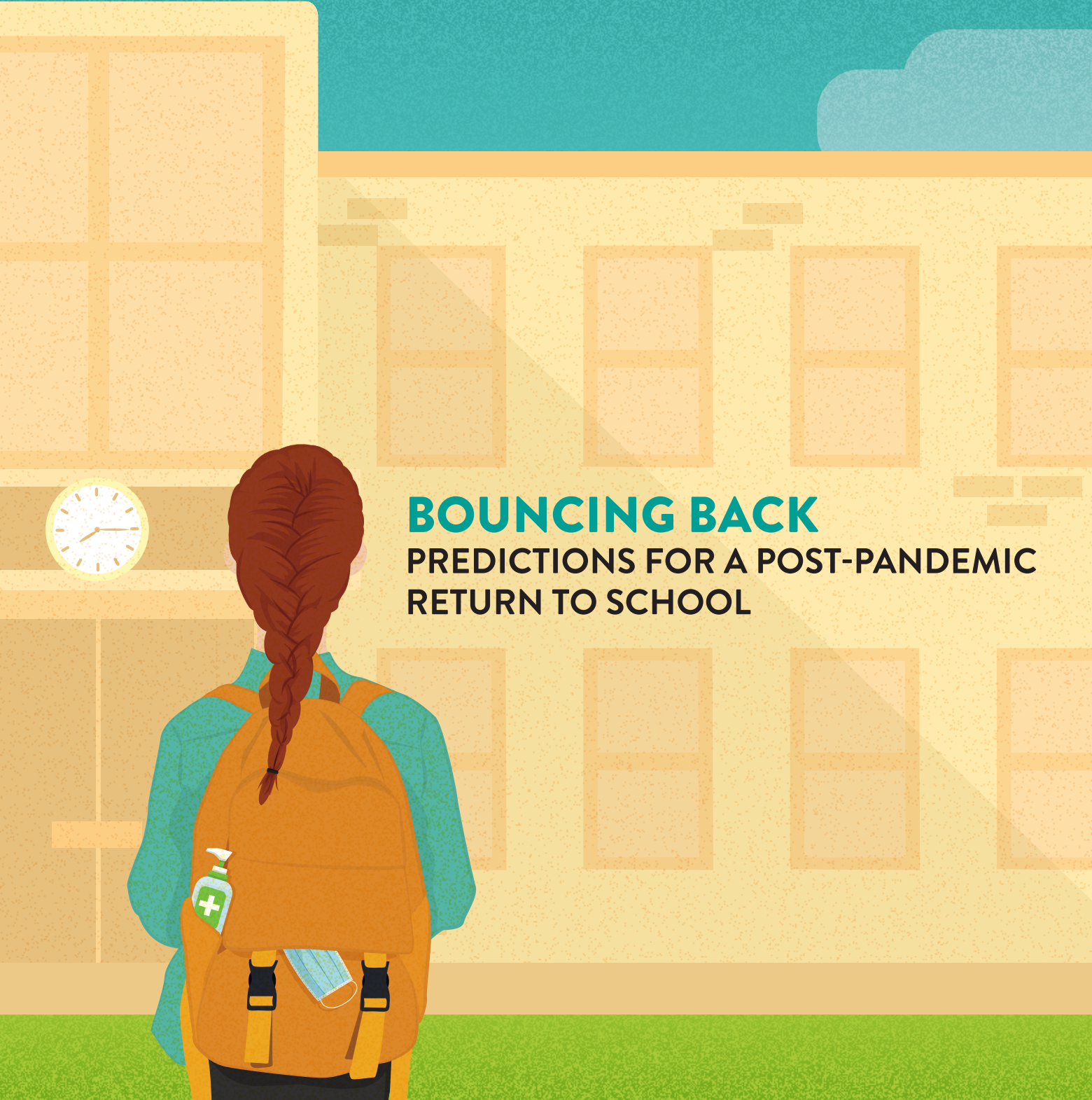


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TEACH

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BOUNCING BACK
PREDICTIONS FOR A POST-PANDEMIC
RETURN TO SCHOOL

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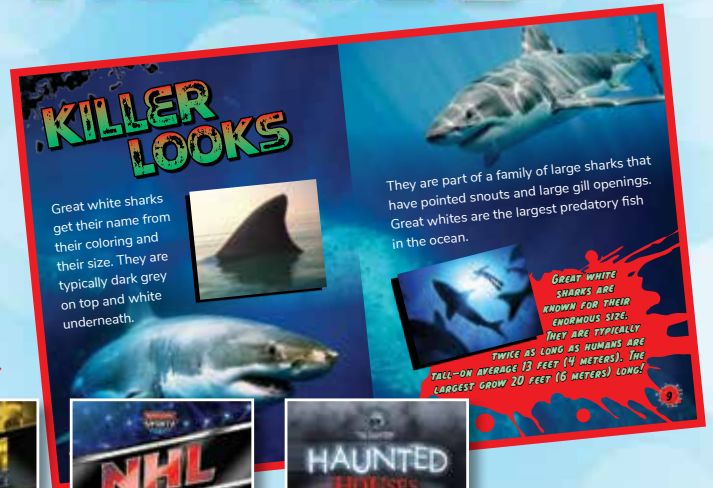
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(6 titles)



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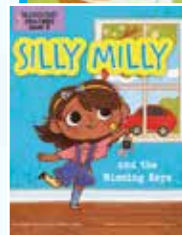
I Spy With My Little Eye series
(6 titles)
Level 1



What Can I Bee? series
(6 titles)
Level 1



Moose the Dog series
(6 titles)
Level 2



Silly Milly Adventures series
(6 titles)
Level 3



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Level 3



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NOTES

What will the new school year bring? This is what we all seem to be wondering these days. Will schools unilaterally return to in-class learning or will some hybrid model prevail? Midway through the second year of the pandemic, has there been enough progress to put the worst of the recent past behind us? To these questions and more, we have no definitive answers.

