STAM MTS PD Day
October 24, 2025

Renewed Manitoba Science Curriculum

The 65th Annual STAM MTS 2025 Professional Learning Conference takes place
Friday October 24th 2025
There are **ON-SITE** sessions at **Garden City Collegiate**, **VIRTUAL** sessions, and various sessions **OFF-SITE** including at the Assiniboine Park Zoo, the Boreal Woods Nature Centre, the Canadian Fossil Discovery Centre, the Inner City Science Centre, the Living Prairie Museum, Oak Hammock Marsh, the St. Boniface Hospital Research Centre, the University of Manitoba, and the Western Canadian Aviation Museum.

STAM is pleased to welcome

Michelene Reiniger & Jason Braun

as our 2025 keynote speakers

Friday Garden City Collegiate Schedule
711 Jefferson Avenue, Winnipeg
9:00-10:00 a.m. Morning Keynote Speaker
Morning Breakout Sessions:
10:30-12:30, 10:30-11:30, & 11:30-12:30
Afternoon Breakout Sessions:
1:30-3:30, 1:30-2:30, & 2:30-3:30

Morning refreshments available
in the Exhibitor Area at 8:15 a.m.

A sandwich/wrap & salad lunch is available
11:30 a.m.-1:30 p.m. (Catered by Mighty Kiwi)
at Garden City Collegiate ONLY.
(Pre-order lunch tickets for $12)

8:00 a.m. MAPT (Manitoba Association of Physics Teachers) AGM
All physics teachers are welcome!
A great opportunity to see what MAPT is up to, make suggestions, and become a member.

Please register online at mbteach.org

STAM AGM Awards and Reception 3:30 p.m.
Recognize and celebrate excellence in science education. Connect with science colleagues from around the province and beyond. New members are welcome to join the STAM Board.

To submit your name for nominations or to nominate someone to the Board, please email John Wren at jec.wren@gmail.com

EVERYONE WELCOME Win prizes!

Friday Morning Keynote Presentation 9:00-10:00 a.m. in the Theatre

Exploring the Renewed K to 10 Science Curriculum

Michelene Reiniger, Manitoba Education and Early Childhood Learning
And Jason Braun, Manitoba Education and Early Childhood Learning

In this presentation, Manitoba Education will share a brief history of the development of the renewed K-10 Science Curriculum. This will include Manitoba Education and Early Childhood Learning's Vision Statement, the goal of science education, foundational documents, underpinning research, consultations and collaboration, and process. This will be followed by a description of the organization of the curriculum, the global competencies and enduring understandings in science, the strands, big ideas and outcomes. By the end of this keynote, teachers should gain an overarching understanding of the renewed K-10 Science Curriculum and an excitement for bringing this renewed curriculum to life in Manitoba classrooms.

Michelene Reiniger
Michelene has been working as a science consultant for Manitoba Education and Training since August 2016. She also took over the portfolio for Education for Sustainable Development in 2017. Formerly, Michelene held numerous positions including Head of Science in a middle school in Suffolk, England, Science Consultant for Frontier School Division, and Environmental Science Specialist for Nunavut Department of Education in which she coordinated all 7-12 Science Programming for Nunavut. Michelene has extensive experience teaching grades 2 to 12 science (including Biology, Chemistry and Physics), instructing nurses at Saskatchewan Indian Institute of Technologies and managing Mad Science of Saskatchewan.

Jason Braun
Jason Braun is a dedicated science educator with over 25 years of teaching experience, including work in Africa and First Nations. He has served as a science coordinator and school administrator for more than a decade, and holds a Bachelor of Science, Bachelor of Education, and a Master of Education degree. Jason is an active member of the Manitoba Association of Physics Teachers, the Science Teachers Association of Manitoba, and the Let's Talk Science Advisory Panel. Jason worked for Manitoba Education and Early Childhood Learning on an interchange to support the development of the K-10 Science curriculum renewal.

The keynote session will be livestreamed.

Friday October 24th 2025 OFF-SITE SESSIONS

The following sessions take place at various locations and times as indicated.

Discover Fossils in Manitoba
(10:00 a.m.-4:00 p.m. in Morden)
Adolfo Cuetara, Canadian Fossil Discovery Centre
Level: General Maximum: 25 participants
Location: Canadian Fossil Discovery Centre (CFDC), 111-B Gilmour St., Morden
Please meet at the CFDC in Morden for 10:00 a.m. We'll begin with a tour of the Centre and then travel to a dig site for some active prospecting, weather permitting. Participants must wear appropriate field gear (closed-toed shoes, hats, and sunscreen) and bring water bottles. Participants will drive their own vehicles (car-pooling suggested) to the field station (along well-graded gravel roads) and then be transported to the dig site by Centre vehicles. If the weather does not permit outdoor explorations, a presentation and hands-on examinations of fossils will occur at the Centre. Please bring a lunch. More information at www.discoverfossils.com.

