**Class: 2 / 3 S MATHEMATICS PROGRAM Teacher: Liane Smith**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **TERM** | **1** | | | | **2** | | | | | **3** | | | **4** | | |  | **STRAND** | | | | | |
| **WEEK** | **1** | **2** | | **3** | | **4** | | **5** | **6** | | **7** | **8** | | **9** | **10** | **N** | | **PA** | **D** | **M** | **SG** |
| **TOPIC: MEASUREMENT: Time** | | | | | | | | **OUTCOME & KEY IDEAS:**  **MS1.5** Use informal units to measure and compare the duration of events ; Tell time on the hour and half-hour on digital and analog clocks  **MS2.5** Recognise the coordinated movements of the hands on a clock; Read and record time using digital and analog notation | | | | | | | | | | | | | | | | |
| **WORKING MATHEMATICALLY:**  **Questioning Reflecting Applying Strategies Communicating Reasoning** | | | | | | | |
| **LEARNING ACTIVITIES ( including CMIT/DENS):**   |  | | --- | | **MATHS MAINTENANCE:**  Ordinal language  Arrays - multiply and divide  Counting on and off decade by 100  **WARM UPS**  2x, 3x & 4x tables |   **PRE-ASSESSMENT:** Students identify the meaning of the word ‘duration’. They identify activities that may take 1 minute, 1 second, 1 hour**.**  ***WORKING AT* MS1.5**   * **TIMING USING INFORMAL UNITS** Students work in pairs. One student performs a task while the other claps and counts the number of claps. Suitable tasks could include touching toes five times, threading twenty beads on a string, bouncing a ball ten times, tying shoe laces, etc. * **LONG TIME, SHORT TIME** Ask students to tell about all the things they can think of that take a long time. Repeat for things that take a short time. Write the events on cards and make a display. eg Short time - for a balloon to pop. Long time - for a tree to grow to full height. * **ONE MINUTE** Discuss with students how long they think a minute is. Ask students to sit still until they think one minute has passed. Students try various tasks for a minute while a partner counts and times. Before each activity, students guess how many times they can repeat the activity in one minute, eg: • skip, jump or clap • write words, names or letters • count by ones, fives or tens • tie and untie shoe laces. Students could make a graph of results. * **DISCUSSION** Discuss with students the concept that the duration of one minute is constant, eg ask if one minute of play takes as much time as one minute of push-ups. * Discuss the question of whether we can all do the same number of activities in one minute. * **TEN SECONDS** Students predict how many push-ups, sit-ups, jumps, etc they can complete in ten seconds. Repeat the activity over 30 seconds. Once students understand the concept that a second is a small unit of time, it can be related to other units of time, eg 60 seconds = 1 minute. * **(A) MAKE A CLOCK** Using a paper plate, mark the centre and 12, 6, 3 and 9 in their respective positions. Make cards showing the numerals 1, 2, 4, 5, 7, 8, 10 and 11. Students practise placing these cards in their correct positions. Repeat the activity with twelve numbered cards and no numerals marked on the face. Make short and long hands from cardboard. * **Maths In a Box Activities: Cards 115 - 125**   ***WORKING BEYOND MS1.5 and WORKING AT MS2.5***   * **Construct a Clock** Students construct an analog clock, label its parts and include any markings they already know. Students then compare their clock with a real analog clock and describe how the clocks are alike and different. They are given the opportunity to include any additional features on their clock. * **The Minute and Hour Hands** Students observe and discuss the position of the hour hand at half past, quarter past and quarter to the hour, and on the hour. Students construct an analog clock with an hour hand only. In pairs, students position the hour hand anywhere on their clock and swap clocks with their partner. Students are then asked to identify the time represented on their partner’s clock and give reasons. Students are asked to display and name as many different times as possible using the minute and hour hands. * **Duration of Activities** The teacher poses the problem ‘An activity takes 15 minutes to complete. What might the activity be?’ Students brainstorm a variety of activities. The problem is posed again using 30 minute and 45 minute durations. The teacher then provides students with cards which express 15, 30 and 45 minute durations in different ways eg ‘quarter of an hour’. * **How Many Days?** The teacher poses the problem ‘How many days have you attended school this term/year?’ Students calculate a solution.   Students are asked ‘How many other ways can you express this information?’ eg in hours, in minutes. Students use a calculator to check their answers.  This activity could be extended by asking ‘How many hours have you spent at recess and lunch this week?’ Students could record information in days, hours or minutes on a spreadsheet and then draw a graph.   * **(A) WM How Many Minutes?** Students predict how many minutes it would take the minute hand to move from one numeral to another on an analog clock. Students then use a stopwatch to time how many minutes it takes for the minute hand to move from one numeral to the next. Students predict how many minutes it would take for the minute hand to complete one revolution and test their prediction with a stopwatch. This activity can be extended to estimate and time how many minutes it takes the hour hand to move from one numeral to the next, how many minutes it takes the minute hand to move from the twelve to any other numeral, and how many seconds it takes for the second hand to complete one revolution.   **ASSESSMENT** – Marked with an (**A)** | | | | | | | | | | | | | | | | | | | | | | | | |
| **CONSOLIDATION AND PRACTICE –**  Targeting Maths 2 pp 26, 27, 46, 47, 80, 81  Targeting Maths 3 pp 27-29,68-69, | | | | | | | | | | | | | | | | | | | | | | | | |
| **RESOURCES:**   * **K-6 Mathematics Syllables** * **K-6 Mathematics Work Samples** * **TESS Software** * **Maths In A Box 1 Cards 163 - 175** * **Interactive Maths sites:**   <http://www.topmarks.co.uk/>  <http://multiplication.com/index.htm>  <http://www.smartkiddies.com.au/>  <http://www.coolmath4kids.com/>  <http://www.crickweb.co.uk/>  <http://www.woodlands-junior.kent.sch.uk/maths/index.html>   * **Smartboard activities**   Blank playing cards, various clocks (digital, alarm, analog), clock stamp, magazines, timetables, workcards.  Variety of clocks, paper plates, cardboard, puzzles, clear plastic, adhesive cover, clock face, clock face stamp, geared clock.  *television guides, time cards (eg ten to nine, 8:50), timelines, calendars, analog clocks, digital clocks, sets of numeral cards (3, 6, 9 and 12), cardboard, split pins stopwatch* | | | | **LANGUAGE MODELLED:**  digital, analog, longest, shortest, earlier, later, slowest, sand timer, egg timer, water timer, start, finish, year, noon, midday, midnight, month, week, hour, minute, second, an hour ago, next hour, hour before, half an hour, a few minutes, clock, hour hand, minute hand, half-past, quarter-past, calendar, date, first, second……thirty-first, January, February…….December  *analog, digital, seconds, minutes, hours, days, weeks, year, time, clock, timetable, timeline, calendar, relationship, quarter to, quarter past, half past, clockwise, revolution, minute hand, hour hand, revolution, second hand, intervals* | | | | | | | | | | | | | | | **EVALUATION:** | | | | | |