No one has a crystal ball to tell us what the future holds, but a few educated guesses might be able to shed some insight. The two feature articles in this back-to-school issue explore what the world of K-12 education could look like post-COVID, while also grappling with the pandemic's legacy. By doing so, it is an attempt to start moving towards a more positive future, putting the discussion of COVID behind us once and for all.

Adam Stone looks at what may have changed with in-school learning as a result of the pandemic. Is remote learning here to stay? Are the new hygiene protocols going to become a normal part of the school routine? What about student assessment? How will success, or lack thereof, be evaluated and do the previous norms still apply? Amidst a sea of uncertainty, we attempt to provide some concrete answers.

In our second feature, Alex Newman plumbs the depths of the emotional, psychological, and academic toll that COVID has taken on students. Will being back at school help or hinder their mental health? How should teachers address the learning loss that occurred as educational norms were thrown out the window and remote learning was met with varying degrees of success and failure? What effect will all

these stressors have on students in the future? The impacts of the pandemic aren't going to disappear on their own. We all must figure out how to deal with them as we begin climbing out of this deep, educational hole.

In a complete departure from the onslaught of COVID-related issues, the Classroom Perspectives column explores a unique collaborative project designed by a grade 9 math teacher and a teacher-librarian. How might the topics of rose hip tea, ecological stewardship, and Indigenous culture be incorporated into a rational numbers unit? Pam Horton and Amber Hartwell outline how they taught students to harvest rose hips and brew them into tea during this math-based lesson. A healthy, positive antidote to the stress of pandemic living—and who knows, maybe we all could use a draught of rose hip tea to get us through the next semester or two?

Our Webstuff column explores the topic of creativity and provides some tools students can use to spark those ideas and notions. Field Trips takes us to the stars and the night sky. Regardless of what is happening here on Earth, the universe still unfolds before us offering wonder and mystery.

This issue's CURRICULA delves into Access to Education and Intergenerational Learning for younger students. Teachers have the opportunity to use a suggested list of books as a resource for integrating these topics into their classroom practice. The lesson plan provides comprehensive guidance how to broach these important issues.

Until next time.



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Virtual Field Trips: Space and the Night Sky

When we look up at the night sky, we can see stars, planets, and entire worlds beyond our own. But what are we really looking at? What's really out there in space? From constellations to solar systems, astronomy to astronauts, these virtual field trips introduce students to important discoveries that humans have made about the universe, our part in it, and the countless mysteries and complexities still to be explored. With the help of field trips like these, it's now possible to take students on journeys that are *out of this world* without ever having to leave the classroom!

LET'S LEARN ABOUT THE SOLAR SYSTEM

by Joyful Learning

Resources for grades K-3

joyfullearning.net/learning-hub/vft-spacecentre

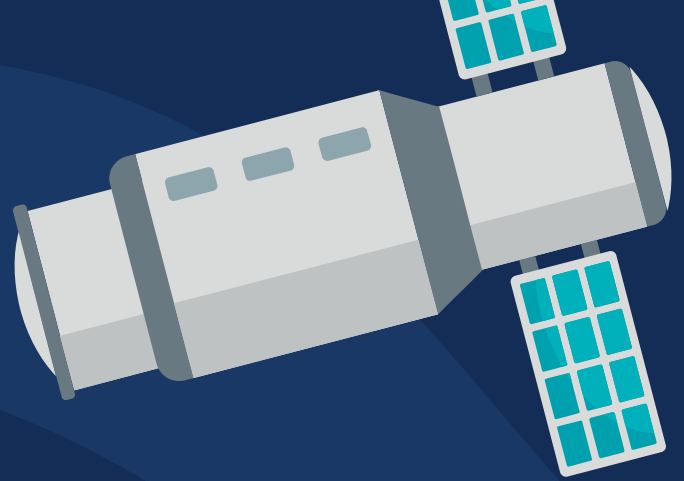


RVCC PLANETARIUM VIRTUAL FIELD TRIPS

by Raritan Valley Community College

Virtual field trips for grades K-12
raritanval.edu/virtual-field-trips

(Check out the videos on the RVCC Planetarium [YouTube channel](#) as well)



SLIME IN SPACE: A VIRTUAL FIELD TRIP

by Nickelodeon

Virtual field trip for grades 3-5
nickcommunity.com/sis

STELLARIUM

Virtual planetarium for grades K-12
stellarium.org

VIRTUAL FIELD TRIPS

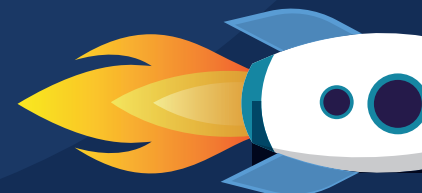
by the Manitoba Museum

Virtual field trips for grades K-12
manitobamuseum.ca/education/virtual-programs

VIRTUAL PLANETARIUM SHOWS

by the Smithsonian National Air and Space Museum

Virtual experiences for grades K-8
airandspace.si.edu/learn/programs-and-activities/virtual-field-trips/planetarium



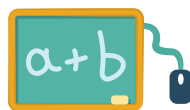
Bouncing Back: Predictions for a Post-Pandemic Return to School

By Adam Stone

We won't be going back to "normal," post-pandemic. A year of profound disruption promises to reshape K-12 education, bringing new advances to the fore while also prompting teachers and administrators to rethink the fundamentals of how education works.

Here, a range of experts weigh in on some of the key changes likely to emerge with the return to in-person schooling in the fall.

AN ONGOING MIX OF IN-PERSON AND REMOTE LEARNING



"For many school districts across the United States, hybrid learning models are here to stay," says Svetlana Savova, sales director at VEDAMAQ, a virtual learning platform.

