## Kids Handwrite $^{\text {N }}$

## TEACHING

handwriting

## TO YOUNG CHILDREN

## A RESOURCE FOR TEACHERS AND PARENTS

## Part I

## The

## Why and How

Introduction
Instructed Support Appendices
$K$ to Grade 3
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## Part I

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## ACKNOWLEDGEMENTS

Teaching Handwriting to Young Children: A Resource for Teachers and Parents is a collaborative effort bringing theory and practice together in its design and development.

A program of research over the past decade into the development of young children's handwriting (K - Grade 3) received funding from Mitacs, Alberta Advisory Committee for Educational Studies (AACES), SSHRC (Social Sciences and Humanities Research Council). This research provided the foundational theoretical underpinnings for this project, elaborated in Part I of the resource. A Werklund School of Education Teaching and Learning Support Grant provided funding for the development of the Resource.

Parts II and III of the Resource contain the materials to help teachers and parents implement a handwriting program in the $\mathrm{K}-\mathrm{Grade} 3$ years.

Bow Valley Calligraphy Guild members have generously contributed their time, expertise, and creative talents to this project. It has indeed been a labour of love. In particular, we acknowledge: Sharon Fahey (Handwriting Project Committee lead); Renate Worthington ( Italic print and cursive script subject matter expert); Marge Worman (Elementary teacher review and feedback); Olympia Lau (Design of Covers and Part I).

Hetty Roessingh, PhD, Professor Emerita, Werklund School of Education, University of Calgary Adrienne Waller - Content and creative development - Parts II and III

## FOREWORD

Teaching Handwriting to Young Children: A Resource for Teachers and Parents is a partnering project between volunteers from the Bow Valley Calligraphy Guild (BVCG) and Hetty Roessingh, PhD, Professor Emerita, Werklund School of Education, University of Calgary.

The project was undertaken in response to the June 23, 2023 announcement by the Ontario Minister of Education reintroducing cursive handwriting to the Ontario curriculum and the resulting attention on children's handwriting in the national news media. The clear response from Ontario teachers was the lack of learning resource material to support the implementation of a handwriting program.

Further investigation confirmed that few handwriting teaching resources are available in any province. Our work is motivated by our love of handwriting and our recognition of the many benefits of language by hand. Without written literacy our young learners lack the basic skillset for personal and academic success. Early engagement in written communication enables students to meet the demands of future schooling and adult life. Handwriting is an essential component in the cognitive development skillset of all our young students. Digital literacy, while also a requirement in today's school curriculum, does not replace legacy formats of literacy learning.

Handwriting is not an end in itself. Gone are the days of 'presentation effects.' Young students need to develop functional/useful, legible, and fluent handwriting. The outcome requires direct instruction that is developmentally progressive and sustained in the Kindergarten to Grade 3 years as children gain control over shape, size, space, slant and finally, speed: a gradual, protracted process that does not fully mature until the middle school years. Further development and mastery of handwriting should be encouraged well past the Grade Four level to ensure that the children retain this skill.

The print and cursive style recommended in this Resource is a monoline version of Italic - a formal writing style, not to be confused with the "italic" font on computers. The advantage of the Italic script is that the same letter forms are used in the print and cursive versions, making it easier for students to advance from printing to handwriting.

We hope to inform and transform classroom pedagogy that, in turn, will enhance the handwriting of today's young children.

> Our work is motivated by our love of handwriting and our recognition of the many benefits of language by hand.

## A. INTRODUCTION

## A. 1 Why Teach Handwriting?

Handwriting instruction, specifically cursive (connected) script, has come and gone and come back again on the curriculum. While Alberta has retained the cursive hand, the recent reintroduction of cursive in Ontario (Jones, 2023) has triggered national interest and discussion on the role of cursive in student achievement. Misunderstood and undervalued, easily dismissed as an unnecessary skill in the increasing demands for twenty-first-century digital literacy, evolving research in the cognitive and neurosciences highlights the critical role of handwriting in making meaning, storing and retrieving information (Aguirre, 2017).

In short, research suggests our students need handwriting and keyboarding proficiency, with handwriting coming first in the curriculum. By engaging the hand-brain complex, children develop embodied cognition of literate language (Bergland, 2020). Maddox (2022) elaborates further on the cognitive benefits of handwriting, especially in remembering and retrieving information. Keyboarding can wait.

There is growing recognition of the central role of handwriting in every student's academic skill set that, in turn, enhances academic achievement over time (Malpique \& Pasternak, 2017). More than a matter of neatness
is good for the brain.

Figure 1 - Handwriting
 associated with presentation effects, good handwriting is better understood today as a means to an end - not an end in itself. Handwriting has long been associated with generating quality text, and yet far too many of our young students are not up to speed when it comes to their handwriting (Roessingh, 2019).

## A. 2 The Complexities of Handwriting and Generating Text



Figure 2 - Learner demonstrates a pincer's grip.

Handwriting is a complex task that requires integrating and mobilizing a host of neuro-motor and visuospatial skills in working memory. Experienced and proficient adults, especially older ones, take handwriting for granted. For young learners, developing a legible, fluent hand is a gradual process that evolves between the ages of four and five to around 14. This process requires direct instruction, effortful practice and plenty of opportunities to apply evolving literacy skills to authentic, purposeful tasks (Griffin Occupational Therapy, n/d).

