

# ARROWSMITH SCHOOL

Build a Stronger Brain.  
Create a New Reality.  
Transform Your Future.

## Curriculum Guide

Strengthen Your Brain.  
Be at Your Best.  
In-Person or Online.

[arrowsmith.ca](http://arrowsmith.ca)

# WELCOME

## Arrowsmith + Student Engagement = Brain Change

Arrowsmith students engage in personalized programs comprised of specific cognitive exercises that address their identified learning needs as determined through our Arrowsmith Cognitive Assessment and/or in consultation with our Admissions team.

Our range of specific cognitive exercises are designed to target and develop key cognitive functions that are essential to navigating our world.

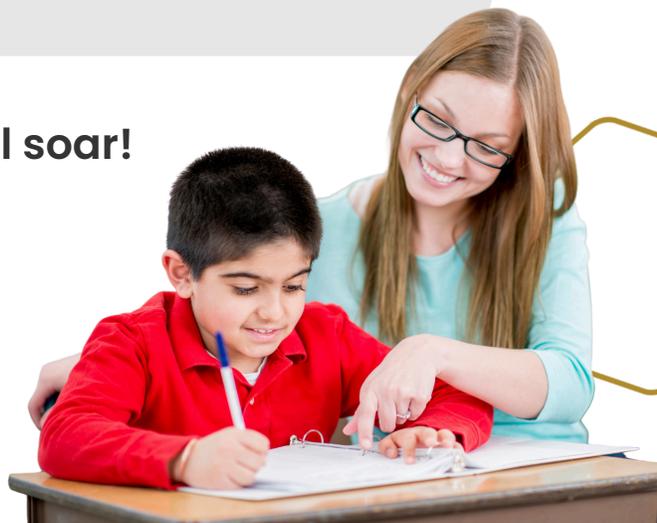
Arrowsmith School provides a range of program options to meet the diverse needs of our students.

### Our Program Offerings

- Full-Time
- Part-Time
- Cognitive Enhancement
- Independent Check-In
- Cognitive Intensive
- Academics
- Cognitive Health Curriculum

The sooner you start, the sooner you'll soar!

[Book a Consultation](#)



# Full-Time Program

## Our Doors are Open to Enrolment throughout the Year

Whether choosing to attend online or in-person, Arrowsmith School provides a Full-Time personalized cognitive program. Students with significant learning difficulties may attend Arrowsmith School from 2 to 4 years, September to June.

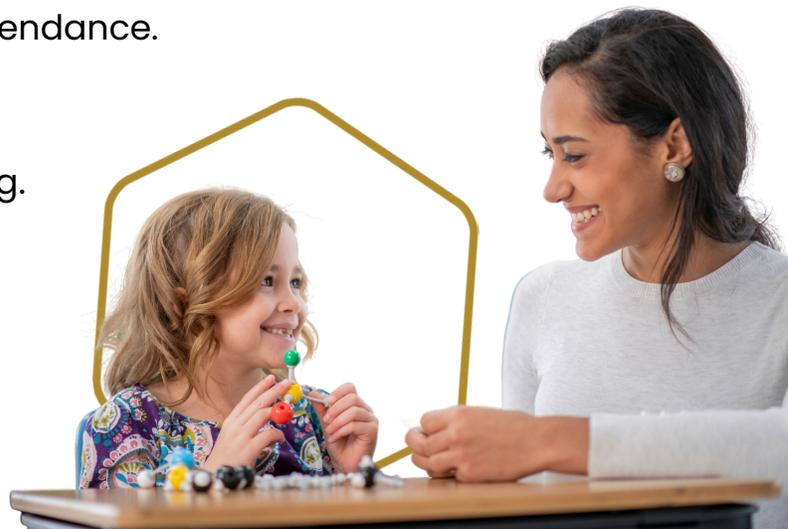
Attend the campus that works for you.

Classes available from...		
Online Campus	7:45am – 8:20pm Eastern Time	Mon. – Fri.
In-Person Campus	8:40am – 5:00pm Eastern Time	Mon. – Fri.

At Arrowsmith, we consider students attending 4 to 8, 40-minute periods per day as Full-Time student. Students may engage in Cognitive Exercises 4 to 8 periods daily or supplement their program with math and/or English instruction.