"As a former teacher myself, I understand first-hand the strain the last year has put on educators," she says. Going forward, "teachers and students alike are going to need additional training and adaptation methods to ensure a more seamless learning experience."

Now that we're no longer in crisis mode, she explains, there's an opportunity for teachers to "create more thoughtful approaches to virtual learning, based on their pandemic takeaways."

Others echo this call. The COVID-19 pandemic "provided the unique opportunity for classroom teachers of all grade levels and content areas to explore unique, innovative, and engaging approaches to both synchronous and asynchronous learning," says John Almarode, executive director of teaching and learning at the College of Education at James Madison University.

He suggests that teachers may need to take an individualized approach as they consider how best to leverage both virtual and in-person learning opportunities.



“Some learners thrived in remote learning environments, while others did not,” he says. “Providing learning environments that capitalize or leverage the strengths of the learner will, in the end, create a more inclusive and equitable education system.”

MORE STUDENTS WILL HAVE MORE DEVICES



As schools look to leverage their pandemic-driven investments in 1:1 computing, “teachers will have opportunities to implement personalized, competency-based learning environments in ways that were not previously possible,” says Dell’s Senior Education Strategist Tara Natrass.

Schools should make the effort to support teachers who are seeking to make the most of this opportunity. “In order to use newly available devices to enhance learning experiences, teachers will need increased opportunities to collaborate with one another and engage in meaningful, personalized, professional learning,” Natrass says.

Some note that 1:1 computing alone doesn’t ensure positive outcomes. “What matters most is how those devices are used by the teacher and student,” says Almarode.

When devices are utilized “to engage learners in the editing and revising of assignments, giving and receiving feedback, accessing virtual field trips, collaborating with peers in their class and across the globe—then the impact goes up,” he adds.

NEW POLICIES AROUND SNIFFLES AND COLDS



With heightened sensitivities around wellness, “schools will have new and different health policies for the foreseeable future,” says Dr. Ashlee Hover, assistant professor and program director for the Curriculum and Instruction MEd Online program at Middle Tennessee State University.

“New strains of the COVID-19 virus are being discovered, and while vaccines are available, response to the vaccines has been widely varied. In addition, students are not all old enough to receive a vaccine,” she says. “Out of an abundance of caution, schools will continue to monitor for students with multiple symptoms.”

This may be for the better, some say. A continued focus on wellness could spark some much-needed changes.



Even prior to the pandemic, “I felt strongly that attendance policies were long overdue for an overhaul,” says Dr. Jeannine Jannot, author of *The Disintegrating Student*. “COVID turned many long-held student and staff attendance expectations on its head. My hope is that going forward schools will shift policies and resources to protect the physical and mental wellness of both students and staff.”

For example? Most attendance policies in the past may actually have perpetuated the spread of viruses “because students feel compelled to show up while sick and contagious, in order not to miss something or lose some perk for continued good attendance,” she says.

“It’s time we stop chasing data and metrics and focus on well-being, learning, and growth. This will require thinking outside of the box with more flexibility and responsiveness to the ever-changing needs of educators, students, and families,” she adds.

VIRTUAL FIELD TRIPS




“One of the positives that came out of this pandemic is that it has opened the door to many more opportunities to participate in virtual field trips,” says Nicole Hunn, principal of Steele Elementary School in the Baldwin School District on Long Island.

“We were able to find many innovative experiences, such as visiting zoos and museums across the country that

we normally would never get to visit,” she says. “Teachers and students will certainly continue to take advantage of these virtual visits in combination with local trips.”

Such virtual field trips likely will persist post-COVID, Hover predicts. “I used them prior to COVID-19 and plan to continue doing so,” she says. “I’m not sure whether or not places will continue to update their websites, but I hope they will because teachers will continue to use them as a way to expose their students to a world that may never be personally experienced.”

A SHIFT TO COMPETENCY-BASED LEARNING

 Some predict the changes that we saw during COVID will cause teachers to rethink the ways in which success is measured. They anticipate a shift toward competency-based metrics, a form of evaluation based on students’ demonstrated mastery of specific knowledge or skills.

“Teaching to children’s strengths and interests is going to be the way educators work in the future,” says Timothy Bellavia, assistant professor at Touro College Graduate School of Education. “Students will reach their learning goals faster because the teacher’s plans will be differentiated for each student.”

Bellavia has done research on competency-based education as a means to help students use their strengths and interests to develop their learning skills—for example by combining music with math. “One student who was having trouble focusing on the lesson and understanding the math was able to decode note sounds through the puppets and animated characters,” he says. “This was evident and noted both in person and in online synchronized lessons.”

Almarode likewise foresees a shift in this direction. “A competency-based approach provides the language and guidance for us, as teachers, to design authentic assessments that let us know what learners know, understand, and are able to do,” he says.

“As we welcome our students back into the classroom, we will have to focus on where they are in their learning and where they are ready to go next,” he adds. “Given the variance in learning growth experienced and measured across the globe, we will have to be prepared to differentiate instruction on a daily basis. As an immediate and direct

result, we will have to... design intentional, purposeful, and deliberate tasks that support them meeting competencies or success criteria.”

DIGITAL EQUITY



The pandemic highlighted digital inequality, as many schools struggled to provide equal access to devices and bandwidth during the rush to remote learning.

Hover notes that this issue needs to be a top priority going forward. “Having grown up in a rural area, I’m very familiar with digital deserts,” she says. “Schools must remain aware that not all students have equal access to technology—especially when assigning work or providing resources to families.”

Some see an opportunity here to address several persistent gaps in equity.