Building a Personal Connection to Nature with Living Prairie Museum (10:30-12:30 in Winnipeg)
Marika Olynyk, Living Prairie Museum
Level: General Maximum: 25 participants
Location: Living Prairie Museum, 2795 Ness Avenue, Winnipeg
Connect with our prairie heritage and explore topics relating to ecosystems and habitats, conservation and environmental stewardship, evolution and adaptation, and interdependence. This interactive workshop will introduce our urban nature preserve, with information about the endangered tall grass prairie habitat, and the species and processes that make it unique. We will look at how we care for the prairie and other natural areas, how we continually work towards reconciling Indigenous and western ways of knowing, and ideas for how to connect urban learners with the natural world. Our program will include an indoor presentation, a guided tour of the prairie, an overview of our programming, and facilitated discussion time with staff and participants. Activities will be both indoors and outdoors. We expect to take a walk on flat wood-chipped trails but activities can be modified for accessibility needs (please let us know in advance if possible). Please dress for the weather.

Take Flight! Programming at the Royal Aviation Museum of Western Canada
(1:30-3:30 p.m. in Winnipeg)
Brianne Vielfaure and Candace Kostna, Royal Aviation Museum of Western Canada
Level: General
Location: The Royal Aviation Museum of Western Canada, 2088 Wellington Ave, Winnipeg
The Royal Aviation Museum of Western Canada will present the various curriculum-based and STEM-focused programs we offer for kindergarten to grade 12 students. Our engaging science activities, which support classroom learning, include testing toys and predicting their performance in space, sitting in our Musketeer plane to experiment with the flight controls, creating straw rockets to measure the effects of drag, and mixing solid and liquid components to discover the most efficient rocket propellant. Our presentation will feature a museum tour that connects to our programs, a detailed overview of the programs offered, their interactive components, and how they align with the Manitoba science curriculum.'

Project WET (Water Education for Teachers) at Oak Hammock Marsh Wetland Discovery Centre (10:00 a.m. – 3:00 p.m. in Stonewall)
Nathalie Bays and Emily Davidson, Oak Hammock Marsh Wetland Discovery Centre
Level: K-12
Location: 1 Snow Goose Bay, Stonewall
The K-12 activity book contains games, experiments and other activities related to water topics. Activities will be onsite and outside. Please dress for the weather. There is a café onsite. Meet at the Wetland Discovery Centre at Oak Hammock Marsh.

The Forest as a Classroom
(10:00 a.m. – 2:00 p.m. in Grand Marais)
Michael James, O/O Boreal Woods Nature Centre, and Margo James
Level: 1-12
Location: Boreal Woods Nature Centre 100 003 Highway 59N (just south of the Grand Beach turnoff)
Explore using the forest in your curriculum. This is an opportunity for teachers to learn forest activities that their students can participate in on a field trip to the forest nature centre during April, May or June. Access to classroom and washrooms. Please bring a bag lunch and dress for the weather. Fire pit and shelter available. Please arrange your own transportation.
www.theoutdoorclassroom.net

Earth Science and the Wallace Building: Part II (9:00 a.m. – 3:00 p.m. in Winnipeg)
Jeff Young, Department of Earth Sciences, University of Manitoba
Level: 4-12 Maximum: 20 participants
Location: The Wallace Building, 125 Dysart Rd., University of Manitoba
We will explore Earth science activities based in the Wallace Building that can be used to enhance curriculum objectives. Teachers will also be introduced to research done in Wallace including work done by the Centre for Earth Observation Science. Lunch and parking will be provided.

Biomedical Science Connections to the New MB Science Curriculum: Experiential learning at the Youth BIOlab (9:30-11:30 a.m. in Winnipeg)
Steve Jones and Meghan Kynoch, St. Boniface Hospital Research Centre Youth BIOlab
Level: 5-12
Location: St. Boniface Hospital Albrechtsen Research Centre Youth BIOlab, 351 Tache Avenue, Winnipeg
Join us as we explore how current research at the St. Boniface Hospital Albrechtsen Research Centre connects to the dimensions of new science curriculum. You'll experience some of the ways that Youth BIOlab programming can support teaching and learning through lab activities that highlight our work in neurodevelopmental and neurodegenerative disorders, cardiovascular disease and functional foods research.

Research and Conservation at the Zoo
(1:30-3:30 p.m. in Winnipeg)
Connor Milligan, Assiniboine Park Zoo
Level: 7-12 Maximum: 24 participants
Location: Assiniboine Park Zoo, Winnipeg – Meet at the main entrance at 2595 Roblin Blvd, Winnipeg
This unique-to-STAM experience will focus on the three pillars of a modern zoo: Conservation, Research and Education. Learn about the important impact modern zoos can have on visitor mindsets and shaping viewpoints; moving students from being entertained by animals becoming active citizens concerned about conservation. Connecting to local and exotic species and the risks they face can lead students to find new motivation in STAM subjects and future career pathways. See first-hand how research is done at Assiniboine Park Zoo, how our educational programming aims to inspire the next generation of scientists and policy drivers to take an active role in wildlife conservation. This is an outdoor moving tour, covering approximately 2km on flat terrain. Please come prepared to be outside.