With instructed support, we can expect most learners to have legible handwriting by the end of Grade 1. By the end of Grade 3, handwriting needs to be under sufficient control (shape, size, spacing, slant) to engage with the rapidly accelerating academic demands of schoolwork beginning in Grade 4. Handwriting may stagnate at this point but improve fluency by Grade 6 (Bara \& Morin, 2013).

Steven Graham has spent decades of his scholarly life focused on teaching and learning handwriting. The two criteria he underscores are legibility and fluency. He describes a 'mixed mostly manuscript' ( mmm ) style that is a hybrid of printing and cursive hand (Graham, 2009).

Australia/New Zealand, Iceland, Switzerland, Sweden, and Finland have all similarly adopted a clean, uncluttered cursive-type script. Bara and Morin's research (2013) further supports a 'print-write' script. Over time, students appear to develop a style of their own.

## A. 3 Legibility, Fluency and Automaticity: The Keys to Better Handwriting

Legibility means the printing can be read and deciphered. It includes familiarity, sameness, and differences in handwriting. Once children establish a stable mental model of letter shape, they will recognize differences in script styles and decipher those that fall within the range of this model. Early experience with environmental print, such as logos, labels and signs, supports this intended outcome.

Fluency is associated with the speed of handwriting. Automaticity refers to the unconscious control of the processing and execution demands involved with any skill, such as ice dancing or playing piano (and handwriting).


Figure 3 - Shape and letter recognition. Playing with foam letters.

The Italic hand supports legibility and fluency through two key features: the single continuous stroke and the introduction of connectors (joins) in transitioning from manuscript (print) to cursive (connected) hand. Fewer 'lift-offs' make for an economy of effort and ease of execution that is easier on the musculature of little hands, visual motor memory, and spatial integration. Automaticity is achieved through effortful practice - lots of it, so that 'overlearning' is achieved. This results in an enormous reduction of demand on working memory (Edublox, 2016).

In the Italic hand, the print and cursive versions of the lowercase letters are the same except for the added connectors, and the print and cursive versions of the uppercase letters are the same. There are only two alphabet scripts to learn, rather than four thus, there is no 'unlearning' and retraining of the muscle memory required to achieve good handwriting. The print and cursive versions of the Italic lowercase and uppercase letters is shown in Figure 4.


Figure 4 - Italic Print and Cursive

## B. 'TAUGHT' NOT JUST 'CAUGHT': THE IMPORTANCE OF INSTRUCTED SUPPORT

Handwriting requires various instructional supports in the Kindergarten to Grade 3 years. Each year in the educational trajectory from emergent literacy in the Kindergarten year (Byington \& Kim, 2017) to cursive hand in Grade 3 involves continuous developmental requirements to which teachers must respond. Lessons should be 10 to 20 minutes daily, with another 40 minutes in embedded, integrated activities to reinforce and practice the skills.


Figure 5-Learner prints his name

Direct, explicit instruction begins in Grade 1; however, Kindergarten also requires drawing children's attention to and producing accuracy in shapes, patterns, and sequences through playbased learning.

The Scope and Sequence progressions shown in Appendix I, provide further detail and anchor the teaching material contained in this Resource. They were developed from consulting scholarly research, curriculum documents across Canada, internationally recognized developmental milestones for young children, and, perhaps most importantly, a careful study of children's handwriting samples from Kindergarten to Grade 6.


Figure 6 - Child's thank you card

## B. 1 Readiness for Learning to Handwrite

Handwriting readiness is signalled by interest, curiosity, and motivation to put pencil to paper to convey meaning, often beginning before young children arrive at Kindergarten.

This interest comes from seeing the grocery list and other messages affixed to the refrigerator, envelopes that come in the mail, greeting cards addressed to them expressing birthday and holiday wishes and name tags that identify the owner of backpacks and lunch bags at playschool, for example.

Name printing is identified as a key readiness indicator for emergent literacy learning. This ability requires fine motor manipulative skills such as sorting and sequencing buttons and fine motor literacy skills that involve a good pincer grip for working with crayons and pencils for tracing lines, drawing and copying shapes, and colouring (Squires \& Bricker, 2009; Thomas, 2007).


Within a typical Kindergarten class, there will be a significant range of chronological age and readiness behaviours linked to developmental patterns, pre-kindergarten exposure, and experiences with emergent literacy understandings and skills. Older children in Kindergarten demonstrate better learning outcomes than younger (late-born) children (Thomas, 2007).

Figure 8 - Learner printing name

## B.2 Guidelines for Teaching Handwriting

There are varying opinions on how to teach handwriting in commercially prepared materials, advice from occupational therapists, and scholarly research literature. Indeed, the reintroduction of cursive handwriting onto the Ontario curriculum has reignited a national debate on the relevance and importance of teaching handwriting (Jones, 2023).

In initiating direct printing instruction in the Grade 1 year, there are different views around the clustering and sequencing of letter groups, line widths, the use of guidelines, the slant of the paper, and how to address the needs of left-handed young learners. Assessment of handwriting is neglected altogether. In this section, we briefly touch on these topics without seeking to be too strident in our suggestions, leaving many decisions up to individual early childhood educators.


Figure 9 - Child draws a circle, scribbles

## Teaching in Letter Formation Groups

Some sources suggest teaching letters in groups by shape: straight lines, followed by curved lines, and finally, slants. This would follow the developmental progression of young children mastering drawing shapes (Griffin Occupational Therapy, $\mathrm{n} / \mathrm{d}$ ). Others teach in alphabetical order; others by phonics, thus making the connection between letter naming, its sound and how it is represented in print on the page. This Resource presents the italic letters in groups based on the shape of the letters, with the students learning similar letters together. Students learn letters with straight strokes before the curved and diagonal stroke letters. The method is referred to in the literature as "Letter Formation Groups."