“With the digital divide... families may not have enough bandwidth or computer devices to ensure consistent and seamless education,” Bellavia says. “Schools must seek funding through corporate foundations, nonprofits, and donors to increase digital bandwidth and make equity possible. Additionally, they may need to incorporate non-digital or analog communication when necessary.”

Schools will need to address the digital inequality challenge “just as they are attempting to address the diversity, equity, and inclusion challenge,” says Marilyn Carroll, author of *Diary of an Online Professor*. “It’s all part of the larger challenge within education.”

To meet that challenge, teachers and administrators will need to engage in a conversation that extends well beyond the classroom. “This is a state-level problem,” Carroll says. “To address school equity challenges, each state and its school districts will need to reposition how they run and operate schools to take advantage of the many technology opportunities available.”

A PATH FORWARD



Looking ahead, it’s clear that much will be changing on the K-12 landscape as schools and teachers seek a path forward in the wake of a disrupted school year.

Despite the challenges inherent in these changing times, some see cause for optimism. “When there is crisis,

there is opportunity,” Bellavia says. “COVID-19 taught me and many other educators that anything is possible.”

Others echo this view, noting that many educators were able to pivot successfully to meet the complex demands of the pandemic school year.

“If there is anything we’ve learned during the pandemic it’s that schools actually do have the capability to flex and adapt when they are forced up against a wall,” says Al Kingsley, the CEO of educational technology provider NetSupport.

“My sincere hope is that that entrepreneurial spirit, that sense of nimbleness and flexibility, has soaked into the DNA of schools—because this is the nexus of real change,” he says.

ADAM STONE is a seasoned journalist with 20+ years’ experience. He covers education, technology, government and the military, along with diverse other topics.



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PLT Canada’s *Forest Literacy Framework* offers forest connections to existing curriculum, including strong links to science, math, environmental studies, language arts, social studies, and more.

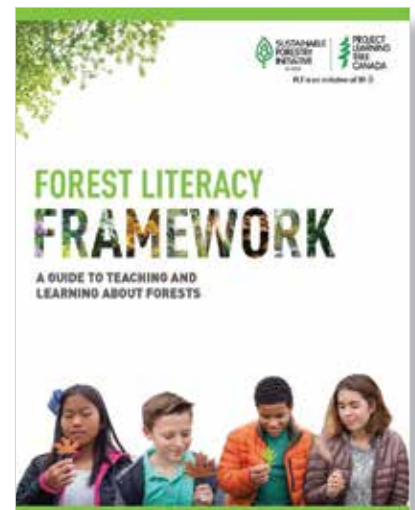
The bilingual resource provides 100 forest concepts for grades K–12, organized into four themes:

THEME 1
WHAT IS A FOREST?

THEME 2
WHY DO FORESTS MATTER?

THEME 3
HOW DO WE SUSTAIN OUR FORESTS?

THEME 4
WHAT IS OUR RESPONSIBILITY TO FORESTS?



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Creating a more engaging and secure environment for hybrid learning

The pandemic has stretched teachers, students and parents to the limits of distance learning. However, as we prepare to return to in-person learning once again in September, it's clear a hybrid learning model will emerge moving forward.

Beyond the pandemic, there are many reasons for students to not be physically present at school—snow days, illness, disability and even temporary school closures. But how can we prepare classrooms to ensure that both remote students and students in the classroom feel included, and are receiving an equally engaging experience?

Here's how we can start.

Building the foundation for remote learning success

At the heart of any hybrid learning scenario, there needs to be a commitment to tackle the digital divide that exists in Canada. The lockdowns over the last 15 months have reinforced this need for ongoing, equitable access to high-speed connectivity.

Without it, students have been missing out on immersive online learning experiences, while educators have spent countless hours finding work arounds to deliver lessons offline. It's vital that public and private sectors continue to work together to help bridge this digital divide to build a more inclusive and equitable world for all.

However, in addition to having access bandwidth and affordable internet at home, schools will also need to have the right technology tools in place—from video conferencing platforms, network and security—for hybrid learning to really work for students and educators.

Using an intuitive platform to support student learning

Not only do remote learners need to have access to a consistent and simple experience, they'll need to be included equally in their classes regardless of if they're attending in person or virtually.

Features in a collaboration platform can play a crucial role in engagement levels and the overall experience for

remote learners. For example, Cisco Webex has the ability to capture non-verbal feedback through gestures—a helpful tool when students are on hard mute during a lesson. A physical thumbs up or hand raise can signal that feedback is being given in real-time and provides a closer experience to that of in-person interactions.

Using Cisco Webex in a hybrid environment provides other benefits as well, including immediate closed captioning, so that hard of hearing students can more easily participate during class and group work with other students. Those learning a second language can also enable real-time language translation, so they can follow along in their first language, while also hearing the teacher speak in their own language.

But using technologies to create a more engaging and inclusive classroom is just one piece of the puzzle. As schools are no longer the central hub and devices are spread across students and teachers' homes, ensuring that students are learning in a secure environment is equally as important as the features a remote learning platform can offer.

Security must be the default

Teachers need to be able to protect and provide a safe environment for students, which includes having control and security over their classes' attendance. A secure collaboration solution should provide teachers with two simple options when setting up a class: allow external members to join the class or not.

Cisco Webex does this right at the start. When creating a class, instructors can easily control who has permission to join the class and preconfigured templates provide various default settings for different learning experiences—from whole-class discussions to focused group work. Choose whether students join muted, can share content and lock classrooms to uninvited guests. These settings make it easy-to-schedule and secure classes from day one.

As we think of what the future holds around a model of hybrid learning, it's crucial to consider what this experience can look like for students both inside and outside the classroom, and how it can contribute to a more inviting, engaging and secure environment for students and educators alike.

Fred King is a business solutions architect on Cisco's Global Education Team. See how Cisco is reimagining education [here](#).