BioRad Restriction Digest and Analysis of Lambda DNA (9:30-11:30 a.m. in Winnipeg)
Elena Mallin and Emma Mahoney, Winnipeg School Division (Inner City Science Center)
Level: 9-12 Maximum: 20 participants
Location: Inner City Science Centre, 450 Flora Ave, Winnipeg, MB R2W 2R8
https://www.bio-rad.com/en-ca/product/restriction-digestion-analysis-lambda-dna-kit?ID=b9eacac5-3573-4ec8-ad46-2813d2a52994
This DNA analysis kit demonstrates the procedures and principles of DNA restriction digestion. Digestion of phage lambda DNA is followed by agarose gel electrophoresis. Participants get hands-on experience with gel casting and sample loading.

Friday October 24th 2025 VIRTUAL SESSIONS

The following sessions take place virtually. Virtual links will be provided to attendees.

2 Hour Virtual Session 10:30 a.m. -12:30 p.m.

The 5Es Framework: From Eco-Anxiety to Positive Environmental Action
Stephanie Doyle, Earth Rangers (sdoyle@earthrangers.com)
Level: General
Despite recognizing the importance of discussing topics related to climate change and other environmental issues with students, it can be uncomfortable situation. We've also all heard that eco-action is the antidote to eco-anxiety, but what does that really mean? In this workshop, participants will be initiated to tools to facilitate conversations around environmental issues and to plan environmental stewardship projects. We'll discuss the 5Es to drive Eco-Action which were identified through research studies carried out by Earth Rangers and Ipsos Canada. These 5Es – Empathy, Education, Excitement, Empowerment and Environmental Stewardship – provide a useful framework to consider eco-anxiety and eco-action with students. In break-out rooms, participants will have the opportunity to engage in an activity exploring eco-anxiety and how discuss it with their students. Next, ways to apply the 5Es through stewardship projects will be discussed, such as the curriculum-aligned "Green Routes to the Future: Electric School Buses" project.

1 Hour Virtual Sessions 10:30-11:30 a.m.

Welcome to Let's Talk Science - Educator Presentation
Tamara Smith, Let's Talk Science
Level: General *Repeated Session*
Come learn about Let's Talk Science and how we can support you and your students with free programming and resources. In Part 1, explore some fun, free, low-prep, and easy-to-implement K-12 STEM programming and resources for your classrooms. Discover events for students, National STEM Projects, career and competition opportunities, and curriculum-aligned resources that are readily accessible on our website. In Part 2, we will dive deeper into our professional learning micro-credentialling program, Learning Pathways, where educators of all levels can participate in a professional learning journey that builds towards certification in STEM-based concepts. Using a flexible approach that meets your unique needs as an educator, we will show you how to get started on your learning journey today! Let's Talk Science is a national charitable organization that offers free, curriculum-aligned, online educational programs and resources in K–12 science, technology, engineering, and mathematics (STEM) subjects for both students and educators in English and French. www.letstalkscience.ca

Learning with Polar Bears
Kayla McCurry, Polar Bears International
kmccurry@pbears.org
Level: General
Polar Bears International is the only non-profit solely dedicated to the conservation of wild polar bears, working to keep polar bears roaming the Arctic through a combination of science, media, and education. We are committed to providing teachers, parents, and students free and engaging resources that fit into curriculum standards for multiple grade levels. Join us to learn about how we teach students about polar bears, the Arctic, and climate change, and how these lessons can be worked into math, social studies, biology, and more.
www.polarbearsinternational.org

One Rubric to Rule Them All
Patrick Dunlop, Pembina Trails Collegiate
Level: 5-12
Explore how to create and use qualitative rubrics connected to the Global Competencies and grade level outcomes in the renewed science curriculum. These outcome-based rubrics will allow you to more readily generate grades and report card comments while also supporting student learning in diverse classrooms.

1 Hour Virtual Sessions 11:30 a.m.-12:30 p.m.

Welcome to Let's Talk Science - Educator Presentation
Tamara Smith, Let's Talk Science
Level: General *Repeated Session*
Come learn about Let's Talk Science and how we can support you and your students with free programming and resources. In Part 1, explore some fun, free, low-prep, and easy-to-implement K-12 STEM programming and resources for your classrooms. Discover events for students, National STEM Projects, career and competition opportunities, and curriculum-aligned resources that are readily accessible on our website. In Part 2, we will dive deeper into our professional learning micro-credentialling program, Learning Pathways, where educators of all levels can participate in a professional learning journey that builds towards certification in STEM-based concepts. Using a flexible approach that meets your unique needs as an educator, we will show you how to get started on your learning journey today! Let's Talk Science is a national charitable organization that offers free, curriculum-aligned, online educational programs and resources in K–12 science, technology, engineering, and mathematics (STEM) subjects for both students and educators in English and French. www.letstalkscience.ca

Manitoba Envirothon Theme Discipline Training for Envirothon Advisors: Land Use, Agriculture and Management (LAM)
Jennifer Hunnie, Lauren Beauchamp, and Olwyn Friesen, Manitoba Envirothon
Level: 9-12
Discover the newest theme to Envirothon! Our discipline chairs will go over resources and teach you how to train your students on the newest Envirothon theme. Here is your chance to get ahead of the game by learning early! If you have any questions on this virtual session, contact Jen at engagement@manitobawatersheds.org.

