there (with assistance). * Use cards but go only as high as 2 digits. |
| LEARNING SEQUENCES2 | * Place students in pairs and have them record each other on ipads making even and odd numbers using arrays. * Investigation: Circle all of the odd numbers in blue. Reflect and discuss as with even numbers. Does this link in with our definitions of even and odd numbers. * Final digit of a number   Students are given a number of cards up to four digits they then are to identify even or odd numbers by  using the final digit of the whole number. Students are then to describe and generalise before placing in  the odd or even pile of numbers. Anecdotal records  Have students draw the following before answering questions  There are 19 houses along Beachfront Drive.  As all face the sea they are only on 1 side of the road.  Each house has its number painted brightly on the gate-post. All ‘odd’ numbers are red and all ‘even’ numbers are blue.  What is the colour of the number   * on the first house? * on the 4th last house? * on the last house? * on the middle house? |
| LEARNING SEQUENCEExtensionLate S2 | * Use a 10 x 10 array. Have students do large arrays. They can go higher than a 10x10 array if they show competency. * Use the 0-9 wheel and look for and describe in words the patterns found based on results from hundreds chart (compare and contrast) * Use cards with 5 and 6 digits. |
| **EVALUATION & REFLECTION** |  |