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The bridge to possible



Global Issues: Access to Education and Intergenerational Learning

By Beth Lyons

GRADE LEVEL:
PRIMARY (K-3)

THEME:
GLOBAL ISSUES

SUB-THEMES:
ACCESS TO EDUCATION,
LIFE-LONG LEARNING,
INTERGENERATIONAL
LEARNING,
COMMUNITY HELPERS



FEATURED BOOKS

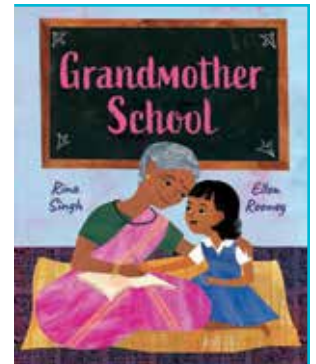


1, 2, 3 Off to School! by Marianne Dubuc (Kids Can Press, 2021)

(Best for Kindergarten students; focus on school readiness and what students might learn at school.)



Jigging for Halibut with Tsinii by Sara Florence Davidson and Robert Davidson, illustrated by Janine Gibbons (HighWater Press, 2021)



Grandmother School by Rina Singh, illustrated by Ellen Rooney (Orca Book Publishers, 2020)



LEARNING FOCUS

Who is a learner? How do we celebrate learning?

Access to education and learning is a universal right for all children. Connecting the generations within a community allows for elders to share their knowledge borne from experience and the younger community members to build bridges between modern learning and that of their home community.

This lesson is designed to be an introduction for primary students into Genius Hour or Passion Projects. Students will explore how and why we learn beyond the traditional classroom sense. Educators can interweave bigger ideas about quality education for all and equity issues as developmentally appropriate for their students.



LEARNING EXPERIENCE

MINDS ON PROVOCATION

- Display pictures and/or show videos of various learning opportunities and schools/classrooms

- Ask students to brainstorm a list of places where they learn new things (i.e. home, daycare, place of worship, camp, sports and recreation, school, etc.)
- Ask students to brainstorm a list of people they learn from and with (i.e. grown-ups in their home, siblings, friends, classmates, teammates, etc.) [Jamboard](#) can be used as an interactive whiteboard to record students' ideas
- Display the cover and title of the picture book(s) and ask students to make predictions and connections based on their brainstorming and what they observe

READ, PLAN, AND PRACTICE

Students will read the featured picture books as mentor texts while the educator(s) work to guide them through connecting a picture book (i.e. elements of a narrative) to their experience of learning different skills in a variety of settings, using the following guiding questions: Who is a learner? Who do we learn from? How do we celebrate learning?

Compare and contrast the books together with students.

Areas to focus on:

- Who were the learners in the book?
- Who were the teachers in the book?
- How did the learners and teachers work together?
- How might grown-ups and children learn together?
- What connections can you make between the learning in the books and the learning in your life?

Create a Wonder Wall in your classroom as a place to document the questions, ideas and topics that students are interested in exploring. Take a picture of each student creating an "I Wonder..." face and post it with a speech/thought bubble to record their ideas. Some prompts/ideas to guide students in creating their wonders could include:

- How does something work?
- What is inside of something?
- What skill do you want to learn?
- Who do you know that has a cool/interesting skill?
- What is something that you already know how to do but want to get better at?

[Flipgrid](#) could be used as a virtual Wonder Wall for classes learning online. Each student can have a topic created for their own wonderings and inquiry questions.

ADDITIONAL CANADIAN BOOKS TO SUPPORT THESE SUB-THEMES



Silas' Seven Grandparents by Anita Horrocks, illustrated by Helen Flook (Orca Book Publishers, 2010)



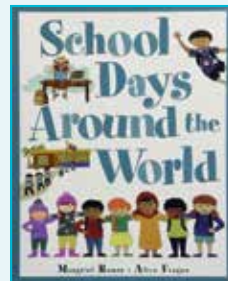
Clarence's Big Secret by Roy MacGregor and Christine MacGregor Cation, illustrated by Mathilde Cinq-Mars (Owlkids Books, 2020)



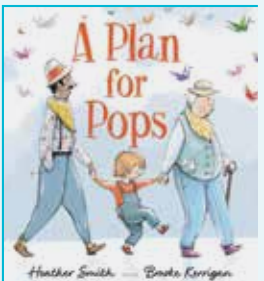
The Magic Beads by Susin Nielsen-Fernlund, illustrated by Geneviève Côté (Simply Read Books, 2021)



Ten Cents a Pound by Nhung N. Tran-Davies, illustrated by Josée Bisailon (Second Story Press, 2018)



School Days Around the World by Margriet Ruurs, illustrated by Alice Feagan (Kids Can Press, 2015)



A Plan for Pops by Heather Smith, illustrated by Brooke Kerrigan (Orca Book Publishers, 2019)



The Way to School by Rosemary McCarney (Second Story Press, 2015)



MAKE, TINKER, AND MODIFY

Co-create a learning timeline with the students to guide your Genius Hour/Passion Project. To consider:

- What materials might we need for our learning?
- How often will we work on our learning projects?
- How might we support each other with our learning? Who in our classroom can help us with our wonders?
- How might we connect our learning with the grown-ups and other people in our home?
- How might we connect with our local community to help us with our learning?
- How might we document and take pictures of our learning journey? (Here are some [Creative Tools for Making and Sharing](#))
- How and when might we celebrate our learning journey? ([Padlet](#) is an online tool that can be accessed by the class in order to use as a timeline and for pedagogical documentation over the duration of the inquiry.)

REFLECT AND CONNECT

Invite the grown-ups and other people from the students' homes to gather and celebrate the learning projects. Co-create a gallery of learning with the students (i.e. choosing pictures, annotating/creating captions, etc.) to display their learning journey and completed projects.