1 Hour Virtual Sessions 1:30 p.m.-2:30 p.m.

Inviting Critical Scientific Literacy through Inquiry: An Exploration into New Manitoba Science Curriculum
Latika Raisinghani, University of Winnipeg
Level: General
In this presentation, we will discuss types and processes of inquiry, and models of lesson planning. The focus will be on identifying opportunities to weave these into various dimensions of Manitoba's new K-10 science curriculum specifically, the Nature of Science, Practical Science, and Indigenous People within the Natural World, as well as global competencies as informed by the Framework of Learning.
Email: l.raisinghani@uwinnipeg.ca

Manitoba Envirothon Teacher Training Session: Soils Discipline
Jennifer Hunnie and Lindsey Andronak, Manitoba Envirothon
Level: 9-12
Calling all educators! Join us for an engaging and hands-on Teacher Training Session focused on the Soils Discipline for the Manitoba Envirothon. This session is designed to equip teachers with the knowledge, resources, and confidence needed to guide students through one of the most critical topics in environmental science. Participants will explore the official learning materials, gain practical tips on how to teach soil science effectively, and take part in hands-on activities using the same tools and techniques students will encounter during the competition. Whether you're new to Envirothon or a returning advisor, this training will help deepen your understanding and strengthen your teaching toolkit. Come get your hands dirty (virtually)—and leave with the tools to grow the next generation of soil stewards! If you have any questions on this virtual session, contact Jen at engagement@manitobawatersheds.org.

1 Hour Virtual Sessions 2:30 p.m.-3:30 p.m.

Process of Science – Making Your Science Classroom Come Alive!
Ingenium, STEM Institute for Elementary Teachers
Level: K-6
Discover engaging ways to jump start classroom science. Explore your curiosity and think like a scientist, use your observation and inference skills and walk away with practical tools you can use with your students.

Edwin - Resources for Today's Learners
Liz Halina, Classroom Success Specialist, Nelson Education
Level: 4-10
Edwin is Nelson's digital learning platform, providing high-quality, curriculum-aligned resources. This session shows how Edwin resources supports Grades 4–12 by connecting to the Manitoba Curriculum, the Framework for Learning's 6 Global Competencies, and supporting *Mamàhtawisiwin* by valuing Indigenous perspectives.

Friday October 24th 2025
GARDEN CITY COLLEGIATE SESSIONS

The following sessions take place at Garden City Collegiate.

All Day Session 10:30 a.m.-3:30 p.m. at Garden City Collegiate

Exploring Genetic Engineering: Hands-On Learning with CRISPR in Agriculture
Jessica Painter, Agriculture in the Classroom- Manitoba
Level: 9-12
Get ready for an exciting, hands-on adventure into the world of genetic engineering! In this full-day, off-site session, you'll roll up your sleeves and dive right into From DNA to Dinner: Genetic Engineering in Agriculture. Through interactive activities and experiments, you'll explore the cutting-edge CRISPR and Cas9 technologies and discover how these game-changing tools are revolutionizing industries such as agriculture and medicine with precision genome editing. By the end of the day, you'll not only have firsthand experience with the kit's activities but also the confidence and knowledge to bring these innovative concepts back to your classroom. Plus, you'll walk away with your very own From DNA to Dinner kit, ready to spark excitement and curiosity in your students!

2 Hour Morning Sessions 10:30 a.m.-12:30 p.m. at Garden City Collegiate

Discover the Power of Manitoba's Global Competencies in the Science Classroom
Charlene Smallwood and Shauna Coté, Department of Education--Curriculum Implementation Unit
Level: General *Repeated Session*
Are you looking to deepen student engagement and foster future-ready competencies in your science teaching? Join us for an interactive session designed specifically for science educators, where we'll explore how Manitoba's Global Competencies can be effectively woven into science learning experiences. Through practical examples and collaborative discussion, you'll gain tools to cultivate the Manitoba Global Competencies (critical thinking, communication, collaboration, citizenship, creativity, and connection to self) into your science learning experiences. These competencies support students in developing the knowledge, skills, and values they need to thrive in a complex world and walk their path toward *The Good Life – Mino-pimatisiwin*. (https://www.edu.gov.mb.ca/k12/framework/index.html)

Northern Approaches to Science
Jacqueline Monteith and Liza Halina, Frontier School Division
Level: General
Join us for a dynamic, hands-on experience that focuses on the new Manitoba Science Curriculum. Frontier School Division approaches science education in a unique way, as our Division spans from the Prairies to the Arctic. Participants will look at the new curriculum through an Indigenous perspective, have access to supporting documents and original lesson plan ideas, and make connections that will be exciting and motivating for immediate implementation.

