**MATHEMATICS STAGE 1**

**TEACHING AND LEARNING OVERVIEW**

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| TERM:  | WEEK: 7 | STRAND: Measurement and Geometry | **SUB-STRAND:** Length 2 | **WORKING MATHEMATICALLY:** MA1-1WM & MA 1-3WM |
| OUTCOMES: MA 1-9MG | **Measures, records, compares and estimates lengths and distances using informal units, metres and centimetres** |
| **CONTENT:**  | **Recognise and use informal units to measure the lengths of objects**- Recognise the need for formal units to measure lengths and distances.- Use the metre as a unit to measure lengths and distances to the nearest metre or half-metre- Explain and model, using concrete materials, that a metre length can be a straight line or curved line (Communicating, Reasoning) |
| ASSESSMENT FOR LEARNING(PRE-ASSESSMENT) | * Activity- How long is my shadow?

Have pairs of students cut a piece of string the same length as a metre ruler. Take the students outside to use the ribbon or string to measure their shadow. Ask them to determine if their shadow is less than, more than or about the same length as one metre. Record the results in a table as a class. Variation- Have students measure their shadow at a different time of the day to see how it has changed. Discuss why this is so. |
| WARM UP / DRILL | * Activity-Less than, more than and about a metre

Have students use their metre length of string to complete the activities on Page 58 (What’s a metre?)Where they record the measurements of different objects that are about the same as, less than or more than a metre. Encourage students to list other objects in the classroom or playground that are about a metre long |
| 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
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| RESOURCES | Metre rulers, string/ribbon to make own metre rulers, Numeracy plan/Newman’s questions, page 58 (What’s a metre), page 59 (Half a metre action) Primary Maths 2 student activity book by Natasha Gillard and Michelle weeks, classroom table, informal units- paper clips, pencils, paper etc. |

**TEACHING AND LEARNING EXPERIENCES**

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| WHOLE CLASS INSTRUCTION MODELLED ACTIVITIES | GUIDED & INDEPENDENT ACTIVITIES |
| Explicitly communicate lesson outcomes and work quality.* **Teach and review**- use informal units such as paddle pop sticks, paper clips etc. to measure the length of objects in the classroom.
* **Define and Reinforce metalanguage used in the unit e.g. length, distance, end, end**- to – end, side by side, gap, overlap, measure, estimate, hand span, length, distance, straight line, curved line, metre, centimetre, measure, estimate
* **Half a metre-** Students are using metres to measure length and distance to nearest metre and half a metre

**-**students are also using the formal unit of a metre ruler to measure length and distance.* **Are they the same / Who wins?** Students realise that length can be measured on curved or straight lines and objects.
* Assessment- Students draw objects/items that are 1 metre long. They should be able to draw things that are curved and straight.
* Students draw a picture outside on the chalk following a set of instructions eg Draw a rectangle that is 3m long and 2 m wide.
* Students use a piece of string (1m) to measure a circle pre drawn on the concrete that is 2m in circumference
 | LEARNING SEQUENCE RemediationES1 | * Activity- How long is your foot?

Students work in pairs.Students trace around their foot onto paper and cut it out.They then choose an informal unit(e.g. paddle pop sticks, pieces of paper the same length, pegs, paper clips) to measure the length of their foot and their partners foot.The children discuss whose foot is bigger/smaller etc.E.g. My foot is 3 paddle pop sticks and Rachel’s is 2 paddle pop sticks so my foot is bigger.Ask- Why it is important we use the same unit to measure our feet? |
| LEARNING SEQUENCES1 | * Activity- Half a metre

Have students fold their 1-metre length of string in half to show half a metre. Ask them to find objects around the room that are about half a metre in length, width or height. Ask:How many half metres are there in a metre? When would it be difficult to measure length using a half-metre length of string? * Investigation: Ask students to find objects that are larger than half a metre but smaller than a metre. Have students complete page 59-half a metre action. (use metre ruler or metre length string)
* Activity- Are they the same ?-students are given one specific unit to measure and compare objects in the classroom and playground, such as the circumference of a tree.
* Activity- Who wins?

One beetle walks around two sides of a desk and her friend walks diagonally across the desk. Which beetle will walk the furthest? * Investigation: Children will measure precisely by repeating one unit and making sure informal units are aligned end to end with no gaps or overlays.
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| LEARNING SEQUENCEExtension Early S2 | * Activity- Measuring body parts

Show students how to place a piect of string aroung the circumference of an object and cut it at the point where the string meets. Have students work in pairs to cup a piece of string to the following lengths. They will need to use the circumference method for some of them. * Length of arm from shoulder to wrist
* Length of leg from hip to ankle
* Length of leg from knee to ankle
* Length around head, at ear level

Student compare each cut length to other pieces of string measuring half a metre and a metre, to decide whether each measured body part is less than half a metre, more than half a metre or more than a metre. Students record their answers and compare their lengths with those of their partner. |
| **EVALUATION & REFLECTION** | **Student engagement: Achievement of outcomes:****Resources: Follow up** |