**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 9 | STRAND: Number and Algebra | **SUB-STRAND:** **Patterns and Algebra 2** | **WORKING MATHEMATICALLY:** MA1-1WM, MA1-2WM, MA1-3WM |
| OUTCOMES: MA1-8NA | **Creates, represents and continues a variety of patterns with number objects** |
| **CONTENT:**  | **Describe patterns with numbers and identify missing elements (ACMNA035)*** Check solutions when determining missing numbers in number patterns by repeating the process (Reasoning)
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | Questioning: How can we find missing numbers in a pattern? |
| WARM UP / DRILL | Display 100s chart on the board. Counting forwards and backwards by 2s, 5s and 10s as a whole class.[www.primarygames.co.uk/pg2/splat/splatsq100.html](http://www.primarygames.co.uk/pg2/splat/splatsq100.html) |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | TENS Activity- Using the hundreds chart look at different patterns using multiples and factors (DENS1 Page 273) |
| 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 | Hundreds chart, post-it notes, numeral cards 1-30, counters, whiteboards  |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Give each student a numeral card numbered 1-30 and ask the class to put themselves in the correct order without speaking. Once this has been done, students place their cards on the floor (in the correct order) and move away. Ask students to sit where they can see the number cards. Play ‘Frog Jumps’. Turn the cards over so they are face down. Turn over the cards 3, 6, 9, 12, etc. Place a toy frog on the last number turned over and explain that Freddie frog has jumped on some cards to make a pattern. Discuss and ask questions such as: What numbers have been jumped on? How many numbers is Freddie jumping? What numbers have been jumped over and what number will ben jumped on next? This activity can be done a number of times to show different patterns: 2s, 4s, 5s, etc.* Game-

[www.ezschool.com/Games/Math/Patterns/Pattern.html](http://www.ezschool.com/Games/Math/Patterns/Pattern.html)Pattern Chomper | LEARNING SEQUENCERemediationES1  | Students are given numeral cards 1-20. Ask students to place them in the correct order. Students count the numbers. * Ask students to place a counter on every second card starting at card number 2. Students count by 2s pointing to each numeral card with a counter. Students record their number pattern.
* Ask students to repeat with placing a counter on every 5th, and 4th card. Can students see a pattern?
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| LEARNING SEQUENCES1 | * Game- Fairy Fog Patterns

[www.ictgames.com/fairyfog\_random.html](http://www.ictgames.com/fairyfog_random.html)* Play ‘Hunting for Numbers’. Place a post-it note over the number 42 on a class size hundreds chart. Ask the students to record what number is covered. What number comes after the post-it note? What number is before the post-it note? Compare and discuss answers as a group.
* Ask students to place a post-it note on any number they like on the hundreds chart. Ask students to count by fives from this number for three more steps and then record the number. Ask students to count backwards by five and record the number. Ask students to put post-it notes on specific 3s or 4s patterns (e.g. 12, 15, 18, 21; 8, 12, 16, 20). Discuss the patterns made on the chart. What number would come next? Does the pattern already made help?
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| LEARNING SEQUENCEExtension Early S2 | * Students are given blank hundreds charts. In pairs students create their own number patterns and display on the hundreds chart. Without telling the other person, they need to look at the pattern created and write the pattern. Students discuss answers. How did they establish the pattern? What helped them? (Students are able to create more challenging patterns depending on capabilities e.g. 2, 4, 9, 25, etc.)
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| **EVALUATION & REFLECTION** | * Can students identify and continue a range of different counting patterns?
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* All assessment tasks should be written in **red** and planning should be based around developing the skills to complete that task.
* Assessment rubrics or marking scale should be considered.