Embedding Movement, Physical Activity and Using the Outdoors During the School Day: Grades 9 to 12

Introduction

These recommendations are consistent with guidance received from OCMOH (Office of the Chief Medical Officer of Health) with a public health perspective based on current epidemiology. For additional information please see the links below and please refer to the Nova Scotia Back to School Public Health Plan.

The Importance of Physical Activity, Movement and Being Outdoors

There is strong evidence on the positive impact that physical activity has for youth. Physical activity as part of a daily routine impacts individual growth and development, academic achievement, as well as school connectedness and sense of belonging. Positive physically active experiences benefit students' healthy mental, emotional, physical, and social development.

Movement and being physically active support student success by improving learning, development, well-being, and health. Notably, it is linked to academic performance, physical and mental health, maintenance of a healthy body weight and motor skill development. Physical activity can be a means to positively affect how young people behave in relation to other health matters such as healthy eating, sleep hygiene, injury, substance-use, sexual health, and social and emotional management. There is also strong evidence that when children and youth are outside or engaged with the natural environment, they are more likely to be physically active. The outdoors can play a critical role in their overall healthy development.

Nova Scotia is committed to increasing opportunities for students to be physically active and, in collaboration with community and provincial stakeholders, the Government of Nova Scotia is implementing the Let's Get Moving plan to encourage Nova Scotians to include movement in their daily lives.

Being physically active and moving can happen across the curriculum and in different settings. A minimum of ten minutes of physically active time should be incorporated into every classroom P-6, and it is strongly encouraged in 7-12 based on the evidence and benefits as noted above. The Back to School Plan indicates that the outdoors is to be used for learning and well-being whenever possible. This document helps to support you to do that throughout the school day.

Purpose

The purpose of this document is to:

- Provide suggestions for teachers Grades 9-12 on how to be less sedentary and incorporate movement as much as possible into the daily routine.
- Provide suggestions and tools to help support teachers to plan for learning outside.
- Provide suggestions on how to embed movement and physical activity across the curriculum.

Moving Forward: Creating a Culture of Movement during Class for All Students

Nova Scotia's Inclusive Education Policy focuses on *equity and inclusion* to support the well-being and success of all students, including students who have been historically and systemically marginalized, under-represented, and under-served. Planning and implementing physically active time, embedding movement throughout the day, and going outside more frequently will support all learners.

Getting Outside to Move and Engage in Learning

All teachers are encouraged to creatively look for ways to incorporate learning outside into the day. It is strongly recommended that teachers take students outside for some physical activity every day over and above and/or lunch breaks. Something as simple as a walk around the school grounds and/or in the neighborhood provides time for everyone to get outside for more light, fresh air, and enjoy the sights and sounds of nature. The "Subject-Specific Bank of Ideas" below shares several ideas and suggestions on using the outdoors as a place for learning in a variety of curriculum areas. These are starter ideas that you can build on.

NOTE on Consent and Waiver Forms:

The School Insurance Program has provided the following information:

- One-time individualized informed consent (based on each school's particular applicable hazards) can be sent home at the beginning of the school year for times when students will be going off school property. This means that all hazards should be covered in the informed consent. (ie. maybe the students have to cross the road, etc)
- Teachers can organize regular excursions within their community, such as a trip to a nearby park or green space area, to add variety in the outdoor learning settings. A general walking permission form signed once by parents can cover all excursions of this nature off school property. To access this form, go to the SIP website and login under the Risk Management tab: https://sip.ca/rm/topic/category/consent-forms

Nevertheless, for certainty, as you plan how to integrate being outside into the learning experience, you will also want to reach out to your RCE/CSAP to identify potential consent and waiver forms and other documentation that may be needed to allow students to leave school property. Other considerations will need to be factored in when planning for students to leave school property, including the appropriate safety guidelines and check lists that need to be referred to.

Students will be aware of ways to protect themselves from UV rays (e.g. use of hat, sunglasses, sunscreen) and insects (e.g. repellent). Information regarding ticks and potential for lyme disease can be found at https://novascotia.ca/dhw/CDPC/lyme.asp

Movement-based Learning Across the Curriculum: General Ideas

Learning for a Sustainable Future Resources:
Learning for a Sustaninable Future is an organization committed to engaging students outdoors while following subject-based curriculum. They have created, developed and linked many different lessons on their resource pages that educators may find helpful as they plan their learning experiences for the outdoor setting.

NS Department of Education and Early Childhood Development Outdoor Learning Resource Page:
This resource page contains NS Curriculum-based webinars and resource links developed to inspire outdoor learning in NS.

Planning to Get Moving Indoors and Outdoors: Things to Think About

Embedding movement and physical activity throughout the day can be supported and amplified by a number of key factors. Here are some additional suggestions to support teachers and schools as you work to increase movement in the classroom and by using the outdoors.