## Paper and Guidelines

Printing paper and practice sheets must have different line spacing, decreasing from Grade 1 to Grade 3 years to reflect children's ability to work on their print size. A guideline is often used in the Grade 1 and 2 years. The recommended line spacing progression is:

|  | Grade 1 | Grade 2 | Grade 3 |
| :---: | :---: | :---: | :---: |
| Line Spacing | $\mathbf{3 / 4}$ inch $(19 \mathrm{~mm})$, <br> gradually reducing to <br> $3 / 8$ inch $(10 \mathrm{~mm})$ | $3 / 8$ inch $(10 \mathrm{~mm})$ | $\mathbf{3 / 8}$ inch $(10 \mathrm{~mm})$, <br> gradually reducing to <br> $1 / 4$ inch $(7 \mathrm{~mm})$ |
| Waist Line | Yes | Students can start <br> with waist line and <br> skip space but end <br> the year without <br> them. | No |
| Skip Space <br> below Baseline | Yes | No |  |

These are suggestions only, gleaned from various sources, including children's handwriting samples. Downloadable printing sheets and commercially available exercise booklets vary. Lined paper templates are included in the Resource section for those who can print and photocopy them for classroom use.

Left-bound notebooks make it difficult for left-handers to print or write starting at the left of the page on the right side of the notebook, which is natural for right-handers. Although less challenging, coil-bound notebooks and binders can make it difficult for right-handers to print or write on the notebook's left side. Students can overcome this hurdle using unbound sheets of paper or top-bound notebooks.

It is easier to write on a softer surface. Avoid having students print or write on a single sheet of paper on a hard surface. Provide multiple pages of paper or cardstock to cushion the writing surface.

## Slant of Italic Printing and Writing

The Italic letter style of print and cursive writing has a slight slant to the right. Printing tends to be more upright, but as students learn the cursive form, the letters will naturally slant slightly to the right. Students must not write letters with a backhand (left) slant.

Generally speaking, the paper's position, hand position and the student's posture will control the slant of any printing or writing.

## Paper Placement

Students should not place the paper directly in front of them. For right-handers, the best paper position is slightly to the right of their body. For left-handers, the best position is slightly to the left of the body. This paper position lets the child sit over their paper with their eyes directly over it. This movement keeps the writing area within the students' direct line of vision.

Both right-handers and left-handers should use their non-dominant hand to reposition their paper under their writing hand as they progress across and down the page rather than moving their hand across and down. The dominant hand keeps the paper aligned correctly, slightly to the right or left of the body and under the hand and forearm.

## The Tilt of the Paper

The correct tilt of the paper is whatever angle will result in a hand position that allows the child to comfortably print or write their letters at a slight slant to the right.

Both right-handers and left-handers can experiment until they find what works best for them. While experimentation is acceptable, teachers must ensure that a left-handed student's paper position does not cause a left-handed student to hook their wrist, tuck their elbow in too close to their body, contort their body, or turn their head to the side to see what they are writing.

## Letter Formation

Left and right-handers naturally form their letters differently, which must be understood when describing how to draw them.

When a right-hander pushes their pencil, a left-hander pulls their pencil. Conversely, when a right-hander pulls their pencil, a left-hander will push.

Also, since we write left to right, right-handers pull their writing hand to the right to form their letters and words. Left-handers push their writing hand to the right to form their letters and words. Both right-handers and left-handers will minimize their pushing and pulling when they use their non-dominant hands to position their paper under their writing hand, as recommended above.

## Pencil Size

Young learners often do better with a bigger pencil in hand, one option being the Staedler "My First Norica" HB2 pencils, being designed for little hands.

Figure 10 - "My First Norica" HB2 pencil

## Transition to Cursive

As mentioned above, the transition to cursive hand in the Grade 2 year also requires direct instruction on making the 'joins' or 'connections' that generate fluency. However, given that in the Italic script, the print and cursive versions are the same except for the added connectors, the transition to cursive occurs readily with instruction and practice. We include resources for teachers to introduce and reinforce the necessary joins in the Grade 2 (Transitional) section.

## Pre-Requisites

Before involving young learners in any activity, ensure their posture, paper position/slant, and pencil grip are ready for handwriting. Students should be seated squarely behind the writing desk or table, feet flat to the floor, with arms at rest on the writing surface. A tripod pincer grip is suggested for pencil grip - firm but not too tight.

- Verbal cueing: embedding a verbal reminder in a type of classroom 'patter' reinforces letter formation (e.g. 'top-down, top-down'; ‘s like a snake').


## Teaching Progression

A Gradual Release of Responsibility (GRR) progression is recommended: 'I do; we do; you do'. It begins with whole class instruction for Steps 1 and 2.

## STEP 1: ‘I DO’:

- Modelling: Name and describe the letter, draw children's attention to the start point, the stroke direction and the shape of the letters. It can involve whole class or side-by-side support.


