Math Year Plan - K

Content	Term 1	Term 2	Term 3
Number concepts to 10	● rote counting to 5: stable order counting ● counting principles to 5: 1-1 correspondence, cardinality, conservation ● routines: *counting collections*, *number lines* (0 to 5), *number three ways*	● rote counting to 10: stable order counting ● counting principles to 10: 1-1 correspondence, cardinality, conservation ● routines: *counting collections*, *number lines* (0 to 10), *number three ways*	● rote counting to 20: stable order counting ● counting principles to 20: 1-1 correspondence, cardinality, conservation ● routines: *counting collections*, *open number lines* (0 to 10), *today's number*
Ways to make 5 **Decomposition of numbers to 10**	● perceptual subitizing to 5: fingers, dice, dot cards, 5 frames ● conceptual subitizing to 5: fingers, dice, dominoes, dot cards, 5 frames ● more/less/same ● making 5: double-sided counters, snap cubes, number bonds, 5 frames ● traditional First Peoples counting methods to 5	● perceptual subitizing to 10: fingers, dice, dot cards, 10 frames ● conceptual subitizing to 10: fingers, dice, dominoes, dot cards, 10 frames ● greater than / less than to 10 ● part-whole reasoning to 10: double-sided counters, snap cubes, 10 frames	● subitizing to 10: dot cards (with 10 frames) ● greater than / less than to 20 ● part-whole reasoning to 10: number bonds, rekenreks, Cuisenaire rods ● routine: *today's number, quick images*
Change in quantity to 10 (concretely)	● one more / one less to 5 using concrete materials: counters, 5 frames	● one or two more / one or two less to 10 using concrete materials: counters, 10 frames	● counting on/back ● routines: *hidden number* or *splat!*
Repeating patterns with 2 or 3 elements	● explore/play with materials: pattern blocks, counters, Cuisenaire rods, coins, etc. ● routine: *loose parts*	● making, continuing, and describing repeating patterns: AB, ABB, ABA, AAB, etc. using materials, sounds, and pictures ● routines: *loose parts, guess my pattern*	● identifying patterns in the world ● noticing patterns in local First Peoples' art ● representing repeating patterns in various ways ● routine: *loose parts*, *notice & wonder*
Equality as balance; inequality as imbalance			● pan balance activities
Direct comparative measurement	● baseline for direct comparison ● directly comparing lengths of objects: bigger/smaller/same ● routine: *which would you rather?*	● direct comparison of capacity (e.g. pour one into the other) ● routine: *which would you rather?*	● direct comparison of mass using a pan balance ● *which would you rather?* ● routine: *notice & wonder*
Single attributes of 2D shapes & 3D objects	● names of common shapes/objects and visual/concrete examples ● routine: *shape hunt*, *sorting* (buttons, pattern blocks, Cuisenaire rods, coins, etc.)	● *which one doesn't belong?* ● *same & different* ● build terminology out of necessity	● free & directed sorts with shapes/solids ● sorting with Venn diagrams ● routines: *sorting* (free & directed with shapes/solids and Venn diagrams, *notice & wonder*
Concrete or pictorial graphs as visual tool	● routine: *calendar* (weather data)	● survey class and represent data ● routine: *today's survey*, *calendar* (weather data)	● survey class and represent data ● routines: *today's survey*, *calendar* (weather data), *notice & wonder*
Likelihood of familiar life events	● routine: *calendar* (weather data)	● analysis of survey data ● routine: *today's survey*, *calendar* (weather data)	● analysis of survey data ● routine: *today's survey*, *calendar* (weather data)
Financial literacy: financial role-play, attributes of coins	● routine: *sorting* (Canadian coins)	● identification and attributes of Canadian coins ● routines: *sorting* (coins), *counting collections* (coins)	● routines: *marketplace* (financial role-play)

Notes: This plan is an example of how a teacher might plan their math year. The "big idea" is that concepts are not taught in isolation; rather, they are revisited all year long and connected to other math concepts. Highlighted areas are reported on that term. Tasks are chosen to most effectively foster the development of curricular competencies (see *curricular competencies* plan below) as well as content. Italicized activities represent classroom routines. Please contact Josh Angiola (jangiola@sd40.bc.ca) if you are unfamiliar with these routine and would like more info or for any questions regarding this document.

