

Welcome to Math (September 2020)

Kindergarten

When we return to school in September, it will be different from anything we have ever known. Kindergarten is an amazing year full of new adventures, discoveries and wonderment. Our students have been learning about the world around them since the day they were born. Every student is capable, creative and responsible for their own learning

Kindergarten is the first experience for students into the world of 'school learning'. Teacher's play an essential role in helping students feel safe, confident and excited about learning by creating an environment of wonder and noticing. This September, think about how we as teachers can create new possibilities for joy, wonder and inspiration. Focus on taking it slow and allowing students to work and play together to build relationships. Teachers will strive to create learning spaces that help all students thrive and become confident humans.

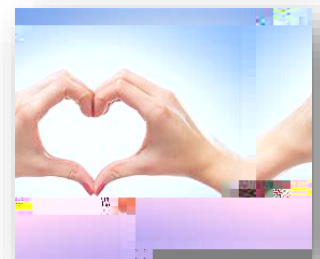
B.C. Mathematics curriculum's goals, aspects, content and competencies align with 'playful inquiry'. Playful inquiry creates opportunities for deeper engagement with concepts and ideas and provide students with choice in ways to uncover the curriculum, make meaning and connections. Start by focusing on 'Prioritized Learning Standards', identifying and building on students' strengths, and supporting them from where they are in their mathematical thinking.



Three Main Suggestions for Starting in September:

- a. (strength based) – diagnostic and formative assessment
(Instructional Routines and Open tasks)
- b. Opportunities for Outdoor Learning
- c. Adaptations for At Home Learning
- d. Adaptations for Virtual Learning

Build caring attachments and a sense of belonging. This may look different from what we are familiar with, however, we can start slowly and share the message that they are prized and cared for, allowing students to see themselves as part of a community of learners. Students need to feel a sense of belonging, where they see themselves as an important member. Get to know your students' passions, interests, personalities, strengths and insecurities. Take the time to get to know the families and their needs too.



Covid-19 has been scary and worrisome for many students. We must follow the guidelines. We can use our eyes, tone of voice, mannerism and carefully chosen words to build relationships. Kindergarten students need to feel safe within the community of learners. Provide multiple opportunities for the students to engage in meaningful experiences (within safe distancing) with others. Play will take on an important role as we deal with this world crisis.

Kindergarten

Prioritized Curricular Content	Essential Curricular Competencies	Indicators of Proficiency	Instructional and Assessment Practices
<p>Number concepts to 10</p> <p>Counting</p> <p>one-to-one correspondence conservation cardinality stable order counting sequencing 1-10 linking sets to numerals subitizing</p>	<p>Develop mental math strategies</p> <p>Problem solving</p> <p>Explain and justify mathematical ideas and decisions</p> <p>Represent mathematical ideas in concrete,</p>		

Ways to make 5

- perceptual subitizing (e.g., I see 5)
- conceptual subitizing (e.g., I see 4 and 1)
- comparing quantities, 1-10
- using concrete materials to show ways to make 5

Decomposing numbers to 10

- decomposing and recomposing quantities to 10
- Numbers can be arranged and recognized.
- benchmarks of 5 and 10
- making 10
- part-part-whole thinking
- using concrete materials to show ways to make 10

3.

Number Talk Images Instructional Routine

Display an image and ask students to determine quantity of objects or pictures.

Dot card, five frame and ten frame images should be included (*see Resources below for details.*)

Students discuss different ways to decompose and compose a quantity displayed.

Students share their reasoning, visualization, communicate and explain their thinking.

Guiding Questions

What do you notice?

What do you wonder?

How many _____?

How do you know?

How do you see them?

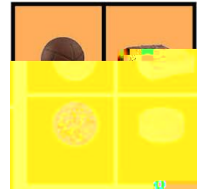
Can you see them another way?

What to Look for...

Kindergarten teachers know that there is a set of key math learnings for students in their first year of school. The

'Which One Doesn't Belong?' Instructional Routine

Which One Doesn't Belong? (WODB) is an instructional routine in which four related items are presented in a quadrant format. The items are connected, they belong together in some way. For example, they may all be candies or they may all be two-digit numbers. Students are asked to consider what is unique about each item, compared to the other items. The challenge is to choose one item that doesn't belong. *The great thing about this routine is that there are no wrong answers*, as long as the student's reasoning makes sense. The focus is not on the answer, but on the students being able to communicate their reasoning of their choice.



Guiding Questions:

What do you notice?

What makes all the items alike?

What makes them different?

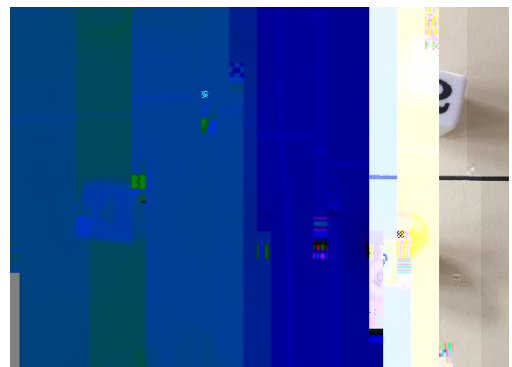
Which one doesn't belong?

How will you share your reasoning to justify your answer?

What to look for...

Students may demonstrate:

- attention to attributes (similarities and differences)
- ability to sort and classify
- connections to number relationships
- engagement problem solving
- use of mathematical language/vocabulary
- explain and justify ideas and decisions



Resources:

<http://wodb.ca/index.htm> This website is curated by Mary Bourassa and is a collection of WODBs submitted by math educators from across the globe.

Twitter Hashtag: #wodb <https://twitter.com/search?q=%23wodb&src=typd>

Richmond School District WODB blog posts: <https://blogs.sd38.bc.ca/sd38mathandscience/2016/10/30/introducing-wodb-in-kindergarten/>

<https://blogs.sd38.bc.ca/sd38mathandscience/2016/10/16/introducing-wodbs-to-grades-45-atwestwind/>

Which One Doesn't Belong?: A Shapes Book by Christopher Danielson (picture book and teacher's guide)

Ways to Support the Learning

Open Questions based on Prioritized Learning Standards:

Open questions that allow you to see into the students' thinking and understanding and prepare for next steps for instruction to move the learning forward.

Sample questions are from the resource: 'Open Questions For Rich Math Lessons Number Strand K- 3' by Marian Small, Rubicon Publishing 2016'. This is an amazing resource full of Open Questions that are ready to use in your classrooms.

Find a number in the classroom. Tell what it means. (e.g. I see 7 on the calendar. It is the date.)

Use stamps or drawings to show ways to make numbers from 2 – 5. What makes the numbers easy to recognize? (e.g. 2 is easy, it looks like two eyes).

Look around the room and find as many examples as you can of pictures or objects showing 5 things. How are the 5 things arranged? (e.g. On my foot, 5 looks like five toes in a row.)

Choose a number that is less than 10. Show the number in 3 ways. Which ways show the same thing about the number? Why? (e.g. a ten frame and my fingers can show 6 as 5 and one more).

Use 8 two-sided counters. Shake and spill them onto a piece of paper. When you spill them, what combinations of red and yellow do you get? Try it 3 or 4 more times. Which combinations did you get the most? Are there other combinations?

How could you arrange red and g