## STEP 2: ‘WE DO’:

- Guided practice: Trace and copy exercises: 'Fading', that is, students trace and then copy $3-5$ letters, then return to the tracing model. Young learners' hands may tire from too many repetitions of letter copying. Returning to the tracing model reinforces muscle memory for accurate shape and stroke direction.
- Corrective Feedback: Immediate, specific, encouraging: While circulating through the class, the teacher offers specific feedback that puts and keeps students on track with the multiple handwriting demands. Posture, paper slant, pencil grip, start point and stroke direction, letter shape and size must be monitored. Comment specifically and use a coloured pencil, for example, to indicate where students need to be corrected. Ask students to point to or show 'their best' letter.


## STEP 3: ‘YOU DO’: INDEPENDENT PRACTICE AND REINFORCEMENT

- Independent practice: Varied and plentiful opportunities to practice, reinforce and automatize handwriting and hone skills through independent practice and small project work. Organizing independent practice into learning centers can allow the teacher to circulate and monitor children's work. Center activities can include highimpact tasks that leverage several skills/concepts together, such as alphabet dot-todot colouring (i.e. letter recognition, the path of movement, fine motor literacy skills: colouring); making greeting cards (i.e. printing familiar words, decorating with curved lines, spirals, hearts and flowers, colouring). Children can circulate or rotate through the centers over a few days, collecting their work in a portfolio.


## B. 3 Working With Young Lefties

Identifying handedness is more complicated than you might think. There is broad consensus that about $10 \%$ of the general population is lefthanded, with more prevalence among boys than girls. About 1\% are ambidextrous, which means they have no dominant hand.

When a child is old enough to print, observation will show whether they are naturally righthanded or left-handed. For left-handed youngsters, learning to live in a righthanded world involves handling everything from scissors and can openers to potato peelers to sitting in desks with a righthanded armrest, which requires constant adjustment. We can be grateful that the days of forcing these young learners to use only their right hand for handwriting or to adopt an awkward 'hook' grip on the pencil are over. Nevertheless, K - 3 practitioners must be responsive to the challenges facing their early literacy learners.

It begins with simply recognizing and acknowledging these children in the classroom and assuring them that their hand preference is fine. Classroom configurations often involve table groups rather than individual desks and seat left-handers on the left side of the table to avoid elbow bumping with righthanded group members.

Having a left-handed adult with good penmanship and pen grip, work with left-handed children would be beneficial.

Many left-handers do better with a primary pencil (Staedler HB2), even keeping this handwriting preference into adulthood.

## B. 4 Assessing Handwriting

Assessing handwriting development over time is essential to the planning, teaching and learning cycle. The idea of pedagogical documentation, that is, the process of observing, documenting and interpreting children's productive efforts in authentic, purposeful tasks, yields valuable evidence into various dimensions of their handwriting development that can, in turn, inform planning and teaching (Helm, Beneke, \& Steinheimer, 1997). Artifacts of children's written attempts in greeting cards, for example, make various components of handwriting visible and are reflected in the developmental continuum in the following Scope and Sequence charts.

The simple task of asking young learners to write the sentence, 'The quick brown fox jumps over the lazy dog,' from time to time will provide a snapshot of their ability to write all of the letters of the alphabet, reflecting their growing control over shape, size, space and slant of the letters.

Figure 11 - Printing assessment
The quick brown fox jumps over the lazy dog
$3 / 8$ with mid guideline

For example, ongoing monitoring of children's handwriting, the ability to work with individual corrective teacher feedback, and their self-monitoring and corrective efforts using an eraser are essential indicators of their handwriting development. Finally, asking children to reflect on their handwriting by commenting on 'What I did well and what I can improve' provides a window into their unfolding abilities to assess their work.

Keeping individual portfolios of an array of children's work allows for gleaning insights into these various dimensions of handwriting development.

Checklists, a trait-based rubric, and various assessment tasks and lettering pages are included in the Appendices that can guide teachers' planning and instruction.

## C. APPENDICES

1. THE DEVELOPMENTAL CONTINUUM: SCOPE AND SEQUENCE

- K: Emergent Literacy
- Grade 1: Foundational Skills and Concepts
- Grade 2: Transitional
- Grade 3: Consolidation


## 2. ASSESSMENT TOOLS

- Checklists - Kindergarten to Grade 3 Literacy Development
- K: Emergent Literacy
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- Trait-Based Rubric for Evaluating Quality of Handwriting
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## 3. REFERENCE LIST FOR RESOURCE MATERIALS