- Working together as a school community: It may start out between a couple of teachers, exchanging and coordinating ideas and learning experiences on how to embed movement and physical activity throughout the day. Gradually over time, it can shift to a whole school approach. What can be done together to create an overall environment where movement can happen on a regular and routine basis?
- Applying a Mi'kmaw cultural lens: As a way to build cultural competence (and confidence), teachers can use opportunities for increased physical activity to introduce aspects of treaty education which will enrich the experiences for all. Over the past year, concepts like Mi'kmaw ways of being and knowing, interconnectedness, and environmental stewardship have been introduced and can be integrated throughout the public school program. Through The Core Values of Netukulimk,, educators can familiarize themselves with various Mi'kmaw perspectives or world views and enrich physical activity experiences.

- Consider barriers and challenges: Do you and the school community have strategies to support students to have appropriate clothing and footwear? What strategies can be used to normalize and communicate with parents regarding being outside in a variety of weather conditions?

- Reach out to your community partners for ideas: There is a wealth of expertise in your community to tap into how to engage school-aged children and youth on being physically active. See the Nova Scotia Connect.ca to get in touch with your local Recreation Department for ideas of what might be available in your community during COVID. These ideas may support your students in increasing physical activity in and out of school time.

- Encouraging student active transportation: Get involved with or lead efforts to encourage safe active transportation to and from school. Biking, walking, wheeling, or skateboarding to and from school not only helps students with their overall health but also helps prepare them to learn. Discuss with your School Advisory Council on how to integrate active transportation. Also, the Ecology Action Centre has a number of excellent resources on how to build student active transportation. While promoting student active transportation can be more challenging in rural areas, if it is possible, start to explore options and possibilities by opening the conversation at your school.

- Engaging students and families in their activity: Understanding student perspectives can help with your planning. The Pan-Canadian Joint Consortium for School Health's Youth Engagement Tool Kit is a practical resource to help you engage students in being more active.

- Reach out to your Regional Centre for Education's Active Healthy Lead/Program Coordinator: The RCE/CSAP office can help get the expertise and knowledge you may need to engage in physically active time, learning in the outdoors and to adopting a health promoting school approach. Contact your regional Health Promoting Schools committee about a potential grant to support out-of-classroom/outdoor learning.

Movement-Based Learning Across the Curriculum: Subject-Specific Bank of Ideas

In addition to using the outdoors more frequently, movement in the classroom in a COVID-19 friendly way is encouraged. It is important that teachers look for opportunities for learners and themselves to be active. In general, avoid and limit extended periods of remaining sedentary, take breaks to move, and actively monitor for signs that students need to move. Below are examples across subject areas to provide daily opportunities for students to learn in an active way, but to still maintain safe practices within the classroom environment.

These are starter ideas that we know teachers will expand on and adjust based on their learners and school environments. Many of the suggested subject-specific approaches and activities that follow can be applied across the curriculum in a variety of subject areas and in cross-curriculum ways. There is value in reviewing the full list as you plan.

As a reminder, please be advised of Public Health recommendations to eliminate or minimize sharing and communal equipment. If it is educationally necessary to share equipment, then it must be disinfected, and hand hygiene regularly performed, before and after, in the classroom. Refer to the Back to School plan in Appendix A for further information.

Arts Education

The suggestions offered below promote being physically active and moving across all arts disciplines.

General Suggestions

- Especially in classes scheduled for longer than 60 minutes, consider taking the learning outside (i.e., at the half-way point of the class) to promote movement and to access fresh air. For example:
    - Group discussions.
    - Students can demonstrate what they have learned by physically representing their understanding through movement, frozen tableau, etc.
    - Using outdoor observations to inspire creative responses within their art discipline (i.e., sketching, soundscapes, monologues, creative movement).

Specific Suggestions

- Dance and Drama courses are, by their nature, movement based.
- Movement is embedded throughout the music curricula as one of the six experiences that builds musical literacy.
    - E.g., This is a great time to create an ad-hoc marching band. Ad Hoc Marching Bands: To encourage playing outdoors, music teachers could create a marching band "in the moment" or a band "for the purpose" of playing outdoors. In a marching band, band members play their instruments while marching. Various formations can be created and practiced.
- In Visual Arts 9, there is a module titled *Nature and the Built Environment.*
    - The learning opportunities in the module may easily be adapted to inspire outdoor learning across Grades 9–12.

Healthy Living 9

P-8:

- Take learning outside to practice and role play personal safety scenarios from Kids in the Know. Digital access can be found on the GNSPES landing page in other links under C3P button.
- Create and maintain school and/or community gardens. Simply getting outside for conversation-based learning related to curriculum outcomes, conducting check-ins, standing, or sitting in green space on the school grounds, are good ways to make learning in Healthy Living 9 lessons less sedentary and provide opportunities for students to engage in conversations without the use of masks by being able to spread two meters apart. Lessons for Healthy Living 9 that can be facilitated in a circle with little equipment can be found on the Health Education Moodle.