New Science Curriculum Opportunities at the Manitoba Museum, Planetarium, and Science Gallery
Scott Young, Manitoba Museum
Level: General
Manitoba's new science curriculum is being phased in this year and becomes mandatory next year - what are the changes, and how does it affect what you do in the classroom? We'll present an overview of the curriculum changes and demonstrate how the Manitoba Museum can support your students' learning and your transition to the new curriculum. Using the Planetarium as an example, we'll also demonstrate how the flexibility the new curriculum allows for teachers to customize science class based on their own knowledge and interests while still achieving the learning goals for student success.

Curricular Design Activities to Enhance Student Engagement
Tina Hellmuth, Winnipeg School Division & STAM
Level: 4-8
Build bridges? Design Space stations? Create new insects? Want to see students engaged in learning and play? All projects are done with readily available materials. Activities connect to the new science curriculum that is based on the Global Competencies. Come and try out and then plan engaging STEM classroom activities that encourage collaboration, communication, critical thinking, creativity…and more! Many practical suggestions with be shared and most activities are available in English and French.

The Manitoba School Science Symposium
Mary Lucy Rocha St Lawrence, MSSS
Level: 4-12
This professional development is for every teacher who wishes to instill a passion for scientific inquiry and curiosity in their class. Every year, the Manitoba Schools Science Symposium provides the venue to showcase future researchers and innovators from grades 4-12. This program is open to all students in Manitoba. We will provide some tips on how to get started and what you will need to run successful science classes and fairs, from as small as a learning centre for your classroom to a school-wide fair. Resources, tips and information on how your role will evolve throughout the process will be shared. Some group activities will illustrate and define inquiry and how to develop the skills needed to guide your students through the process.

BTC and the Science Classroom
Jerrold Wiebe, Thinking Classrooms (Canadian Team)
Level: 6-10
Peter Liljedahl's Building Thinking Classrooms (BTC) framework offers 14 concrete practices that transform classrooms from passive learning environments into dynamic spaces where students actively think, question, and construct knowledge together. In this session, we'll explore how these practices can be applied to the inquiry-driven, conceptually rich world of science education. At its core, BTC is not just about new activities or routines — it's about cultivating a culture of deep thinking, collaboration, and problem-solving. Although originally developed through extensive research in mathematics education, the BTC framework provides powerful strategies for enhancing science teaching. By applying BTC, we can align our practices with the 5 Dimensions of Learning and the 6 Global Competencies, preparing students to think critically, collaborate effectively, and tackle the challenges of the future. Sample tasks will target grade 6 space and grade 9 chemistry.

Introduction to Ungrading: Empowering Students Through Assessment (Part 1)
Christopher Sarkonak, MAPT
Level: 7-12 *Continued in Afternoon Session*
Tired of students only being able to mimic what you do, but not actually understand? Done with the stress of students haggling for part marks every assessment? Starting to realize that traditional assessment models aren't equitable for all students? This morning session is open to teachers of all disciplines and will explore how some traditional practices can undermine our students' learning and several potential solutions. The focus on this presentation will be on ungrading, the idea that removing grades as much as possible from the classroom environment can have a tremendous benefit on student learning and mental health. Other assessment models that will be discussed include standards-based grading, skills-based grading, and gamification. As well, there will be discussion of Thinking Classrooms and how to maximize classroom engagement.

Pinhole Photography
Ava Thompson and Alan Woo, Collège Garden City Collegiate
Level: 9-12
Come learn how to build pinhole cameras out of cardboard boxes and pop cans! We will walk you through the build process then let you explore some of the cameras students have built in the past. We will take black and white photos and develop them using a darkroom and photo chemicals. There will also be discussion of how we connect this to the Grade 12 Chemistry curriculum in the Redox and Quantum Chem sections and how we have used this lab both for an all day class and as a several day lab before a break or between units.

1 Hour Morning Sessions 10:30-11:30 a.m. at Garden City Collegiate

Considering Indigenous Science: Broadening Your Approach
Melanie McComb, Let's Talk Science
Level: General *Repeated Session*
In this Let's Talk Science session, you will have the opportunity to examine the transformative potential of Indigenous Science and its impact on your teaching approach. We will explore a small part of the rich knowledge systems embedded within Indigenous Nations, considering how they can enhance and broaden your instructional practices. Through engaging discussions and activities, you will leave with concrete ideas and strategies to effectively incorporate Indigenous Science into your classroom, fostering a more inclusive and holistic learning experience for your students. Join us as we embrace the wisdom of Indigenous Science and embark on a journey of educational enrichment. This session is for K to Grade 12 educators. Let's Talk Science is a national charitable organization that offers free, curriculum-aligned, online educational programs and resources in K–12 science, technology, engineering, and mathematics (STEM) subjects for both students and educators in English and French. www.letstalkscience.ca

Digging In - Where Does Soil Science Fit in the New Curricula?
Kent Lewarne and Bob Adamson, Nutrients for Life Canada
Level: General
Designed around a global youth challenge on sustainable agriculture to feed the world, Nutrients for Life Canada has a variety of resources to support the new Manitoba Science Curricula. The resources and activities touch on many of the Practical Science (PS), Nature of Science (NOS) and Knowledge (SK) outcomes in a variety of grades. Feeding the world will require our students to utilize many of the Global Competencies highlighted in the new curricula. (Best fits in Grade 4 and 10 with some connections in Grades 7 and 8.)