1. Front Matter Cited Works
2. Additional Reading from the Research
3. Additional Resources for K-3 Practitioners

## APPENDIX " 1 "

THE DEVELOPMENTAL CONTINUUM: SCOPE AND SEQUENCE

| K: EMERGENT LITERACY |  |  |  |
| :---: | :---: | :---: | :---: |
| Concepts \& Skills | Early | Mid-Year | End |
| Pincer grip | Tripod grip |  |  |
| Fine motor manipulative \& fine motor literacy | Sorts, categorizes, sequences/patterns small objects (i.e. buttons) by shape and size. <br> Handles tools such as tweezers, clothes pegs, and scissors in games and crafts; Uses crayons and pencils. |  |  |
|  | Completes peg moving tasks. |  |  |
|  | Colours simple drawings. | Coloring sheets are increasingly accurate. |  |
| Movement/path of motion | Draws lines top down, left to right, right to left. Draws circles (starts at the top and can draw clockwise and counterclockwise), <br> Draws spirals, loops, zigzags, waves in both directions. |  |  |
| Draws shapes | Draws these shapes: $1-+\square \square \bigcirc 0$ | Draws these shapes: <br> $\backslash / \times \triangle$ |  |
| Lowercase Alphabet Recognition | Identifies, finds and names letters from an array or in a bag: $\mathrm{l}, \mathrm{i}, \mathrm{j}, \mathrm{f}, \mathrm{t}, \mathrm{h}, \mathrm{r}, \mathrm{n}, \mathrm{m}$ | Identifies, finds and names letters from an array or in a bag: $b, p, a, d, g, q, u, y$ | Identifies, finds, and names letters from an array or in a bag: $o, e, c, s, k, v, w, x, z$ |
| Uppercase Alphabet Recognition | Identifies, finds and names letters from an array or in a bag: $\mathrm{E}, \mathrm{~F}, \mathrm{H}, \mathrm{I}, \mathrm{~J}, \mathrm{~L}, \mathrm{~T}, \mathrm{U}$ | Identifies, finds and names letters from an array or in a bag: B, C, D, G, O, P, Q, S | Identifies, finds, and names letters from an array or in a bag: $A, K, M, N, R, V, W, X, Y, Z$ |
|  |  | Matches letter shapes in hand to printed copy. |  |
|  |  | Matches the letter shape on the page to a copy. |  |
| Letter Printing | 'Draws' own name: letters are about $3 / 4$ inch ( 20 mm ) tall, often all capitals. The stroke direction is accurate, and the shape is recognizable. |  |  |
|  | Can copy the above lower and uppercase letters. | Can copy the above lower and uppercase letters. | Can copy the above lower and uppercase letters. |
|  |  |  | Can draw most lower and uppercase letters from memory. |
| Activities | Guided play, Environmental print - Multi-sensory approach: Foam letters, letters in the air/sand/rice. Block play, plasticine; makes a greeting card and decorates it with balloons, hearts; copies labels, name tags, signs, wrappers. Writes a few familiar and personally meaningful words: thank you, Happy Birthday. |  |  |


| GRADE 1: FOUNDATIONAL SKILLS \& CONCEPTS |  |  |
| :---: | :---: | :---: |
| Concepts \& Skills | Early | Mid-Year End |
| Review and warm-up | Welcome back to school. |  |
| Letter groups and progressions: direct instruction | Patterning exercises | Explicit, direct, programmatic, developmentally progressive, consistent instruction: 20 minutes daily. <br> Continued patterning exercises. Letter groups and progressions typically start with those requiring only straight lines (downstroke or horizontal), then curved lines and diagonals. <br> Line spacing: $3 / 4 \mathrm{inch}(20 \mathrm{~mm})$ with a mid guideline and skip space. |
| Self-assessment |  | Trace, copy, and print 'on my own' all lower and uppercase letters, circles 'best one' from their printing practice, but do not allow too many repetitions (e.g. 3) before returning them to the model to reinforce muscle memory for the correct moves. |
| Practice and reinforcement | Forty minutes in crafts, colouring, spotting the differences, notes/cards, and composing prose is improved with scaffolds such as sentence starters. |  |
| Printing |  | Legible printing at the end of Gr. 1. Line width is $3 / 8$ inch ( 10 mm ) with a mid guideline and skip space. <br> Consider all 4 's' (shape, size, space, slant), but focus on shape. Do not push speed/fluency yet. |
| Composition |  | Composes text of about 45-75 words on a familiar topic. Uses a pre-writing activity such as drawing and colouring as a concrete anchor/reference. Writing is often characterized by 'knowledge telling/laundry list/one idea at a time', reflecting the complexity and the heavy competing demands of transcribing and generating text all in working memory. |
| Pangrams |  | Prints in printed Italic "The quick brown fox jumps over the lazy dog" or other phrases containing all 26 letters of the alphabet. |


| GRADE 2: TRANSITIONAL |  |  |  |
| :--- | :--- | :--- | :--- |
| Concepts \& Skills | Early |  |  |

## GRADE 3: CONSOLIDATION

| Concepts \& Skills | Early | Mid-year |
| :--- | :--- | :--- |
| Improvement | Throughout the Grade 3 year, the students' cursive handwriting needs to show <br> refinement and progress in control over size, space, holding the line, and <br> automaticity of hand that is needed to 'unlock' other dimensions of quality writing <br> outcomes. Line spacing is 3/8 inch (10 mm), gradually reducing to 1/4 inch (7 mm), <br> which is standard collegiate line spacing) <br> Students start to develop a unique 'hand' of their own (based on the Italic script <br> being taught) as they develop improved control over the fine motor movements. <br> Their musculature and grip give their signature its unique character ... some <br> students get playful. A 'mixed'/hybrid print-write style of handwriting is advocated <br> (Bara \& Morin, 2013; Graham, 2009). This style is a natural by-product of the Italic <br> script as uppercase letters do not join to lowercase letters, and some lowercase <br> letters do not join to others. |  |
| Fluency | Signs of automaticity and controlled handwriting ... 2.75 on a 4-point scale. Some <br> students' writing shows a distinct 'push'. Handwriting matures slowly over time - it <br> can take up to grades 6-8 to develop a really good 'fluent' hand. |  |
| Academic demands | Expository prose associated with academic literacy (persuasive, opinion pieces). <br> NOTE: The shift from learning to write to writing to learn in Grade 4 takes a toll on <br> handwriting. It might stagnate before showing gradual improvement around Grade <br> 6 (Bara \& Morin, 2013). A process approach that breaks writing demands into <br> manageable chunks (i.e. pre-writing, writing, revising/editing) will help. |  |
| Composition | Produces a composition of approx. 100 - 125 words on a familiar topic: may <br> color/draw as a priming activity to generate ideas and vocabulary. Templates, <br> graphic organizers, visual representations can help lessen the cognitive load. This <br> improves handwriting and in turn, quality text on the page. |  |
| Pangram | NOTE: There is an enormous range of Total Number of Words (TNW) students <br> generate on an expository prompt (11 - 418 words). Legible, fluent handwriting <br> 'unlocks' academic vocabulary. Better hand writers write more and score higher on <br> their compositions. More than 50\% of students fail to meet the benchmark in <br> handwriting for producing quality text (Roessingh, Nordstokke, \& Colp, 2019). |  |
|  | Writes in cursive Italics, "The quick brown fox jumps over the lazy dog," or other <br> phrases containing all 26 letters of the alphabet. |  |

