

MAY 2021

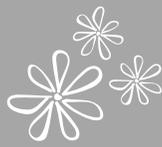
COMMISSION SCOLAIRE FRANCOPHONE TERRITOIRES DU NORD-OUEST

Special Newsletter – Numeracy



Learning station at École Allain St-Cyr



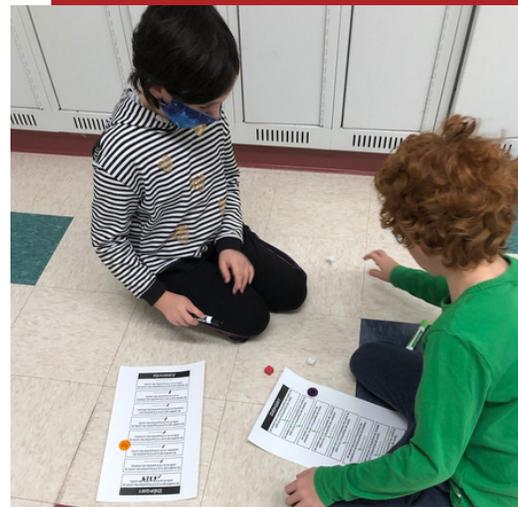


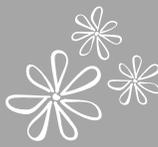
NUMERACY

Numeracy is defined as the ability to understand and use mathematical concepts. Being able to read numbers, count, measure, recognize patterns and shapes, and read graphs to understand information is essential in order to function in society and comprehend the world around us. As students advance in their education and develop a broader understanding of the world, they work on developing more complex skills to keep in step with the new realities to which they are exposed. Such skill areas include science, which transforms how students perceive their surroundings.

The CSFTNO's schools are dedicated to helping students achieve their full potential in mathematics. The teaching of mathematics has evolved considerably over the years, and the CSFTNO wants to use best practices in order to support student success at all grade levels. Below are examples of effective practices that have been implemented in our schools.

Learning station at École Boréale



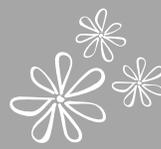


Exploring mathematics starting in preschool

It is never too early to start exploring mathematics! In preschool, children spend time using materials that help them become familiar with mathematical concepts, e.g., comparing them to see if there are differences in quantity; grouping similar-looking objects together; and grouping objects of the same quantity together. Students at École Allain St-Cyr use the PRESMath series, asking each other questions and solving problems as they begin to develop math-related vocabulary and concepts.

Learning by manipulating objects

Studies show that by manipulating objects, students are better able to comprehend mathematical concepts. For students at all grade levels, having a representation they can manipulate makes it easier to understand more abstract concepts. Students must learn to manipulate objects before they can work with images and then with numbers and symbols exclusively. By manipulating objects, students come to understand mathematical concepts in more practical terms. Teachers therefore make sure to provide students with a wide range of tools, such as blocks, tiles, coloured rods and representations of geometrical shapes and solids to support learning. For secondary school students working on more complex concepts, technology is used to present simulations that the students can observe and modify in order to better understand the notions being taught.



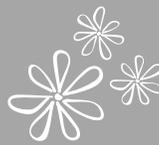
Numeracy projects

Mathematical concepts are taught explicitly and practised so students can develop a better grasp of them. However, written exercises are not always enough for students to fully master concepts and especially to understand how to apply them in daily life. Students therefore complete projects to apply the knowledge and skills they have learned to real-life situations that reflect their reality more closely. These activities feature open-ended questions with several possible answers, allowing students to produce more personal responses. This teaching strategy supports students' motivation to learn and allows them to experiment and express their creativity while applying their mathematical knowledge and skills.