Exploring KBI lessons with the new K-10 Pilot Science Curriculum
Gigi Fallorin, Winnipeg School Division & KBI National Teacher Advisory Group, and Monsour Wilson Fallorin, Winnipeg School Division
Level: General
Navigating through the renewed science curriculum has its challenges in terms of how to approach its implementation. Nothing beats having a middle year pedagogy as the lens to approach it - making sure that everything is centered on the learner who can be as diverse as the society that we live in. Kids Boost Immunity (KBI) lessons proves its authentic connectedness with the new K-10 science curriculum's five dimensions on Indigenous People within the Natural World, Science Identity, Scientific Knowledge, Practical Science, and Nature of Science. The session will focus on getting to know the KBI platform, how to register a class, and explore the various modules or lessons that can be accessed, with special focus on its latest module on Scientific Curiosity and Vaccine Discoveries. The Environment and Climate Change Inquiry Project undertaken by students of Hugh John Macdonald School will be showcased as to how a KBI lesson inspired students to come up with a Choice Board to demonstrate their understanding and engagement with science.

Implementation of the K-Grade 4 Science Curriculum
Michelene Reiniger, Manitoba Education and Early Childhood Learning
Level: K-4 *Repeated Session*
This session, intended for Kindergarten-Grade 4 teachers, will provide a review of the new K-10 Science Curriculum as it specifically relates to their teaching and students. The interactive session will focus on applying the strands of the curriculum in grades K-4. Implementation support documents will also be introduced to help teachers plan for their instruction.

Implementation of the Grades 5-8 Science Curriculum
Jason Braun, Manitoba Education and Early Childhood Learning
Level: 5-8 *Repeated Session*
This session, intended for Grades 5-8 teachers, will provide a review of the new K-10 Science Curriculum as it specifically relates to their teaching and students. The interactive session will focus on applying the strands of the curriculum in grades 5-8. Implementation support documents will also be introduced to help teachers plan for their instruction.

1 Hour Morning Sessions 11:30 a.m.-12:30 p.m. at Garden City Collegiate

Treaty Education in Science: Perspectives, Pedagogies & Possibilities
Peiki Loay, Hanover School Division
Level: General
In the renewed science curriculum, featured learning dimensions include “Indigenous People within the Natural World” and “Science Identity”. This session introduces how science educators might use Two-Eyed Seeing (a concept originally brought forth by Elder Albert Marshall) as a lens for coming to know science from both Indigenous and Western perspectives. To illustrate how this weaving between worldviews might look in the classroom, we will explore the text "Walking Together" and several inquiry activities relating to seasonal wheels and observing patterns that teachers could adapt to their own contexts. Throughout the session, participants will engage in conversations on how we might begin restorying science education together.

Implementation of the K-Grade 4 Science Curriculum
Michelene Reiniger, Manitoba Education and Early Childhood Learning
Level: K-4 *Repeated Session*
This session, intended for Kindergarten-Grade 4 teachers, will provide a review of the new K-10 Science Curriculum as it specifically relates to their teaching and students. The interactive session will focus on applying the strands of the curriculum in grades K-4. Implementation support documents will also be introduced to help teachers plan for their instruction.

Implementation of the Grades 5-8 Science Curriculum
Jason Braun, Manitoba Education and Early Childhood Learning
Level: 5-8 *Repeated Session*
This session, intended for Grades 5-8 teachers, will provide a review of the new K-10 Science Curriculum as it specifically relates to their teaching and students. The interactive session will focus on applying the strands of the curriculum in grades 5-8. Implementation support documents will also be introduced to help teachers plan for their instruction.

Students on the Beamline: A Particle Accelerator Experience for your Students
Heidi Werner, St James Collegiate/MAPT
Level: 9-12
Hear about an experiment performed at the Canadian Light Source by students from St. James Collegiate and learn how you can take your students to CLS to work with scientists at the synchrotron.

2 Hour Afternoon Session 1:30-3:30 p.m. at Garden City Collegiate

Discover the Power of Manitoba's Global Competencies in the Science Classroom
Charlene Smallwood and Shauna Coté, Department of Education--Curriculum Implementation Unit
Level: General *Repeated Session*
Are you looking to deepen student engagement and foster future-ready competencies in your science teaching? Join us for an interactive session designed specifically for science educators, where we'll explore how Manitoba's Global Competencies can be effectively woven into science learning experiences. Through practical examples and collaborative discussion, you'll gain tools to cultivate the Manitoba Global Competencies (critical thinking, communication, collaboration, citizenship, creativity, and connection to self) into your science learning experiences. These competencies support students in developing the knowledge, skills, and values they need to thrive in a complex world and walk their path toward *The Good Life – Mino-pimatisiwin.*
(https://www.edu.gov.mb.ca/k12/framework/index.html)

Ungrading Workshop & Discussion (Part 2 Continued from Morning Session)
Christopher Sarkonak, MAPT
Level: 7-12
This session is open to teachers of all disciplines. In the afternoon we will be looking at an implementation of collaborative, portfolio-based grading in a high school Physics classroom, answering questions and concerns, and there will be time for people to work together in small groups to develop systems that they can take back to their classrooms.