Language Arts

In general, BOKS Canada provides excellent suggestions on encouraging movement in the Language Arts and/or the Social Studies classes:

- Boks-Canada-20 Activity Bursts that Allow Students to Stay Active at a Distance
- Boks-Canada 20-activités-Boum-BOKS qui respectent les distanciations physiques

Here are a number of specific suggestions:

All Grade Levels

- Gallery Walk: Explore any concept by walking around the room maintaining distancing. This can be done with small groups instead of the full class.
- Sidewalk Chalk Compositions: Represent literacy or social studies concepts through writing or illustrations.
- Outdoor Observation (Inspiration): With journals, walk and explore your community, or school grounds, using five senses to springboard poetry, stories, writing ideas, etc.
- Outdoor Observation (Mapping): Sketch, note, or use technology to record your observations on a walk outside and use them to create a map of your school grounds.
- Represent concepts physically to incorporate movement or as a frozen tableau (i.e., What does friendship look like? What does fairness look like? What does my community look like?)
- Tell a story through movement.

- Turn and talk standing up (maintain physical distancing).
- Stand up at the desk instead of raising their hands when contributing to a discussion or answering a question.
- Think-Pair at a Distance-Share: Explore Language Arts or Social Studies concepts independently, discuss with a partner somewhere else in the room, then share with the whole class.
- Social Distancing Greeting: Create ways to meet each other while keeping a safe distance.
- Memory: Create a pattern of movement, then others repeat (for added complexity, each student can add a movement). This can be done while seated or standing.

English 12 African Heritage (ENGAH12)

- Act out a portion of a play/drama outside.
- Have student circle "read-alouds" for sections of a novel.
- Have student circle "chapter chats".
- Independent reading outside (students choose a quiet, singular space).
- Play "character charades" (students act out a character from literature they have covered).

Social Studies

- Carousel Questions: Students move around a large area outside and answer a series of questions on a concept.
- Create historical timelines around the room.
- Walk and Talk: In pairs, students are given discussion questions, or opposite sides to debate. They are to walk and talk appropriately distanced for a set period of time. Each group takes turns sharing to the larger group what was discussed
- Inner/Outer Circle: Use this to discuss multiple debatable topics, discuss what they have learned about a topic, or their responses to a question. There is an inner and an outer circle. The circles line up so that the inner circle speaks to a partner on the outer circle. This is a great way to review prior to an assessment, and to help elicit prior knowledge. You will need a large space, outdoors or indoors, to do this in a COVID friendly way.
- Gallery Walk: Explore any concept by walking around the room maintaining distancing. This can be done with small groups instead of the full class.
- Sidewalk Chalk Compositions: Represent Literacy or Social Studies concepts through writing or illustrations.
- Represent concepts physically to incorporate movement or as a frozen tableau (i.e., What does fairness look like? What does my community look like?)
- Turn and talk standing up (maintain physical distancing).
- Think-Pair at a Distance-Share: Explore Language Arts or Social Studies concepts independently, discuss with a partner somewhere else in the room, then share with the whole class.

African Canadian Studies 11 (ACS11)

- Listen to a podcast outside (Bluetooth speaker).
- Have a guest speaker from the community talk to the class outside.
- Do African dance or African drumming outside.
- Set up 2-3-person debate teams (and present outside).
- Have students create or recite a formal speech to their classmates.

Mathematics and Science

For longer sustained blocks of learning during the 2020-21 school year, it is recommended that teachers plan opportunities for learners to move while they are learning. Opportunities for learners to get up and stretch, stand and confer, go outside for a walk to make observations about what they are learning, explore what they still have questions about, etc., will help keep students engaged and focused. The following are some ideas about how to incorporate movement into Mathematics and Science for Grades 9-12.

