

Ocean Township School District
Waretown, New Jersey

Pre-K and Kindergarten Handwriting Resource



Waretown Elementary School
64 Railroad Ave
Waretown, NJ 08758
609 693-3131

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Introduction/Purpose

In the past several years there have been many changes in pre-kindergarten and kindergarten classrooms. The expectations within the early childhood classroom have greatly risen. The focus on reading and accompanying writing in the early childhood years has moved pre-kindergarten and kindergarten students to early involvement in journals and draft books, with many students engaged in these experiences from the very beginning of the school year. It has become apparent that letter formation can either hinder or help the writing process.

It is imperative that parents and teachers use every opportunity to assist children in acquiring the prerequisite skills for writing as well as practice correct **pencil grasp*** and letter formation. Without these skills, there cannot be **automaticity** when students begin to write. This lack of **automaticity** will slow down a student's ability to generate writings.

The following resource was put together to assist parents in a number of ways. It will offer information on the developmental stages of writing and strategies for developing the prerequisite skills for handwriting. It was modified from its original form which was prepared for teachers by teachers and staff developers of the Frederick County Public schools, Frederick, Maryland, July 2003.

***Bolted** and terms are defined in the *Glossary* (pg.18).

Stages of Development

Pre-printing strokes usually develop in a specific sequence. However, while there are general age guidelines for when each stage develops, children will individually vary in the amount of time needed to pass through each stage. The information below offers some general developmental information:

Ages 1 and 2- The child engages in random scribbles. As the child gets closer to age 2, the scribble will often develop a very distinct direction-horizontal, diagonal or vertical. This is most often done in imitation of an adult's writing. At this stage, the child is not 'copying' or reproducing a specific shape from a picture. The child is 'imitating' or reproducing a form after watching someone else draw it first.

Ages 2 and 3- The child can copy vertical and horizontal lines. As the child becomes nearer to age 3, circles may also be copied.

Ages 3 and 4- The child can imitate and then copy a cross or a plus sign. By age 4, the child may be able to imitate and then copy a square.

Age 5- The child can imitate and copy a triangle. Once this is clearly established, children are capable of learning to print.

Given these developmental levels, it is apparent that most children will not enter kindergarten having mastered printing. The time in both pre-kindergarten and kindergarten should be spent building the foundation of prerequisite writing skills.

Sources: "The Development of Pre-Printing Skills." found on <http://www.skillbuilderonline.com> last visited April 4, 2014.

Pre-requisite Skills



Before children are instructed in correct letter formation, they should have developed skills that are pre-requisites for handwriting. These skills include:

- ability to cross the **midline**
- ability to use two hands
- understanding of directional terms
- ability to recognize similarities and differences in forms
- hand dominance
- functional pencil grasp
- ability to copy lines and shapes

The following section offers specific activities to assist in the development of pre- requisite handwriting skills.

Ability to Cross the Mid-line

"Children process language in the frontal lobe of the brain's left hemisphere. They process verbal information into receptive and expressive vocabulary. The left brain is the area where information is organized, sequenced and analyzed. Combining these skills with the creativity of the brain's right hemisphere creates a balanced approach to developing essential skills for communication, reading and writing."

(Adapted from Brain-Based Activities for Young Learners by Ellen Booth Church)

The ability to cross the **midline** of the body is a brain-based developmental function that requires coordination within the brain and collaboration between the brain's two hemispheres. The two sides of the brain (the left and right) each control different functions. They must work together when an activity requires movement to cross over the **midline** of the body, thus engaging the whole child. These skills are prerequisites for the development of hand-eye coordination and visual perception tasks such as reading and writing. With our focus on handwriting, a student's ability to cross the **midline** becomes a necessary prerequisite for writing. To facilitate development of crossing the **midline**, children should participate in the following activities:

- **Pre-writing Exercises:**
 - **Windshield Wipers:** Arms above head, cross straight arms ten times like scissors then put bottom arm over top hand and do ten more.
 - **Scissor Cuts:** Same as windshield wipers only arms are pointed straight down with palm up.
- **Daily experiences:** Have your child zipper their coat, button their pants or tie their shoes.
- **Balancing:** Encourage your child to build with blocks and use both hands to balance their structure.
- **Lacing cards:** Have your child lace, weave or sew using cards.