TO SEE MORE OF THIS LESSON PLAN, VISIT [TEACHMAG.COM](https://www.teachmag.com)

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Girl Guides

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New Challenges: The Pandemic's Toll on this Generation's Learners

By Alex Newman

When the COVID-19 pandemic was declared in March of 2020, schools shuttered and students were cut off from their friends. Teachers scrambled with the sudden transition to online instruction. As quickly as that all unfolded, the same can't be said of the eventual return to society, and therefore to school; we can't be expected to instantly revert back to our old ways. A lot has happened to each and every one of us. From the unknown emotional impacts of the pandemic to the uncertain extent of learning loss in their students, educators aren't sure what awaits them when in-person learning resumes this fall.

Transitioning to remote learning would have been a huge endeavour with months and years of planning, let alone unfolding overnight. There have been a lot of reported technology challenges and many "behind the scenes" challenges too: parents rising at 4 a.m. to get a head start on their own work before helping the kids with schooling; grandparents pitch-hitting as homeschoolers; young students helping younger family members with their studies because parents are out of the house.

But through it all, teachers have arguably shouldered much of the load. In a Canadian Broadcast Corporation (CBC) News [survey](#) from this past May, one teacher responded that "colleagues feel broken. We were ignored

and pressured to do quadruple the work, with no breaks, no support, and constant criticism from a government that ignores us, and applauds themselves for deciding we should do online learning, without any resources, instructions, or time to develop programs."

Now teachers face an additional burden—the anticipated increase in social-emotional challenges. Before the pandemic, an [estimated](#) 15-20% of students were dealing with mental health issues. With the loss of caring teachers, friend networks, after school programs, and extracurricular activities like sports, that number has increased significantly.



When Public Health Ontario surveyed high school students during the first lockdown, troubling trends were observed: students reported increases in boredom (73%), loneliness (55%), stress (43%), and anxiety (38%). Another study showed that 70% of students aged 6-18 in southern Ontario experienced a decline in their mental health last year.

Despite this, most kids will “quickly get into the swing of school, especially because they’re so keen to get back,” says Jean Clinton, psychiatrist and clinical professor in McMaster University’s (Hamilton, ON) psychiatry and behavioural neurosciences department. But a small percentage of students will find school more challenging, especially those with social anxieties who haven’t had to face that for the past 18 months, she explains. And when students “are anxious,” Clinton adds, “they can’t engage in learning. The science is clear on this.”

Mental health specialist Tracy Vaillancourt, who is a Tier 1 Chair at the University of Ottawa, agrees that while many kids are resilient, those who were “already vulnerable, will have had added stresses and their resilience will be even lower.” She defines resilience as “the ability to adapt despite risk and adversity.”

Those vulnerable kids are the ones she worries about most. “Some are isolated at home because parents work long hours outside, some have lost parents, or grandparents, [experienced an increase in] family violence, parents have lost jobs—all of which are difficult environmental factors for children.”

Given the likelihood of mental health problems when these kids come back to school, “they’re less likely to achieve academic success,” Vaillancourt says. And if their resilience doesn’t improve in the long run, she adds, “it can impact their ability to form good work and personal relationships as adults.”



LEARNING LOSS

When the pandemic first hit, the primary concern was to ensure the health and well-being of students and teachers. Schools closed and classes moved online so that learning could continue—albeit in a different form. But despite

everyone’s best efforts, research shows that there has been learning loss, something teachers already knew.

In a 2021 survey of Canadian educators, 55% said fewer students were meeting their learning objectives compared to previous years, and 70% were worried that some students won’t be able to catch up. As indicated in a recent report from the Ontario COVID-19 Science Advisory Table, both local and international research has found that closures lead to learning losses: “There is widespread consensus... that students learn better in person than online, and that access to online learning is a challenge for many due to technical, economic, or other barriers.”

The report also found, not surprisingly, that “COVID-related hardships disproportionately affected students with lower socioeconomic backgrounds, racialized children and youth, newcomers, and students with disabilities.”

For those kids who have issues beyond their control, they’ll end up falling even farther behind, notes high school science and math teacher Anna Marsh, who lives in Waterloo, ON.



ACADEMIC GAPS VERSUS EMOTIONAL CARE

Figuring out how to address these new challenges upon returning to school is tricky. And for many stakeholders, there are differences of opinion on what should take priority. When Clinton worked with several school boards on a return plan, they were so focused on creating a sense of belonging and connection that they barely talked about learning loss.

Meanwhile, parents seemed to be exclusively concerned about learning loss and what it means for the future, especially for jobs—because in terms of future employment, the picture across the globe isn’t pretty. The World Bank estimates that this generation of students stands to lose up to \$10 trillion in earnings over their lifetimes due to school closures.

Some school boards are trying to compensate for these learning gaps by encouraging teachers to remove high stakes assessments (like exams) and pare down to essential curriculum. “But what counts as essential?” Marsh asks. “Chemistry is one subject you build on. If you

miss the foundation one year, you can't just pick it up the next. I understand giving students credits so they can be on a path to graduate. But giving credit that is not earned doesn't help if they are lost in the next grade."

Others believe that the academic and emotional impacts of the pandemic are of equal importance, and must both be addressed to help students move forward. "Focusing solely on learning loss isn't going to work because each student has experienced vastly different psycho-social stressors," says Vaillancourt.

Kelly Gallagher-Mackay, an assistant professor at Wilfrid Laurier University in Waterloo, ON, agrees. "We have a children's mental health crisis that pre-exists the pandemic and was grossly underfunded." But addressing the emotional side alone won't be enough—some academic standards need to be maintained as well. "High expectations help kids do better," she says. "Achievement can take you beyond yourself and is an important way schools contribute to students' mental health."

