**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM: | WEEK: 7-8 | STRAND:Number and Algebra | **SUB-STRAND:**  **Multiplication and Division 1** | **WORKING MATHEMATICALLY:**  **MA1-1WM MA1-6NA** |
| OUTCOMES: | | * **Describes mathematical situations and methods using everyday and some mathematical language, actions, materials, diagrams and symbols** * **Uses a range of mental strategies and concrete materials for multiplication and division** | | |
| **CONTENT:** | | **Recognise and represent division as grouping in equal sets(ACMNA032)**   * Describe the part left over when a collection cannot be shared equally into a given number of groups. (communicating, problem solving, reasoning) * Model division by sharing a collection of objects into groups of a given size to determine the number of groups, eg determine the number of groups when 20 objects are shared into groups of four. | | |
| ASSESSMENT FOR LEARNING (PRE-ASSESSMENT) | | If I had 15 marbles how many equal groups could I make? Note how children go about using concrete materials such as counters to complete this task. What language do they use when explaining the reasoning behind their answer? How do they record their response? | | |
| WARM UP / DRILL | | * Skip counting drill with an emphasis on counting backwards . * When counting by tens count forwards and backwards on and off the decade. | | |
| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION | | **Hanging out the washing**   * You have 20 pegs. Each piece of clothing has 2 pegs. How many clothes can you hang out? | | |
| 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 | | <http://www.kidspot.com.au/schoolzone/Maths-&-science-Learning-games-How-to-teach-division+4253+316+article.htm>  <http://www.fun4thebrain.com/Division/snowyfriend.html>  http://www.topmarks.co.uk/Flash.aspx?f=sharingv2 | | |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES | |
| **Teddy Bear Biscuit unit**  **To engage the children these activities are modelled on teddy bear biscuits however other objects or plastic teddy bears, smarties, lollies could be substituted.**   * **Pose the question and model on IWB**   How would we share 20 teddy bears into 4 groups or circles  Move each teddy into a circle. Later move two teddies at a time. Discuss different methods and the answer.   * **Pose the question and model on IWB using circles and teddies**   How would we share 21 teddies into 4 groups.  Can this be done?  Why or why not?  What could we do?  How would people feel about unequal shares?  **Pose the question and model.**  A variety of scenarios sharing different objects with left overs.  **Language**  **Use the language left over, equal share**  **number of groups, number in each group, total** | LEARNING SEQUENCERemediationES1 | * Sharing activities with lower numbers and more explicit instructions   eg share 4 teddies between 2 people. How many would each person receive?  Using 8 tooth picks share evenly between 4 monsters. How many legs? |
| LEARNING SEQUENCES1 | * **Sharing teddy biscuits**   How would we share 12 teddy bear biscuits between 5 children?  The children do this activity and draw their answers. Further combinations can be given.   * **Tooth pick monsters**   Give the children 20 tooth picks and ask them to draw monsters with equal numbers of tooth pick legs.  Discuss the answers .This can be completed as a collage.  **Investigation**   * **Making groups**   Children are given a certain number of objects eg 20 unifix cubes.  They are asked to make a variety of groups with them and describe their results.  What groups that you made were equal?  What groups did you make that were not equal?   * Assessment I had 16 objects. How many equal groups can I make? This is recorded on paper as an open ended task. The number of objects could be increased for more able students eg.30 How many groups and how many groups with some left overs?   This can be repeated asking for groups with left overs. |
| LEARNING SEQUENCEExtensionEarly S2 | Above activities using larger numbers.  Children make up their own problems and challenge others to find the solutions.  http://www.learnalberta.ca/content/me3us/flash/lessonLauncher.html?lesson=lessons/08/m3\_08\_00\_x.swf |
| **EVALUATION & REFLECTION** | **Children reflect on their understanding. Student engagement Achievement of outcomes**  **What do I need to improve? Resources Follow up**  **When would I use this knowledge?** |