In our Full-Time program, students begin their journey of cognitive change by completing an Arrowsmith Assessment. The assessment results will provide a roadmap of what programs will be of benefit and an estimated program length based on Full-Time attendance.

The Assessment is completed yearly to capture gains and inform programming.



**Arrowsmith School provides continued enrolment throughout the year, so contact our admissions team today to start your Arrowsmith journey.**

Contact our Admissions Officer

## Part –Time Program

### Looking for Flexibility? We Provide it!

Whether the focus is on addressing a learning difficulty or enhancing cognitive capacities, our Part-Time program is a great option for many students.

Within our Part-Time program, students may work on one to 3 cognitive exercises daily, from September to June.

Attending Arrowsmith School Part-Time provides tremendous flexibility for families. Students may select the time of day that works best for their schedule, with offerings to choose from throughout the day and into the evening.

Select Class Times that Work for You.		
Online Campus	7:45am – 8:20pm Eastern Time	Mon. – Fri.
In-Person Campus	8:40am – 5:00pm Eastern Time	Mon. – Fri.

Some students will flex their schedule, attending longer classes on some days of the week to make room for extra-curriculars on other days.



# Cognitive Enhancement Program

## Give Your Brain a Boost Through Cognitive Enhancement

Individuals of all ages choose Arrowsmith School to enhance their current functioning through our Cognitive Enhancement Program.

### Motor Symbol Sequencing

Improves your:

- reading fluency
- reading speed
- handwriting
- spelling
- writing speed
- communication

### Symbol Relations

Improves your:

- processing speed
- mathematically reasoning
- logical thinking
- focus and attention
- understanding of cause and effect

Our Cognitive Enhancement Program provides the opportunity for individuals to make gains where they are already performing adequately but want to achieve to higher standards. Strengthening a cognitive function can increase performance in sports, academics, employment, and everyday living.

**Boosting your cognitive functioning will advance your abilities everywhere you take your brain.**



Students access the Cognitive Enhancement Program without the need for an Arrowsmith Assessment. Students attend for 1 period per day, Monday to Friday throughout the school year and often make time for additional independent practice.

**Are you ready? Tick Tock 🕒 Let's get at it! Hands down, this Cognitive Program will strengthen your mind!**

## **Independent Check-In Program**

### **Independent Check-Ins for Independent Workers**

Students who require greater flexibility and have the capability to work independently thrive in our Independent Check-In program.

The Symbol Relations and Motor Symbol Sequencing exercises are available to independent workers.

Students dedicate at least 4 hours per week working independently on their cognitive exercise and then receive instruction and bi-weekly check-ins for 20 to 50 minutes with a teacher on a flexible schedule, as required.

The Symbol Relations exercise is completed within Arrowsmith's Brainex platform with lessons built within the program to support the learning and review process on demand.

Materials required for Motor Symbol Sequencing are provided to the student, so they can engage in daily practice at a time that is convenient for them.

[Book A Consultation](#)



# Cognitive Intensive Program

**No need to wait until summer to boost your brain through our Cognitive Intensive Program!**

Arrowsmith School offers the opportunity for students to work in an intensive manner during the school year, in both our online and in-person classrooms, through our Cognitive Intensive Program (CIP).

Dedicate 6, 8 or 10 consecutive weeks to working on the Symbol Relations cognitive function through our Cognitive Intensive Program at the time of day and during the months of the year that best suit your schedule. Students age 9 to 14 require 90 hours of engagement and students 15+ require 135 hours.

Monday to Friday		
Number of Weeks	# of 40 Minute Periods Per Day	
	Age 9-14	Age 15+
6	5	7
8	3.5	5
10	3	4

Working your brain intensively through our Cognitive Intensive Program will enhance your rate of cognitive change. Make time over the next 6 to 12 weeks to launch your journey!