## APPENDIX " 2 " <br> ASSESSMENT TOOLS

## Checklists - Kindergarten to Grade 3 Literacy Development

- K: Emergent Literacy
- Grade 1: Foundational Skills and Concepts
- Grade 2: Transitional
- Grade 3: Consolidation

Trait-Based Rubric for Evaluating Quality of Handwriting
Trait-Based Rubric for Evaluating Writing Composition

Name: $\qquad$

| TIMELINE AND PROGRESSION | $\checkmark$ | COMMENTS |
| :---: | :---: | :---: |
| EARLY |  |  |
| Hand preference: Left or Right |  |  |
| Tripod pincer grip |  |  |
| Fine motor skills: |  |  |
| - Handles pencils, crayons |  |  |
| - Sorts, categorizes, and patterns objects by shape and size |  |  |
| Colours simple drawings |  |  |
| Path of motion: |  |  |
| - Top-down, left to right, circles |  |  |
| - Traces zigzag lines, waves |  |  |
| Connects-the-dots |  |  |
| Draws pre-writing shapes: $1-+\square \square \bigcirc 0$ |  |  |
| Alphabet recognition: |  |  |
| - 'Draws' own name |  |  |
| - Names lowercase letters: I, i, j, f, t, h, r, n, m |  |  |
| - Names uppercase letters: E, F, H, I, J, L, T, U |  |  |
| MID-YEAR |  |  |
| Fine motor skills: |  |  |
| - Colouring becomes more accurate |  |  |
| - Tracing becomes more accurate |  |  |
| - Connect-the-dots becomes more accurate |  |  |
| - Path of motion becomes more accurate |  |  |
| Alphabet recognition: |  |  |
| - Names lowercase letters: b, p, a, d, g, q, u, y |  |  |
| - Names uppercase letters: B, C, D, G, O, P, Q, S |  |  |
| Draws pre-writing shapes: $\searrow / \times \triangle$ |  |  |
| Matches letter shapes to letters on paper |  |  |
| Letter Tracing (dotted line guide) |  |  |
| - Can trace "early year" letters |  |  |
| - Can trace "mid-year" letters |  |  |
| Letter printing: |  |  |
| - Can copy "early year" letters |  |  |
| - Can copy "mid-year" letters |  |  |


| TIMELINE AND PROGRESSION |  | $\checkmark$ |
| :--- | :--- | :--- |
| END | COMMENTS |  |
| Alphabet recognition: |  |  |
| - Names lowercase letters: $\mathrm{o}, \mathrm{e}, \mathrm{c}, \mathrm{s}, \mathrm{k}, \mathrm{v}, \mathrm{w}, \mathrm{x}, \mathrm{z}$ |  |  |
| - Names uppercase letters: A, K, M, $\mathrm{N}, \mathrm{R}, \mathrm{V}, \mathrm{W}, \mathrm{X}, \mathrm{Y}, \mathrm{Z}$ |  |  |
| Letter Tracing (dotted line guide) |  |  |
| - Can trace "early year" letters |  |  |
| - Can trace "mid-year" letters |  |  |
| - Can trace "end-year" letters |  |  |
| Letter printing: |  |  |
| - Can draw "early year" letters |  |  |
| - Can draw "mid-year" letters |  |  |
| - Can draw "end-year" letters |  |  |
| Success Factors |  |  |
| - Colouring - colours within the lines, with minimal |  |  |
| deviation outside the lines, and fills the area with |  |  |
| colour. |  |  |

The focus is on direct instruction and producing legible script by the end of Grade 1, determined significantly by correct letter shape and path of motion/direction from starting point to exit.