1 Hour Afternoon Sessions 1:30-2:30 p.m. at Garden City Collegiate

Teaching the Nature of Science
Ellen Watson, Brandon University and Wei-Ting Li, National Sun Yat-sen University
Level: General
The new curriculum documents contain Nature of Science (NOS) specific outcomes for K-10. The NOS describes how science works and how we know in science, so how do we teach that? This session will explain the NOS and offer strategies for teaching it in MB science classrooms.

Decoding AI: Helping Students Look Beyond
Anju Bajaj, Let's Talk Science
Level: General *Repeated Session*
Support students in making smart choices about using technologies driven by artificial intelligence (AI). This Let's Talk Science session will also show you how AI can be used in math, making learning more contextual. You will also learn how to use AI responsibly, encouraging critical thinking and helping students become responsible digital citizens in a world where AI is everywhere. This session is for K-12 educators.
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www.letstalkscience.ca

Bring the Kitchen into the Classroom (NOS)
Brian Dentry, STAM, Perimeter Institute and CAP
Level: K-12
The kitchen is a laboratory, and cooking is an experimental science. There is good chemistry, physics, and biology to be learned in the kitchen, and that investigating the science of cooking is a worthwhile academic pursuit, whilst being fun and practical. Baking and cooking are messy, so is science! Kitchen Sciences in the Classroom uses everyday experiences making the curriculum come alive for students. The kitchen is a natural laboratory filled with ingredients that undergo fascinating transformations every day. From baking to boiling, processes in the kitchen are perfect examples of chemical reactions, states of matter, and energy transfer (plus so much more). These experiments are reliable, safe, and accessible, making science less intimidating and more exciting for young learners. For your information, there will be a reference to resources from Perimeter Institute and CAP.

Online Resources for Manitoba Educators and Students
Nancy Girardin, Manitoba Education and Early Childhood Learning
Level: K-12 *Repeated Session*
Are you wanting some new science resources to use in the classroom? Learn about the research and video streaming resources available to educators and students through Manitoba Education and Early Childhood Learning's ORME site (https://mbcsc.edu.gov.mb.ca/onlineresources).

Building a Water Pipeline - Design Activity Related to the Winnipeg Shoal Lake Aqueduct
Tina Hellmuth, STAM & Winnipeg School Division
Level: 5-8
This activity is perfect to meet many of the goals of the new Science curriculum. Learn how the city's journey for clean water went through the scientific process and how decisions were made with a colonial perspective. Test your skills in building a pipeline that respects criteria and see how the Global Competences in Science come into play. Active session that you can use with your classes with minimal resources.

Bring the Universe into Your Classroom: Astronomy in the New Grade Seven and Ten Science Curriculum
Andrea Misner**,** Manitoba Association of Physics Teachers (MAPT)
Level: 7 & 10 *Repeated Session*
Looking for astronomy resources? Struggling to figure out how to implement astronomy in the new science curriculum? This session has resources for you and your students, as well as lessons and projects rooted in inquiry and project-based learning. What will you and your students discover?

Implementation of the Grades 9-10 Science Curriculum
Jason Braun, Manitoba Education and Early Childhood Learning
Level: 9-10 *Repeated Session*
This session, intended for Grades 9-10 teachers, will provide a review of the new K-10 Science Curriculum as it specifically relates to their teaching and students. The interactive session will focus on applying the strands of the curriculum in grades 9-10. Implementation support documents will also be introduced to help teachers plan for their instruction.

Let's "Water" Down the New Curricula!
Kent Lewarne, Manitoba River Watch
Level: 9-12 *Repeated Session*
Why not use River Watch to teach and/or reinforce some of the Practical Science (PS), Nature of Science (NOS) and Knowledge Outcomes (SK). With a focus on Grade 10 Science, this session will touch on many of the Global Competencies in Science and hopefully lead to enduring understandings in science.

1 Hour Afternoon Sessions 2:30-3:30 p.m. at Garden City Collegiate

Considering Indigenous Science: Broadening Your Approach
Melanie McComb, Let's Talk Science
Level: General *Repeated Session*
In this Let's Talk Science session, you will have the opportunity to examine the transformative potential of Indigenous Science and its impact on your teaching approach. We will explore a small part of the rich knowledge systems embedded within Indigenous Nations, considering how they can enhance and broaden your instructional practices. Through engaging discussions and activities, you will leave with concrete ideas and strategies to effectively incorporate Indigenous Science into your classroom, fostering a more inclusive and holistic learning experience for your students. Join us as we embrace the wisdom of Indigenous Science and embark on a journey of educational enrichment. This session is for K to Grade 12 educators. Let's Talk Science is a national charitable organization that offers free, curriculum-aligned, online educational programs and resources in K–12 science, technology, engineering, and mathematics (STEM) subjects for both students and educators in English and French. www.letstalkscience.ca