**Curious about which of our cognitive program will work best for you?**

[Book a Consultation](#)



# Research Study on Cognitive Intensive Program

## Symbol relations training improves cognitive functioning in students with neurodevelopmental disorders

APPLIED NEUROPSYCHOLOGY CHILD  
https://doi.org/10.1080/13803395.2021.1967554



### Symbol relations training improves cognitive functioning in students with neurodevelopmental disorders

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#### ABSTRACT

Students with neurodevelopmental disorders (Specific Learning Disorders (SLD), Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorder (ASD)) often experience learning challenges due to underlying weaknesses in cognitive processes. As these are some of the most common conditions to impact functioning, the development of effective treatments is a priority for neuropsychologists. However, the lack of engaging effective cognitive interventions has proven one of the most difficult challenges for our field. The Arrowsmith Program uses a novel approach compared to other cognitive intervention programs. We hypothesized that intensive practice of one aspect of this program would lead to improved cognitive functions in students with neurodevelopmental disorders. Twenty-seven students with neurodevelopmental disorders (ages 8-18.4 years) were recruited from Arrowsmith schools. Cognitive baseline and post-intervention data were gathered using components of the Woodcock-Johnson IV Tests of Cognitive Abilities. The intervention consisted of 6 weeks of intensive practice of the Symbol Relations Task. W-scores were used in a paired sample t-test analysis to determine if cognitive skill improvement occurred. Significant improvements were found in several measures of neuropsychological assessment, in particular in the Cattell-Burn-Cattell lexical abilities. These results provide a foundation for further work examining the utility of this novel approach to cognitive intervention.

#### KEYWORDS

attention disorders; executive functioning; neurodevelopmental disorders; symbol relations training

#### Introduction

Neurodevelopmental disorders (NDs) are normative differences in brain growth and functioning that can affect multiple domains. NDs typically manifest in early childhood and are characterized by lifelong impairments in personal, social, academic, or occupational functioning (American Psychiatric Association, 2013). Children and youth can exhibit a variety of neurodevelopmental disorders. Most common among these appear to be Attention Deficit Hyperactivity Disorder (ADHD)—a persistent pattern of inattention and/or hyperactivity and impulsivity that interferes with functioning; Autism Spectrum Disorder (ASD)—a persistent pattern of difficulty with social interaction, communication, and rigid or repetitive behavior; and an umbrella category of Specific Learning Disorders (SLDs)—a persistent pattern of problems with the acquisition of reading, writing or math skills (Clausen & Kirby, 2018). Individuals with neurodevelopmental disorders often have cognitive difficulties, compared to their typically developing peers, which are thought to contribute to their impairments in overall functioning (Spratt et al., 2012).

A considerable amount of research has been conducted to develop an understanding of the cognitive correlates of

NDs. Executive functions (EFs) deficits are commonly identified across NDs (Riccio et al., 2010). Executive functions are defined as a set of cognitive control processes, largely supported by the prefrontal cortex, that regulate perceptual and motor responses, enabling self-regulation and goal-directed behavior (Miyake & Friedman, 2012). Three core interrelated EF skills, inhibitory control, working memory, and cognitive flexibility, give rise to higher-order skills such as reasoning, problem-solving, and planning (Dunari & Uddin, 2015; Diamond & Ling, 2016). Working memory, particularly verbal working memory and verbal short-term memory, are impaired in many NDs (Gathercole & Alloway, 2006). While challenges with EFs broadly, and working memory specifically, are common across NDs, research has focused on defining the cognitive profiles of specific NDs.

For example, children with SLD can have intact comprehension knowledge and fluid reasoning, but deficiencies in working memory, processing speed, temporal processing, and attention (Peng & Fuchs, 2016; Toffiani et al., 2017). However, specific cognitive skills have been identified as having influence over certain academic competencies, and therefore subtypes, of SLD. For example, SLD-related challenges with fluid reasoning are associated with impairments

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Research conducted at Southern Illinois University and University of British Columbia on the outcomes of engagement in the Arrowsmith Symbol Relations Cognitive Intensive Program for students with learning disabilities was published in the journal, Applied Neuropsychology Child.

[Read Here](#)

## Hear about how others have benefited from the Symbol Relations Cognitive Intensive Program

“

I asked Chasper how that fog is going. He said, "the program is working, it feels like the fog has been lifted and my brain has been sorted out."

– Mother of CIP Student, Chasper



What our Students are Saying



# Academics

## Teachers collaborate for student success

The interconnectedness of our academic and cognitive programs accelerates learning to close gaps.

Our academic and cognitive teachers work in partnership to develop independent academic minded students who are more autonomous, self-confident, intellectually curious, and self-driven.

By providing personalized English and Math instruction within small groups, with emphasis on solidifying foundational literacy and numeracy concepts, we prepare our students for future academic learning.