| TIMELINE AND PROGRESSION | $\checkmark$ | COMMENTS |
| :---: | :---: | :---: |
| EARLY |  |  |
| Hand preference: Left or Right |  |  |
| Completes the Geometric Shape Exercises |  |  |
| Printing |  |  |
| - Prints lowercase letters: $\mathrm{l}, \mathrm{i}, \mathrm{j}, \mathrm{f}, \mathrm{t}, \mathrm{h}, \mathrm{r}, \mathrm{n}, \mathrm{m}$ |  |  |
| - Prints uppercase letters: E, F, H, I, J, L, T, U |  |  |
| - Prints numbers 0 to 4 |  |  |
| Uses $3 / 4$ inch ( 20 mm ) lined paper with mid guideline. |  |  |
| MID-YEAR |  |  |
| Printing |  |  |
| - Prints lowercase letters: $\mathrm{b}, \mathrm{p}, \mathrm{a}, \mathrm{d}, \mathrm{g}, \mathrm{q}, \mathrm{u}, \mathrm{y}$ |  |  |
| - Prints uppercase letters: B, C, D, G, O, P, Q, S |  |  |
| - Prints numbers 5 to 9 |  |  |
| END |  |  |
| Printing |  |  |
| - Prints lowercase letters: $0, \mathrm{e}, \mathrm{c}, \mathrm{s}, \mathrm{k}, \mathrm{v}, \mathrm{w}, \mathrm{x}, \mathrm{z}$ |  |  |
| - Prints uppercase letters: $\mathrm{A}, \mathrm{K}, \mathrm{M}, \mathrm{N}, \mathrm{R}, \mathrm{V}, \mathrm{W}, \mathrm{X}, \mathrm{Y}, \mathrm{Z}$ |  |  |
| - All printed letters and numbers are legible |  |  |
| Uses 3/8 inch ( 10 mm ) lined paper with mid guideline. |  |  |
| Accuracy in shape and stroke direction (1.75-2.0) on the 4-point scale (see Trait-Based Rubric for Evaluating Quality of Handwriting). |  |  |
| Composition - Colours, draws as a prewriting task for composing a text of 45 to 75 words on a familiar topic using mostly high-frequency words. |  |  |
| Pangram - Prints "The quick brown fox jumps over the lazy dog," or other phrases containing all 26 letters of the alphabet. |  |  |

$\qquad$
The focus is on gaining control of both size and spacing of handwriting. Direct instruction for making ligatures or joins between letters is introduced. Handwriting becomes a means to generate text. Prewriting tasks such as webbing, outlining for planning are taught.

| TIMELINE AND PROGRESSION | $\checkmark$ | COMMENTS |
| :--- | :--- | :--- |
| EARLY |  |  |
| Review and practice of printed: <br> - Lowercase letters <br> - Upper case letters <br> - Numbers |  |  |
| Colours and draws for pre-writing tasks. |  |  |
| Legible handwriting visible in the accuracy of the <br> shape of upper and lower letters and numbers: 1.75 <br> - 2.0 on the 4-point scale (see Trait-Based Rubric for <br> Evaluating Quality of Handwriting). |  |  |
| Introduction to joins (connections) between <br> lowercase letters. Makes the joins between some of <br> the Group 1 Lowercase Letters. "Holds the line". |  |  |
| MID-YEAR |  |  |
| Makes the joins between the Group 1 Lowercase <br> Letters and those between the Group 2 Lowercase <br> Letters. Improves "holding the line". |  |  |
| Uses 3/8 inch (10 mm) lined paper with mid <br> guideline. |  |  |
| END |  |  |
| Makes the joins between the Group 3 Lowercase <br> Letters. Improves "holding the line". |  |  |
| Legibility continues to improve. Spacing may still be <br> inconsistent. 2.25 - 2.5 on the 4-point scale (see <br> Trait-Based Rubric for Evaluating Quality of <br> Handwriting). |  |  |
| Composition - Uses pre-writing tasks (webbing, <br> outlining) for composing expository text of 75 to 100 <br> words: descriptive or sequence of events. |  |  |
| Pangram - Writes in cursive italic "The quick brown <br> fox jumps over the lazy dog," or other phrases <br> containing all 26 letters of the alphabet. |  |  |

## GRADE 3 - CONSOLIDATION

Name:
Date:
The focus is on overall improvement in control over size, space, and holding the line, with a shift to automaticity/fluency of hand fostered by a connected/cursive hand. Handwriting becomes a means to generate quality text/writing.

| TIMELINE AND PROGRESSION | $\checkmark$ | COMMENTS |
| :--- | :--- | :--- |
| EARLY |  |  |
| 2.25 - 2.5 on a 4-point scale (see Trait Based Rubric <br> for Evaluating Quality of Handwriting). |  |  |
| MID-YEAR |  |  |
| Handwriting shows improved control over the 4S's <br> (shape, size, space, slant) |  |  |
| A process approach to writing that includes pre- <br> writing activities (brainstorming key words, making a <br> simple outline) can lessen the 'load' and support <br> good handwriting. |  |  |
| END |  |  |
| 2.75 on the 4-point scale (see Trait Based Rubric for <br> Evaluating Quality of Handwriting). |  |  |
| Handwriting reflects a sense of fluency: a print/write |  |  |
| hybrid style that uses all the connections between |  |  |
| lower case letters. This 'unlocks' more nuanced and |  |  |
| precise vocabulary and academic words on |  |  |
| expository genres. |  |  |$\quad$|  |
| :--- |
| Composition - There is an enormous range in the <br> Total Number of Words (TNW) generated, with <br> better hand writers producing better and longer <br> texts: look for around 200 - 225+ words. These <br> competing demands may take their toll on <br> handwriting that can look sloppy and rushed, but <br> eventually improves gradually over time. |
| Pangram - Writes in cursive italics "The quick brown <br> fox jumps over the lazy dog" or other phrases <br> containing all 26 letters of the alphabet. |

## TRAIT-BASED RUBRIC FOR EVALUATING QUALITY OF HANDWRITING,

 Adapted from Alston (1985)| Quality of <br> handwriting: | Labored: Difficult to <br> decipher. Clear signs <br> of poor fine motor <br> control | Legible: Readable <br> with effort. Sufficient <br> fine motor control | Controlled: Uniform <br> and consistent across <br> 4 traits. Good fine <br> motor control. | Fluent: Clear sense of <br> automaticity/ 'push <br> behind the pencil'; <br> connected script: <br> 'print/write' hybrid |
| :--- | :--- | :--- | :--- | :--- |
| Shape |  |  |  |  |
| Size |  |  |  |  |
| Space |  |  |  |  |
| Slant |  |  |  |  |