Math Year Plan - K

	Curricular Competencies	Term 1	Term 2	Term 3
Reasoning & Analyzing	**Use reasoning to explore and make connections**	● routines: *sorting*, *which would you rather?*	● routines: *same & different, which one doesn't belong?, guess my pattern*	● Venn diagrams ● routine: *which would you rather?*
	Estimate reasonably	● more/less; smaller/bigger ● routines: *which would you rather?, counting collections*	● benchmarks; e.g., 0, 5, 10 ● routines: *which would you rather?, counting collections, today's survey*	● benchmarks; e.g., 0, 10, 20 ● routines: *which would you rather?, counting collections, today's survey*
	Develop mental math strategies and abilities to make sense of quantities	● subitizing ● routine: *which would you rather?*	● subitizing ● part-whole reasoning ● routine: *which would you rather?*	● subitizing ● part-whole reasoning ● routines: *which would you rather?*, *hidden numbe*r, *splat!, today's number*
	Use technology to explore mathematics	● calculators ● virtual manipulatives ● apps or online programs (e.g., Mathletics)	● calculators ● virtual manipulatives ● apps or online programs (e.g., Mathletics)	● calculators ● virtual manipulatives ● apps or online programs (e.g., Mathletics)
	Model mathematics in contextualized experiences	● strategies: acting it out, concrete manipulatives, drawing pictures	● strategies: acting it out, concrete manipulatives, drawing pictures ● routine: *guess my pattern, today's survey*	● strategies: acting it out, concrete manipulatives, drawing pictures ● routine: *today's survey*
Understanding & Solving	**Develop, demonstrate, and apply mathematical understanding through play, inquiry, and problem solving**	● explore/play with materials: pattern blocks, counters, Cuisenaire rods, etc.	● routines: *which would you rather?, same & different, which one doesn't belong?, guess my pattern*	● routines: *notice & wonder, hidden numbe*r, *splat!, which would you rather?, today's number*
	Visualize to explore mathematical concepts	● strategies: visual representations, drawing pictures, mental images ● routine: *number three ways*	● strategies: visual representations, drawing pictures, mental images ● routine: *number three ways*	● strategies: visual representations, drawing pictures, mental images ● routine: *splat!*
	Develop and use multiple strategies to engage in problem solving	● strategies: visualize/draw, talk it through, act it out, use materials	● strategies: visualize/draw, talk it through, act it out, use materials	● strategies: visualize/draw; talk it through; act it out; use materials; use writing, numbers, symbols
	Engage in problem-solving experiences connected to place, story, culture, and perspectives relevant to local First Peoples, local community, and other cultures	● storybooks (e.g., Mathology) ● traditional First Peoples counting methods to 5 ● routine: *shape hunt, loose parts*	● storybooks (e.g., Mathology) ● routine: *loose parts*	● storybooks (e.g., Mathology) ● identifying patterns in world ● noticing patterns in local First Peoples' art ● routine: *loose parts*
Communicating & Representing	**Communicate mathematical thinking in many ways**	● concretely, pictorially, symbolically ● routine: *number three ways*	● concretely, pictorially, symbolically ● routine: *which one doesn't belong?, number three ways*	● concretely, pictorially, symbolically ● routine: *notice & wonder, today's number*
	Use mathematical vocabulary and language to contribute to mathematical discussions	● counting ● subitizing ● routine: *shape hunt*	● counting ● subitizing ● routines: *which one doesn't belong?, same and different*	● counting ● subitizing ● routine: *today's number*
	Explain and justify mathematical ideas and decisions	● subitizing ● routine: *which would you rather?*	● subitizing ● routines: *which one doesn't belong?*, *same and different, which would you rather?*	● subitizing ● routines: *today's number, which would you rather?*
	Represent mathematical ideas in concrete, pictorial, and symbolic forms	● number concepts to 5 ● routine: *number three ways*	● number concepts to 10 ● routine: *number three ways*	● number concepts to 20 ● routine: *today's number*

Connecting & Reflecting	**Reflect on mathematical thinking**	● routine: *math journal*	● routine: *math journal*	● routines: *math journal*, *notice & wonder*
	Connect mathematical concepts to each other and to other areas and personal interests	● connecting different representations of number ● routines: *number three ways*, *which would you rather?*	● connecting different representations of number ● routines: *number three ways, same and different, which would you rather?*	● connecting different representations of number ● identifying patterns in the world ● routine: *which would you rather?*
	Incorporate First Peoples worldviews and perspectives to make connections to mathematical concepts	● storybooks (e.g., Mathology) ● traditional First Peoples counting methods to 5 ● routine: *loose parts*	● storybooks (e.g., Mathology) ● routine: *loose parts*	● storybooks (e.g., Mathology) ● noticing patterns in local First Peoples' art ● routine: *loose parts*

Notes: This plan is an example of how a teacher might plan their math year. The "big idea" is that competencies are not taught in isolation; rather, they are revisited all year long and connected to the math content. Highlighted areas are reported on that term. Tasks link to both content and curricular competencies (see *content* plan above). Italicized activities represent classroom routines. Please contact Josh Angiola (jangiola@sd40.bc.ca) if you are unfamiliar with these routine and would like more info or for any questions regarding this document.