We turn non-readers into book lovers and math haters into math champs!

## We make the brain – learning connection

Arrowsmith students engage in daily individualized English and math instruction that follows Ontario, Canada’s Elementary Language and Mathematics curriculum and is adjusted for our international students. Our academic program builds upon students’ current levels of performance and is responsive to their cognitive and academic development.

As students increase their learning capabilities, the curriculum expectations within their academic program are raised accordingly. Academic and Cognitive Teachers work together to provide the right amount of challenge to each student to ensure progress and success. Our goal is to eliminate learning gaps.

Students who struggle with literacy and numeracy will engage in a Cognitive Program that targets specific cognitive functions required to read, write and do mathematics.



In addition to their Cognitive Program, many students will engage in daily instruction specific to math and English. Literacy and numeracy instruction are personalized within the academic classroom and supplement the Cognitive Program.

Gains in reading, writing and mathematics are enhanced and witnessed through the academic program providing cause for celebration and recognition of positive change.

## English

### We create a love for reading

At Arrowsmith School, our students learn to read and begin to love reading.

Readers are created as our literacy instruction and Cognitive Exercises work in tandem for positive change. English and Cognitive teachers work collaboratively to monitor student gains, increasing reading and writing expectations as the cognitive functions are strengthened.

At Arrowsmith School, Full-Time students may engage in daily literacy instruction. To develop reading skills and reduce learning gaps, our students are grouped into English classes according to their ability levels. Consequently, classes vary in terms of age, size and focus.

Imagine the pride our students feel, and others feel towards them, as they transition from non-readers to readers.



## We provide intensive literacy instruction to Early Readers

Classes for students in the early stages of learning to read are kept as small as possible to maximize active engagement. At this level, the primary focus of instruction is on decoding and developing reading fluency. Students engage in word attack drills, read aloud, and respond to oral comprehension questions about the reading material.

For homework, students work on developing their reading fluency through repeated readings of familiar passages, leading to increased confidence and self-identification as readers.

## Literacy instruction is responsive to students' diverse strengths and needs

Students who have moved beyond the beginning stages of reading attend classes that range in size from 4 to 10 students. At this level, instruction focuses on broad curriculum objectives.

In class, students read a variety of fiction and non-fiction material of varying length and complexity, frequently pausing to discuss what has been read. In doing, students learn to think critically about what they read and improve their communicative competence through the negotiation of meaning in a class dialogue.

Additionally, students work on developing their writing skills, learning basic paragraph structure and how to apply it to the composition of short essays. Students also work on revision and editing skills.

For homework, students engage in daily independent reading and write short compositions.



# Mathematics

## We close math learning gaps

Our purpose is to develop an independent math person by closing math learning gaps to solidify foundational math concepts for future math learning.

We focus on students who struggle with math learning, whether they are “at or below” grade-level to become more autonomous, self-confident, and self-driven. Our students work at their own pace in small class sizes while receiving a differentiated approach to instruction to develop independent math skills and succeed in mathematics.

Math and Cognitive teachers collaborate, assessing changes in mathematical understanding and raising expectations in math as related cognitive functions are strengthened. Our responsiveness to growing abilities is key in closing learning gaps.

Our math curriculum aligns with the Ontario Provincial Standards and takes into consideration the math requirements of international students. We build a resilient mathematical foundation for students as they focus on closing their math learning gaps while strengthening their learning capacities through the Arrowsmith Program.

STEAM (Science, Technology, Engineering, Arts & Math) concepts are explored to deepen students’ understanding of the world around them and to lead them into more meaningful conversations about their local and global economy.