ÉASC students in action

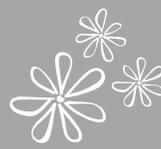




Technology use at the secondary school level : The “Backward Design” Model

For a long time, secondary school students were taught mathematics by having them listen to presentations in class and then complete homework assignments on their own. With that model, as students are completing their practical exercises at home, they may encounter difficulties and not have access to support. Students can easily become discouraged when working alone without any immediate support from the teacher. “Backward Design” is a solution to that problem. The concept was instituted at École Boréale in 2019, and at École Allain St-Cyr in 2020.

Math teachers in Grades 10 to 12 have created short videos covering virtually all of the curricula. Students have to watch the videos and take notes on their own before coming to class. They can pause the videos at any time and listen to parts of them again as many times as they wish. When they next come to class, they have the whole period to do their practical exercises. The teacher is present and fully available to provide explanations and feedback, depending on individual students’ needs. In addition, students who have to be absent no longer need worry about missing content, since they can view the videos at any time. This form of teaching significantly promotes students’ autonomy and their ability to take control of their learning, because they can do it at their own pace and meet deadlines set by their teacher.

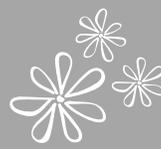


Coordinated planning

The CSFTNO has worked with consultants in recent years to help teachers master different math curricula. At the elementary level, this collaboration resulted in an annual calendar where topics are organized so they can be taught at the same time across the grades at both schools. This greatly facilitates collaboration between teachers as they share ideas and materials and discuss effective strategies for teaching certain mathematical concepts. Teachers have also worked collaboratively to develop end-of-unit tests that are used at both schools. By sharing test materials, we can work better together in understanding students' success levels and identifying their needs in order to provide them with the support required to consolidate their mathematical knowledge.

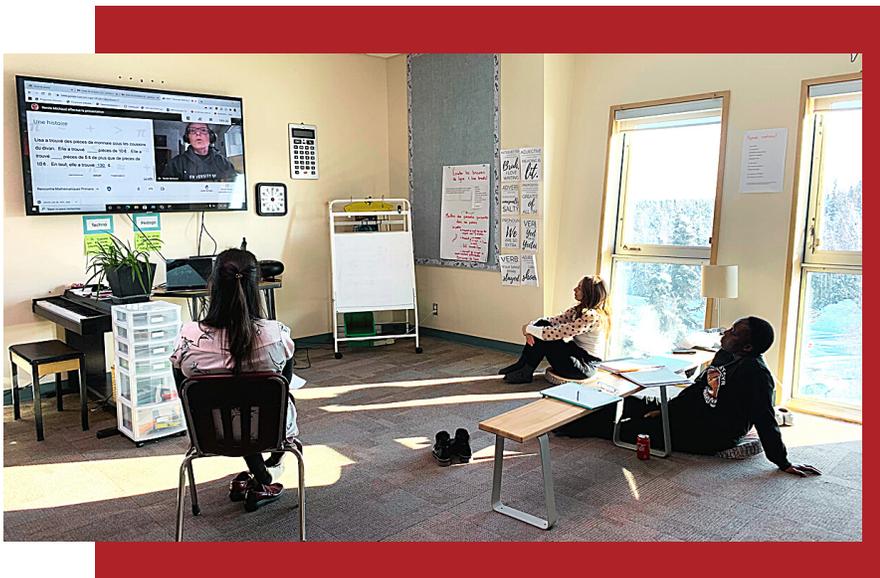


Students from École Boréale



Professional development

At the CSFTNO, teacher competence is essential for student success. This year, the school board has enlisted the services of an educational consultant to support and coordinate collaborative and professional development projects and initiatives. Teacher professional development in mathematics takes on various forms. Collaborative work meetings allow teachers to take advantage of their colleagues' expertise and to share their knowledge about best practices for promoting student success. We also work with external partners to consolidate our professional practice. This year, there was considerable emphasis at the elementary level on teaching strategies for problem solving and on instituting mathematical routines for students to consolidate tasks and strategies, including mental calculations. The CSFTNO supports professional development for teachers by providing them with the resources and time they need to enhance their teaching practice.



Teacher from ÉASC in session