Decoding AI: Helping Students Look Beyond
Anju Bajaj, Let's Talk Science
Level: General *Repeated Session*
Support students in making smart choices about using technologies driven by artificial intelligence (AI). This Let's Talk Science session will also show you how AI can be used in math, making learning more contextual. You will also learn how to use AI responsibly, encouraging critical thinking and helping students become responsible digital citizens in a world where AI is everywhere. This session is for K-12 educators. Let's Talk Science is a national charitable organization that offers free, curriculum-aligned, online educational programs and resources in K–12 science, technology, engineering, and mathematics (STEM) subjects for both students and educators in English and French. www.letstalkscience.ca

Online Resources for Manitoba Educators and Students
Nancy Girardin, Manitoba Education and Early Childhood Learning
Level: K-12 *Repeated Session*
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Bring the universe into your classroom: Astronomy in the new grade seven and ten science curriculum
Andrea Misner, Manitoba Association of Physics Teachers (MAPT)
Level: 7 & 10 *Repeated Session*
Looking for astronomy resources? Struggling to figure out how to implement astronomy in the new science curriculum? This session has resources for you and your students, as well as lessons and projects rooted in inquiry and project-based learning. What will you and your students discover?

Environmental Ideas into Action: Caring for Our Watersheds
Kandra Forbes, Caring for Our Watersheds- Oak Hammock Marsh
Level: 7-12
Caring for Our Watersheds is a provincial program for Grade 7-12 students. They are asked to answer the question: "What can you do to improve your watershed?" Students learn about their watershed and local community, then research and develop a solution to an issue. Deadline for submissions is March. A Top Ten will be chosen and they will go on to present their ideas in-person to a panel of community judges In April at the *newly renovated* Harry J Enns Wetland Discovery Centre at Oak Hammock Marsh. Top prize is $1,000, with a matching amount going to the school. Additionally, there is $10,000 available for students to implement their idea. Teachers are eligible for $100 per 10 submissions. We love to make proposals become reality. This has included tree planting, native plant gardens, mending workshops, waterbody clean-ups, land-based learning workshops, and more. Learn more about the contest: https://caringforourwatersheds.com/canada/Manitoba/. Free presentations are available for classes interested in participating. Contact: Kandra Forbes, cfow@ducks.ca. This program is made possible through a partnership between the Ducks Unlimited Canada (Harry J Enns Wetland Discovery Centre) and Nutrien.

Implementation of the Grades 9-10 Science Curriculum
Michelene Reiniger, Manitoba Education and Early Childhood Learning
Level: 9-10 *Repeated Session*
This session, intended for Grades 9-10 teachers, will provide a review of the new K-10 Science Curriculum as it specifically relates to their teaching and students. The interactive session will focus on applying the strands of the curriculum in grades 9-10. Implementation support documents will also be introduced to help teachers plan for their instruction.

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Kent Lewarne, Manitoba River Watch
Level: 9-12 *Repeated Session*
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Physics Teachers' Favourites
Jennifer Piasecki and Trevor Friesen-Stoesz, MAPT
Level: 9-12
Physics teachers will share their favourite physics equipment and lab activities to showcase high school physics concepts.

REGISTRATION AND MEMBERSHIP INFORMATION

PLEASE READ CAREFULLY

Registration is online at mbteach.org

STAM Membership 2025-2026 *(Membership fees may be paid in conjunction with the conference fee.)*
General/Student $20.00

Full Day Conference Fees	**Early Bird** (by October 1)	**Regular (**Oct. 2– 24)
STAM Member	$40.00*	$50.00*
Non-Member	$59.00	$69.00
Full-time Student STAM Member	Free**	$10.00**

Half Day Conference Fees	**Early Bird** (by October 1)	**Regular (**Oct. 2– 24)
STAM Member	$30.00*	$40.00*
Non-Member	$49.00	$59.00
Full-time Student STAM Member	Free**	$10.00**

*For **regular STAM members**, your total early bird cost for the full day conference, including a STAM membership, is **$60.00 ($70 after Oct. 1)**.

****Full-time** students receive a free early bird conference registration with a STAM membership ($10.00 registration fee with STAM membership after October 1st).

LUNCH $12

A sandwich/wrap & salad lunch catered by
Mighty Kiwi is available 11:30 a.m.-1:30 p.m.
at Garden City Collegiate ONLY.
Lunch must be pre-purchased when registering.

- Please register online at mbteach.org
- Please note that while STAM will not cancel sessions, a presenter might. STAM will do its best to help registrants find alternate session(s) should that happen.
- Conference fees and STAM memberships are non-refundable.
- Registration is on a first-come basis, and many sessions will fill up quickly.

STAM AGM Awards and Reception 3:30 p.m.

Recognize and celebrate excellence in science education. Connect with science colleagues from around the province and beyond. New members are welcome to join the STAM BOD. Win prizes!

STAM needs new board members!!!

EVERYONE WELCOME