# Cognitive Health Curriculum

## Better Brain – Better Health

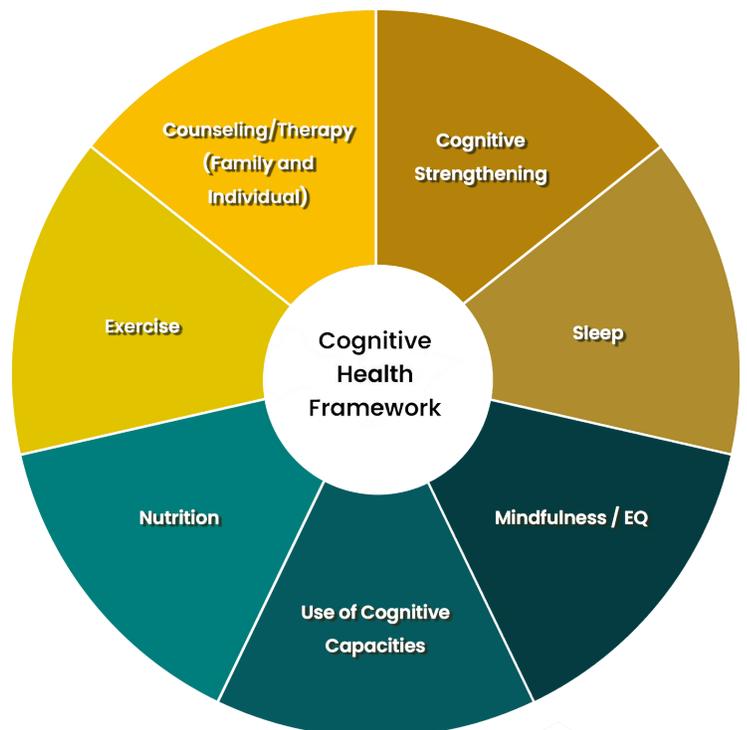
A healthy brain requires the support of a healthy mind and body.

Sadly, learning challenges often lead to compromised mental health, low self-esteem, and poor social connectedness. All of which negatively impact physical health and overall well-being.

Arrowsmith students build upon their social and emotional learning skills and self-awareness as they engage in supplemental lessons from our Cognitive Health curriculum. While our Cognitive Exercises develop the cognitive functions, our focus on growth mindset, emotional intelligence, mindfulness, and positive mental health support the reframing of thought patterns to contribute to overall well-being.

Fortunately, as our students experience the gains from our cognitive exercises and practice healthy living habits, healing begins, and confidence grows.

## We know healthy learning brains require healthy living



## Our students pay positive change forward

Arrowsmith School provides opportunities for students to utilize their cognitive skills in ways that give back to their communities.

Engaging in actions that contribute to reconciliation and participating in fundraising specific to poverty, cancer research, and the environment allows Arrowsmith students to demonstrate responsibility, leadership, and stewardship.

Our students welcome visitors to our school and are tremendous ambassadors of the Arrowsmith Program.

## Experience Arrowsmith & Meet our Students and Staff



[Book a Consultation](#)

### Jason Kinsey Admissions Officer

Phone number (Toll-free):  
1-866-447-6447

Email address:  
[admissions@arrowsmith.ca](mailto:admissions@arrowsmith.ca)



To be able to answer questions and let students and families know that, yes, we can help, is just about one of the best feelings in helping to carry Barbara Arrowsmith-Young's work forward.



# Arrowsmith School Schedule

Eastern Time Zone	Period	Campus
7:45am – 8:25am	Period 0	Online
8:25am – 8:40am	Break	
8:30am – 4:30pm	Independent Check-In	Online
Regular School Day Begins		
8:40am – 9:20am	Period 1	Online & In-person
9:20am – 10:00am	Period 2	Online & In-person
10:00am – 10:15am	Break	
10:15am – 10:55am	Period 3	Online & In-person
10:55am – 11:35am	Period 4	Online & In-person
11:35am – 12:35pm	Lunch	
12:35pm – 1:15pm	Period 5	Online & In-person
1:15pm – 1:55pm	Period 6	Online & In-person
1:55pm – 2:10pm	Break	
2:10pm – 2:50pm	Period 7	Online & In-person
2:50pm – 3:30pm	Period 8	Online & In-person
Regular School Day Ends		
3:30pm – 5:00pm	After School Program	In-person



**Create a schedule that works for you within our Online or In-Person campus**



Extended School Day Begins		
3:30pm – 4:10pm	Period 9	Online & In-person
4:10pm – 4:50pm	Period 10	Online & In-person
4:50pm – 5:05pm	Break	
5:05pm – 5:45pm	Period 11	Online & In-person
5:45pm – 7:00pm	Independent Check-In	Online
7:00pm – 7:40pm	Period 12	Online & In-person
7:40pm – 8:20pm	Period 13	Online & In-person
8:20pm – 9:00pm	Independent Check-In	Online

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