The primary task of schools is to help students learn, says Gallagher-Mackay, who also co-authored *Pushing the Limits: How Schools Can Prepare Our Children Today for the Challenges of Tomorrow*. "School matters for the world, for future parenting, income, future citizenship. We need people who can understand evidence and can solve global crises when they emerge, so we can't go too far with addressing only mental health."

As for testing, the schools need to take it easy. "Communicate with home so parents don't sweat the marks, until the kids have had a chance to catch up," Gallagher-Mackay says. "For the students who are failing some subjects or all, families should work with the school to do what they can to bolster the kid's academic career." You don't want them repeating courses, she adds, because that's been found to end with negative outcomes, such as dropping out of school.



CAN BEING BACK AT SCHOOL HELP STUDENTS' MENTAL HEALTH?

That depends on how we deal with things now, Clinton explains. "Disorders are highly treatable in young children

as long as they're caught early. And school can play a big part—it takes a teacher or bus driver to notice a child is not their best self. Catching things early allows for building children's competencies in social and emotional learning, promotion of good health, prevention of bad outcomes, and pathways. But school is not a treatment place. That's the role of the mental health system which has long wait lists, and gross underfunding."

This is why Clinton has been pushing a community strategy: "School is the best place to promote well-being, because that's where students who need help are identified. But the schools can't do it alone, and that's where partnerships between school and community come in."

Vaillancourt points out that one factor in resilience and success is a steady, reliable, nurturing relationship with a competent adult. "Often that's a teacher. For many children, the brightest part of a day is their time with teachers at school, so for the last 18 months, these kids have gone without that vital connection." Research has shown that children and youth flourish in safe, structured environments, which is "why we've been pushing to open schools," she adds.

"The pandemic has made people really recognize the importance of the education system for more than just academics," Clinton notes.

ALEX NEWMAN is a Toronto freelance writer and editor. Visit her website, alexnewmanwriter.com.





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Apps to Inspire Creativity

With the return to school comes the return of homework and projects. For many students, it can be hard to shake off the fog of summer vacation and get back into school-mode. Help your students dust off their thinking caps with these apps that are designed to inspire imagination and spark creativity.

CALL OF WRITING

Free – iOS, Android, Website



Meet Call of Writing, the app that encourages you to keep writing—by deleting your work if you don't! All you need to do is choose a randomly generated writing prompt, decide how long you want to write for, and then get started. This app can be a great way to help students brainstorm, practice their writing skills, and overcome writer's block. Try it out at callofwriting.com.

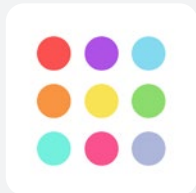


FIGMENT
Free – iOS



Get students in touch with their creative side through Figment. Every day the app provides a new list of activities for students to complete in the areas of music, writing, or visual art. (Sample activities include: bringing an image to life with colour, adding piano notes to an existing music track, or writing an acrostic poem.) Visit lumosity.com/figment to learn more.

KEEZY DRUMMER
Free – iOS



This music-making app functions as a programmable drum machine, allowing students to generate their own beats in seconds! By choosing from over ten different percussion sounds, layering them together, and changing the tempo, students can jam out to an infinite number of rhythmic combinations that are uniquely their own. Download it at: apps.apple.com/app/keezzy-drummer/id933630069.

TOONTASTIC 3D
Free – iOS, Android



Students can turn their story ideas into 3D cartoons with the help of this app. Toontastic gives them the opportunity to draw, animate, and narrate many exciting adventures. Find more details on the app's website: toontastic.withgoogle.com.

FLIPACLIP
Free – iOS, Android



FlipaClip is a simple animation app designed for both beginners and professionals. On the app, students draw in frames which are connected together to create an animation. FlipaClip also offers an app for [schools](https://flipaclip.org), designed to act as a gateway to STEAM concepts. Check out flipaclip.org for further details.

QUIVER
Free – iOS, Android, Website



Quiver combines education and entertainment in a revolutionary way—using augmented reality to bring kids' artwork to life! Simply print colouring pages from the website, colour them in, and scan them using the app, which generates a 3D version of the image. For more information, go to quivervision.com. (Be sure to also check out the version designed specifically for [educators](https://quivervision.com).)

ZIGAZOO
Free – iOS, Android



Zigazoo was designed by educators to be the “TikTok for kids.” This app safely provides challenges that kids can respond to by creating short videos, which can be shared with their friends on the platform. Teachers can also assign challenges to their students through the [Zigazoo Classrooms](https://zigazoo.com) section of the app. Learn more at zigazoo.com.



Making Rose Hip Tea from Scratch: A Math Activity

By Amber Hartwell, in collaboration with Pam Horton

École KLO Middle School, where I have been the teacher-librarian for two years, is situated on the traditional, ancestral, unceded territory of the Syilx (Okanagan) People. The students at KLO have diverse socio-economic and cultural backgrounds, and many struggle with academics, particularly our Indigenous learners. My colleagues and I are always collaborating and looking for ways to foster a desire for learning and to increase student engagement, while also providing opportunities for Indigenous students to learn alongside our school advocates and Elders. Often the best ideas are right in front of us, and that was certainly true for myself and my colleague Pam Horton, who teaches grade nine math.

KLO school is fortunate to have access to a local creek, part of which used to run through a culvert underneath the sports field. In 2011, the long jump pits were discovered to be a nesting ground for western painted turtles, an endangered species. To help support the turtles' habitat, a local campaign was launched to revitalize the section of the creek that crossed school property and return it to its natural state. Many of our

students participated in the project, helping to clear the creek bed of debris. After the area was cleaned, local biologists and Indigenous leaders helped the school plant appropriate vegetation for the creek system.

