**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 4 -5 | 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:**  | **Model and use equal groups of objects as a strategy for multiplication*** Determine and distinguish between the number of groups and the number in each group when describing collections of objects (communicating)
* Find the total number of objects using skip counting
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| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | Can you draw 3 circles with 4 counters in each circle? Can you record the total? |
| WARM UP / DRILL | * Skip counting in a circle using actions eg. children put up arms as they say their number counting by twos. When counting by fives wiggle their fingers. When counting by tens clap their hands.
* As an extension start from a higher number eg 12, 14 ,16 ,18
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| TENS ACTIVITYNEWMAN’S PROBLEMINVESTIGATION  | 1. There were 3 cages for monkeys and 6 monkeys in each cage. How many monkeys would there be?2. I had breakfast, lunch and dinner each day. How many meals would I have in a week? |
| 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
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| RESOURCES | Teach this website has many cards suitable for barrier games.Show me iPad app<http://www.pinterest.com/714scurry/multiplication-and-division/> |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| **Language****It is preferable for the children to use groups of before rows of or columns of.** **The term lots of is confusing because of everyday language such as” lots of fish”** **Modelling making Groups****This follows an art lesson where the children make a number of simple paper flowers. Instead they may simply cut them out from a stencil and use paper cups as pots.*** In small groups the children are asked to make 5 flower pots with 3 flowers in each pot using cups and paper flowers

DiscussHow many pots are there?How many flowers in each pot?What is the total?**Model and teach*** The difference between the number of pots or groups and the number of flowers in each group.

This can be modelled using various objects and groups | LEARNING SEQUENCERemediationES1  | * Activities below can be modified or repeated.
* Use more pictorial forms of recording.
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| LEARNING SEQUENCES1 | **Pegging Clothes** * In small groups of 3, 4 or 6 ask each child to place a given number of pegs on their clothes. This could start as 4 and change as required.
* They are then asked to find the total being encouraged to count by twos.
* They can record their answer.

**Hoops** * Hoops or large circles are placed on the floor and the children are given cards to model with counters.eg Make 3 groups with 7 counters in each group. They are then asked to find the total and to record the answer. A stencil can be given for recording purposes.

**Barrier Games*** In pairs a child is given a card showing a given number of groups with an even number of objects. Each child takes it in turns to describe their card with the number of groups and number of objects. Eg I have 4 groups with 3 flowers in each group. Their partner then draws this and finds total. It is checked to see if it matches
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| LEARNING SEQUENCEExtension Early S2 | * Higher numbers of groups and objects can be given.
* Children can be encouraged to skip count in different ways eg by 3s
* Barrier game extension by making up their own groups of objects.
* Problem solving. More difficult Newman’s questions
* introduction of multiplication sign
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| **EVALUATION & REFLECTION** | Are the children using the correct language? |

* 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.

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| **More modelling as required.*** Show three circles in IWB with 4 objects in each.

As a class discuss the difference between the number of groups and the number in each group.**Introduction of the Show me app*** This is modelled for the children

using simple multiplication problems with emphasis on the number of groups and the number in each group.Children are asked to describe their reasoning for their answers in order to record their answers on the IPads | LEARNING SEQUENCERemediationES1  | **As above** |
| LEARNING SEQUENCES1 | **Show me IPad app*** Using this app the children are asked to make given groups of objects using rows or circles. They take a picture of their work and then discuss their result with the teacher. They can record their reasoning on the IPad and draw their answer to find the total.
* **Funny faces**. These can be made In art lessons with collage and magazines

Children make funny pictures eg 5 faces with 3 eyes on each face. How many eyes? 3 people with 4 legs on each. How many legs? 4 snakes with 3 legs on each. How many legs?* **Investigate** I had 5 chairs with 4 cats on each chair. How many cats did I have?

Children are asked to record their answer in the form of a drawing. If they are able They could be encouraged to look at repeated addition. The child could use a number sentence to record the answer as an extension. **Assessment activity** Repeat the pre –assessment using different combinations eg Draw 6 circles with 3 flowers in each circle. How many altogether? A stencil can be given for this purpose. Anecdotal notes and rubrics can be used throughout the week |
| LEARNING SEQUENCEExtension Early S2 | * As above however the number sentence can be recorded. Children can be introduced to the multiplication sign and asked to investigate problems , recording their answer as a number sentence.
* Show Me IPad app
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| **EVALUATION & REFLECTION** | **Student engagement Achievement of Outcomes****Resources Follow up** |