**Math (Explicit teaching and exploration) – mathies.ca**

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| **Big Idea** | **Counting Principle** | **Materials** | **Activities/Games/Notes (Master Numbers to 10)** |
| **1)Math Talks** | **Subitize****One-One****Stable Order****Cardinality****Part/Whole** | **-Dot plates****-Dice with dots****-Dot and splat screens on Smartboard****-Family Counters/Jumbo Magnetic Marbles****-Pictures of things that have a certain number** | How many dots do you see? How do you see them? Show a few screens (dot arrangements) in a row for the same numeral.ORArrange counters on a desk and repeat the above (whole/small group).**Up to 5 in various arrangements (if past 5, then dots need to be arranged/organized – beginning of the part-whole principle)**Where do you see the number 7? (real life experiences)Discuss as a whole group and post ideas/pictures on the Smartboard.Have your own pictures on a second slide (clock, open van showing seats, jersey). |
| **2)Benchmarks (0 , 5, 10)** | **Stable Order** | **-Laminated Number Lines****-Foam Number Path to 10****-Wooden Numbers to 10****-Family Counters****-5 Frame** | **Whole Group** (have visual on the Smartboard or bulletin board)If the number is more than 5, make yourself as big as possibleIf the number is less than 5, make yourself as small as possible**Centres** (could use number lines, number paths, or wooden numbers )Show 1, 5, and 10 – where is 6? – horizontal/verticalMove a counter, slide the number, or move your body.0 \_\_\_\_\_\_\_\_\_\_5\_\_\_\_\_\_\_\_\_\_10 **‘Scoop 5’** - Have 5 frames and counters/gems at a tableStudents take a scoop with one hand and try to get 5 - check if they have less than 5, more than 5, or 5 right on (move gems) by using a 5 frame**By the end of Year 2 – students should know exactly where ‘6’ is on the number line.** |
| **3)Ten Frame** | **One-one****Stable Order****Cardinality****Part/Whole** | **-Laminated Ten Frames****-Giant Magnetic Ten Frames****-Smartboard files** | **‘Messy’ vs. ‘Clean’ Counts** - ‘Messy’ (3 on top and 3 on bottom of ten frame) vs. ‘Clean’ (5 on top and 1 on bottom of ten frame) – show on Smartboard to “Move it, Move it” song**Part-Whole** - 5 on top and 2 on bottom = 7 (say 5 plus 2 more)-Number is 6 – show 4 and say “How many more do I need?” or “How many am I missing?” |
| **4)Dice/Cards** | **Subitize****Stable Order****Cardinality** | **-Wooden cubes****-Dice – with dots, # words, and numerals****-Number Cards to 10****-Laminated ‘Elevator Ride’ to 10.****-Jumbo Magnetic Marbles** | **Wooden Cubes as Dice (counting on)** – one more, two more, no more (Elevator Ride)**Dice/Number cards (counting on)** – flip a numeral card or roll a dice and each person counts on from that number (the person who ends at 10 gets a gem) – first person to 5 is the winner* use counters on a 5/10 frame or use a rekenrek to keep score
* stand on a number path
* colour picture on a worksheet
* Smartboard game – move a car around the track
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| **5)Dominoes** | **Subitize****One-One****Stable Order****Part/Whole** | **-Plastic and rubber** | **‘Part-Whole’** – lay a domino down and build the 2 numbers using two different colours of cubes (vertical and horizontal)Are they subitizing or counting?**Measurement** – length/height**‘Train Game’** – start with one domino in the middle and add the same dot domino to either side (make it more difficult by saying ‘one more’ or ‘one less’) |
| **6)Number Path** | **Subitize****One-One****Stable order****Cardinality** | **- Number Path Pocket Chart** **-Foam Number Mat to 10****-Laminated ‘Elevator Ride’** | Can make the foam number path into a 5/10 frame.Match other representations on the foam number path or on the number path pocket chart – (tallies, dice, dots on 5/10 frames, numerals (wooden, cards), fingers, rekenrek, dominoes, playing cards, 2D shapes, dot plates)Do at a table as well.Stand on Number Line – have students come up and count on  |
| **7)Rekenrek** | **Subitize****One-one** **Stable Order****Cardinality****Part/Whole** | **-Teacher and student rekenreks** | Show ‘messy’ counts vs. ‘clean’ counts.Start at left always (put dot on that side to indicate ‘white’ to the ‘right’).**‘Make 6’** – do they count each one? Try again and say “You have to do it in less than 6 moves.” |
| **8)Graphing Board & Quadraximo** | **Subitize****One-one****Part/Whole** | **-Graphing Board** **-Quadraximo** | Use with snap cubes, dice, voting, showing ‘5’ in different ways with 2 coloursMove coloured counters on the quadraximo set – make 7 in different ways |
| **9)Relational Rods** | **Part/Whole** | **- Cuisinaire rods** | **Free exploration****Matching** - 1 set – match with staircase (no numerals)**Race to Fill Game** – 2 sets of rods in a paper bags and 2 staircases (horizontal and vertical)* Pan Balance; Smartboard??

**Part/Whole (Adding)** – take one longer rod and see how many combinations there are to equal it (e.g., 5 rod = 2 rod + 2 rod + 1 rod) – students can eventually draw pictures of the rods and print the numerals**Part/Whole** **(Subtracting)** – take one longer rod and put one piece under it (e.g., 2 rod) and ask which rods are missing (different possibilities)Match rods to numeral cards |

**Cardinality –** Can you produce a set of 5? (Keep going in order until the student can’t do it)