Our school had always intended to build upon the creek revitalization experience to further student engagement. One day last autumn, Pam happened upon the perfect learning opportunity, when she caught students picking and throwing rose hips at each other down by the creek. (Wild rose was one of the main plants that was integrated during the creek's restoration; rose hips are the fruits that grow from them once all the rose petals have bloomed and fallen off.) After Pam explained rose hips were edible and could be harvested, like typical grade nines, the students tried to eat the fruit. Searching for a positive way to stop this behaviour, she came to me with an idea of harvesting the fruits for their intended use—to make tea. Thus, a collaboration was born between the two of us.

We designed a rational numbers unit around the notion of making rose hip tea from scratch, using the creek as an outdoor classroom. Pam had incorporated



recipes into her math classes in the past to help teach students about conversion, and she was eager to find more opportunities for project-based activities. She was also looking to add an Indigenous perspective. This seemed like the perfect opportunity to do so.

THE HARVESTING PROCESS

Rose hip harvesting is seasonal and usually doesn't begin until after the first frost, which is thought to make the fruits sweeter. While we waited for the weather to cool, we began preparing students for how to harvest the fruit.

First, they were asked to consider the following guiding question, in hopes of connecting to their previous experiences with restoring the creek: *Can the rose hip plant population at KLO School sustain a harvest of rose hip tea for our class?* If students were to pick the bulbs, they needed to do so in a way that would leave the crop intact so it would last for generations to come.

To teach about sustainable harvests, we also wanted to include discussions of traditional harvesting techniques. Some of the traditions we shared included introducing oneself to the plant, explaining why you have come, and asking permission to harvest. Students learned that asking permission is more than showing respect for the plant, it's also a way to assess the overall rose hip population and determine if it is large and healthy enough to sustain a harvest. While some students

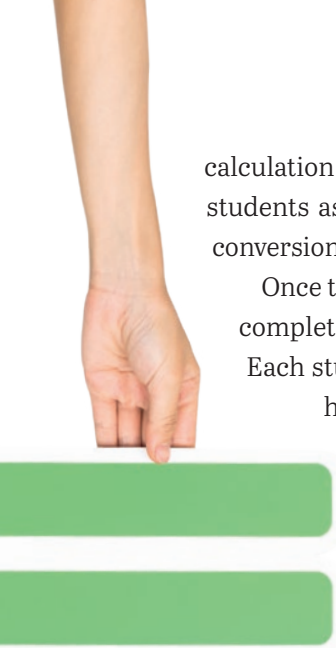
initially chuckled in discomfort at the idea of introducing themselves to the rose bushes, readings and videos helped them understand the honour and tradition embedded in this method.

An Indigenous Advocate shared a Sylix/Okanagan [captikwł](#) (an oral teaching of values) on the [Four Food Chiefs](#), to which the students responded positively. Our school Elder also emphasized the importance of harvesting honorably, while sharing the traditional uses of rose hips in our community for both food and medicinal purposes. The students were surprised to learn just how important those small bulbs they had been throwing at each other really were.

In preparation for the tea-making, each student chose a bush, sketched its shape, and recorded the amount of rose hips. The bushes were easy to identify as our school's creek bed was full of bright red bulbs ready to be picked. Finished sketches were used to determine what fraction of the plant each student would use for themselves and how much this would equate to for the entire class.

Our Elder helped us identify which bulbs were good for picking: those that were firm and orange or red in colour. Students also learned which part of the hip was edible and able to be used in our recipe, namely, the red shell and pink pith that surround the seeds. Keeping that information in mind, the class picked a practice rose hip and measured its weight and volume to determine how many would be required. This





calculation proved to be the most difficult for students as many of them had not done unit conversion before.

Once the data collection and analysis were complete, it was finally time to harvest.

Each student gathered the number of rose hips needed for the recipe, mashed the hips with a mortar and pestle set, and brewed a cup of tea using tea bags made from coffee filters. Making the tea was both messy and tough, with several students struggling to tie their makeshift

tea bags with string, and others returning to the tea counter again and again to add more honey and cinnamon to their tea.

At the end of the activity, while not everyone appreciated the final taste, they all finished at least one cup. Because they had put so much work into making it, none of the students wanted their efforts to go to waste; they felt proud of having made their own tea. Some of them even talked about trying the recipe at home with their own rose bushes.

FINAL OUTCOMES

All in all, the project was a success and it will continue to grow at KLO. Students who had been struggling in math showed higher participation levels, particularly in class discussions around data analysis and plant sustainability. Many of the students shared that they appreciated getting to experience the real-world applications of math concepts, and that the project helped them build an understanding of the role math plays in daily life. During classes when our school Elder was present, Indigenous students were highly engaged, and on numerous occasions asked us if and when our Elder would return.

Many students also commented on participating in the original creek revitalization, and began sharing their accounts with other teachers. Clearly, this earlier event resonated with them and was a natural introduction to our rose hip tea project. The renewed interest in the creek even encouraged a new teacher at KLO to visit it with their class and clean it again. The entire school has

also started to plan another creek project, which involves designing a walking trail that will have wooden signage identifying the various vegetation.

What started as a simple goal to further engage our students ended up blossoming into a beautiful place-conscious learning opportunity. Students learned from the land, while strengthening their connection to their local community and its geography. Pam and I also had positive takeaways from this experience, having engaged our students and successfully integrated an Indigenous perspective. We are excited and eager to continue this collaboration, and will keep improving and adapting it with each iteration.

AMBER HARTWELL specializes in the field of Educational Technology and currently works as a teacher-librarian for Central Okanagan Public Schools. She is completing her EdD in Learning Sciences with the University of Calgary, where she also works as a research assistant and sessional instructor.

PAM HORTON has 20 years of experience teaching STEM and Physical Education. Her classroom is designed to promote creative and critical thinking with a hands-on approach, while also building an understanding of numeracy and sustainable living.




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