- Represent concepts (cell division, DNA replication, cell transport, chemical reactions, forces acting on objects, electrical circuits, energy transformation, movement of blood through the circulatory system, release of neurotransmitters, etc.) through movement.
- Investigate the impact of exercise and collect pulse and breathing rate data. This can be done in the class through activities like running on the spot, or energizing exercises.
- Ecological sampling outside: using quadrats or transect lines for biodiversity studies or population studies.
- Using chalk or ropes to represent graphs/functions and concepts (energy of reactions, population growth curves, free-body diagrams, area, and perimeter).
- Simulating scientific phenomena using movement (match a displacement vs. time graph using movement, atomic structure and bonding, properties of waves, etc.)
- Bring laboratory equipment outside (dynamics carts, acceleration timers (depending on access to power or using systems that use batteries), etc.)
- Gallery Walk: Explore any concept without sitting in your seat. Students can share work this way or they can learn new concepts or reflect on or consolidate already-learned concepts
- Represent concepts physically (using rocks, found/recycled objects, rope, etc.)
- Turn and talk standing up (maintain physical distancing). This can be completed both indoors and out.
- Students can stand up at their chair instead of raising their hands when they would like to contribute to a discussion or answer a question
- Using homemade clinometers or clinometer apps to apply trigonometry and measure height indirectly.
- Exploring Pythagorean Theorem on sports fields, parking lots, etc.
- Incorporate activities that involve having students measure items, calculate volumes and/or capacity outdoors.
- Incorporate movement activities to explore rates and distance-time-velocity. Use motion sensors if available.
- Explore three dimensional shapes both indoors and outdoors.
- “Walk-about” activities. A series of problems is posted around the room (or other space). Students start at different locations and solve the posted problem or answer the posted question or prompt. The correct answer is found at another location where a new problem (question/prompt) is presented. The process continues until students arrive back at their first problem.

- Incorporate floor puzzles (like Tarsia puzzles), to support matching solutions to questions, both in and outside of the classroom.
- Collect data from outdoors to analyze.
- Measure inclines (i.e., ramps, stairways, hills, etc.) to explore rate of change and slope.
- Build and use a parabolic solar oven/cooker to explore parabolic concepts and solar energy or heat transfer.

Career Development and O2 Courses

- Workplace safety assessment walk: Do a visual inspection of the inside and outside of the building.
- Gallery Walk in small groups, socially distanced.
- Role play scenarios for workplace communication.
- Walk around the school grounds and surrounding area to look for options for service-learning projects.
- Sticky Note Activity: Add ideas to chart papers with questions put up around the classroom.
- Create videos about how to work and move safely in school, home, and at work.
- Post Workplace Health and Safety images, and have students view and analyze the hazards, contributing factors and classes of hazards.
- Research the importance of Ergonomic Health and Safety and plan a routine for appropriate and safe movement at desk (i.e., desk yoga) and on the move.

Conclusion: Ease-In Approach

Finally, building into your planning opportunities for students to move and be physically active is fun, increases engagement with learning and enhances well-being. Incorporating movement into the classroom where it may not be the norm, being physically active, and using the outdoors for learning daily will take time. Taking that first move is a step towards making it happen!

Appendix: Recommended Resources

The Department of Education and Early Childhood Development recommends the following resources from reputable organizations which developed them according to curriculum in Nova Scotia or teaching practices in Canada. These resources will assist teachers to embed movement as part of regular classroom activity and routines and offers suggestions for using the outdoors as part of the school day. They are free and offer ready-to-go ideas and/or lesson suggestions. While many of these suggestions come from organizations working with physical education teachers, they are also intended to be used across the curriculum or in any classroom.

- BOKS Canada: BOKS is a FREE physical activity program designed to get kids active and establish a lifelong commitment to health and fitness. BOKS offers resources and tools to get kids moving in fun ways throughout the day, whether they are in the classroom, at home, or outside.

- Healthy Tomorrow Foundation: Kids Run Club: Kids Run Club is a free, school-based recreational running program designed to give children and youth an opportunity to embrace active, healthy living.

- Learning for a Sustainable Future: This website offers innovative methodologies to help educators engage their students in addressing the increasing complex economic, social and environmental challenges of the 21st century. It includes professional development workshops, tools, classroom resources and funding to help teachers enrich their students' education through active, experiential and interdisciplinary learning.

- Making Tracks: Provides teachers with ready-to-go lesson plans to teach children and youth walking and cycling safety skills. It also prepares youth to be mentors to younger children. Early in 2020-21, a Making Tracks Walking Activities Toolkit will be available online. Also, a series of short videos about cycling safety will be available on YouTube.

- Nourish Nova Scotia's "Grow Eat Learn": Using edible school gardens to connect learning to growing food. Helps students get outside and be physically active and moving.

- Outdoor Learning Tips: As you build and deepen routines, the Council of Ontario Outdoor Educators provides a comprehensive document.

- ParticipACTION: Has plenty of ideas and suggestions on how to get school-aged children and youth active and moving that could be adapted for the classroom.

- Reconnecting with Nature: This resource from Nova Scotia is suitable for teachers helping children and youth appreciate and understand the natural world, while being physically active in the outdoors. More information is available at Hike Nova Scotia.

- Return to School Physical and Health Education Guidelines: These guidelines are also fully transferable to all other subject areas when incorporating movement into lessons.

- Teaching in Alternative Learning Environments: Useful guide that aligns with our current Public Health recommendations that is aimed at Health and Physical Education classes but is also fully transferable to getting students moving and physically active regardless of the subject area. Please see their ideas for management for additional information and supporting advice.