Rating: $1.0 \begin{array}{llllllllllllllll} & 1.25 & 1.5 & 1.75 & 2.0 & 2.25 & 2.5 & 2.75 & 3.0 & 3.25 & 3.5 & 3.75 & 4.0\end{array}$
Printed Lowercase letters:

|  | a | b | c | d | e | f | g | h | i | j | k | I | m | n | o | p | q | r | s | t | u | v | w | x | y | z |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shape: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Start |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Direction |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Shape |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Finish |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Size: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Consistent |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Proportioned |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Uppercase letters

|  | A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | Q | R | S | T | U | V | W | X | Y | Z |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shape: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Start |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Direction |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Shape |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Finish |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Size: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Consistent |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Proportioned |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Cursive Lowercase letters:

|  | a | b | c | d | e | f | g | h | i | j | k | I | m | n | o | p | q | r | s | t | u | v | w | x | y | z |
| :--- | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Shape: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Start |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Direction |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Shape |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Finish |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Size: |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Consistent |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Proportioned |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## TRAIT-BASED RUBRIC FOR EVALUATING WRITING COMPOSITION

| WRITING <br> ELEMENTS | $4$ <br> EXCELLENT | $3$ <br> PROFICIENT | $2$ <br> ADEQUATE | 1 <br> LIMITED |
| :---: | :---: | :---: | :---: | :---: |
| TASK <br> FULFILLMENT | The writer fulfills the task and purposefully crafts a convincing proposal. | The writer fulfills the task and uses supportive details to present a credible proposal. | The writer addresses the task and uses sufficient details to make a plausible proposal. | The writer addresses the task to some degree and shares a sketchy proposal. |
| UNITY AND COHERENCE | The paper shows overall unity and reasoning is compelling. | The paper reads smoothly, and reasoning is systematic and believable. | The paper generally reads smoothly, and reasoning has a resemblance of actuality. | The paper is often awkward to read, and reasoning displays inconclusive support. |
| AUDIENCE | The paper shows overall unity and reasoning is compelling. | A consideration of audience is maintained throughout the writing. | A consideration of audience is conveyed but may not be sustained throughout. | Consideration of audience may be vague. |
| CONTENT AND TOPIC DEVELOPMENT | The ideas are focused and purposeful; topic development is skillful. | The ideas are clear and interesting; topic development is effective. | The ideas are general and often repetitive; topic development is predictable. | The ideas are reasonable but often underdeveloped; topic development is superficial. |
| VOCABULARY AND USAGE | Vocabulary and usage are often clever and chosen intentionally for the form and purpose. | Vocabulary and usage choices are precise and suitable for the form and purpose | Vocabulary and usage choices are generally suitable for the form and purpose. | Vocabulary and usage choices are within a narrow range. |
| ORGANIZATION AND STYLE | The organization of the paper is controlled, and the style creates a sense of voice unique to the writer. | The organization of the paper is logical, and the voice and style are appropriate. | The organization of the paper is straightforward and may ramble. | There is evidence of difficulty in organizing ideas. |
| MECHANICS | Spelling, grammar, capitalization, and punctuation applications are controlled to enhance the impact of writing; errors are hardly noticeable | Spelling, grammar, capitalization, and punctuation applications are effective; errors are few and do not interfere with the writer's intended meaning. | Spelling, grammar, capitalization, and punctuation applications are uncomplicated; errors are evident and do not significantly interfere with the writer's intended meaning. | Spelling, grammar, capitalization, and punctuation applications are inconsistent; errors may interfere with the writer's intended meaning. |
| KEY WORDS | Convincing Skillful Engaging Controlled | Credible Effective Interesting Logical | Plausible <br> Predictable <br> Straightforward <br> Repetitive | Sketchy <br> Superficial <br> Vague <br> Awkward |

## APPENDIX " 3 "

## REFERENCE LIST FOR RESOURCE MATERIALS

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## 3. Additional Resources for K - Grade $\mathbf{3}$ Practitioners

There is an overwhelming amount of information and resources on the Internet for teaching printing and handwriting to young children, most of which do not feature Italic print and cursive handwriting. When reviewing other resources for teaching Italic print and cursive handwriting, you will come across considerable variation in the "look" of the Italic letters as well as the joins used to create cursive Italic writing.

This Resource presents a style of Italic print and cursive lettering that we believe is best suited for young children to learn and develop a consistent, fluent and legible handwriting style.

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There is a section for each grade, Skills and Procedures. Cursive is expected in Gr. 3. Organizing idea: Writing: ideas and information can be articulated and imaginatively through the use of writing processes and understanding of the author's craft. CHECK: P 4.2 Section 4.2 Create Original Text. In K: draw, tell about ideas; Gr. 1: write about own idea; Gr. 2: create narratives; Gr. 3: Create print texts
P. 66 Section 4.1 Enhance and improve. K: form recognizable letters by holding a pen or pencil; Gr. 1: print letters legibly from left to right, appropriate spacing. Gr 2: print legibly and efficiently consistent size, shape, spacing. Gr. 3: print legibly, cursive writing Gr. 4: write legibly using a style that demonstrates awareness of alignment, shape and slant

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