- **Cross-Crawling Obstacle Course:** Create an obstacle course with things for your child to crawl in and out of, over and under, up and down. Remind him/her to move opposite hands and feet when they crawl. (Crawling is one of the first **midline**-crossing activities babies learn. It is always helpful to go back and practice those skills.)
- **Mini-Movements:** Roll out paper on the floor and tape it in place. Invite your child to find a place alongside the paper where they can lay on their stomachs to paint. Using finger paint, encourages your child to make a variety of tiny movements with their fingers that matches the rhythm of music being played.
- **The Cross-Crawl Limbo:** Play the traditional game "The Limbo," holding a stick in the air. Ask your child to find way to go under the stick without bumping it. Each time through, lower the stick. Eventually, he/she will have to crawl forward on his/her stomach to get beneath the pole.
- **What a Racquet:** Use a racquet to play a game like Badminton where your child can hit a balloon, ball or birdie back and forth to a partner or tap it straight up in the air.

Sources: Brain-Based Activities for Young Learners by Ellen Booth Church, "Handwriting Exercises" http://knox.link75.org/bcs/OTwebsite/Handwriting_exercises.html last visited April 4, 2014.

Ability to Use Two Hands

As children begin to gain strength and progress with their hand development, they also begin to naturally use both of their hands to complete a task and gain **bilateral hand skills**. This is the ability to use one's hands together to accomplish a task. One hand leads and the other assists. The development of hand dominance determines which hand is preferred and which hand assists with a task. Examples of this prerequisite skill include:

- 1) holding a piece of paper with the **non-dominant hand** and using the **dominant hand** to color or draw
- 2) holding a piece of paper with the **non-dominant hand** and using the **dominant hand** to cut with a pair of scissors.

To ensure that your child acquires the ability to use two hands, you can incorporate the following activities into your child's play:

- **Tearing paper:** Create art projects by tearing paper into small pieces instead of using scissors.
- **Cutting with scissors:** Cut paper with scissors, starting with basic lines and then moving to more complex shapes.
- **Tracing letters:** Use stencils or trace objects, shapes and/or letters.
- **Making letters:** Make letters using yarn, shoestrings or wax-coated string.
- **Gluing objects:** Glue small manipulatives to a letter. (Glue popcorn to the letter P or beans to the letter B.)
- **Stapling paper:** Staple papers together while making books or packets to encourage the use of both hands.
- **Punching holes:** Use single-hole punchers to make designs on paper.
- **Wringing out sponges:** Wring out sponges to increase muscle development.
- **Sewing and lacing:** Use string or yarn to sew letter cards.

- **Stringing beads:** Make pattern necklaces by stringing colored beads onto kite string.
- **Performing finger plays:** Sing songs that require the use of both hands such as "Where is Thumbkin?"
- **Clapping:** Use both hands to clap syllables in words or to clap to the beat of a song.
- **Constructing with blocks:** Using Legos®, blocks or Popsicle sticks, will encourage your child to use both hands to create a building.
- **Pre-writing exercises:**
 - **Mickey Mouse Ears:** Place fists next to ears, squeeze, and then open and close the fingers. Complete the activity 10 to 15 times.
 - **Door Knob Turns:** Arms in front of you, elbows slightly bent, move wrists from side to side as if you are opening a doorknob. Move wrists to the right and then to the left.
 - **Finger Opposition:** Hold fingers next to ears and have the students touch their thumb to each finger and back again. Complete 10 to 15 sets.
 - **Butterflies:** Hold arms straight in front of your body and make an X with thumbs, palms facing down to resemble a butterfly. Make small circles 10 times to the right and then 10 times to the left.

Sources: "The Development of Pre-Printing Skills" at <http://www.skillbuildersonline.com> last visited April 4, 2014.
 "Handwriting Exercises" from [Brain-based Activities for Young Learners](http://knox.link75.org/bcs/Otwebsite/Hendwriting_exercises.html) by Ellen Booth Church at http://knox.link75.org/bcs/Otwebsite/Hendwriting_exercises.html last visited April 4, 2014.

Understanding of Directional Terms and the Ability to Recognize Similarities and Differences in Forms (Kindergarten)

Following directions is necessary and inherent in all aspects of formal education. Understanding of directional terms becomes important in handwriting for fostering left to right directionality in writing. Children need to develop the understanding, as they learn to read and write English independently, that they begin at the left side of the page and progress to the right side of the page.

In addition, children need to develop the ability to recognize similarities and differences in form and line through visual discrimination and perception skills. Children should be encouraged to recognize form and line, describe their characteristics, and identify the forms as letters. By participating in activities that require matching, finding differences between lines and forms, locating missing parts, and talking about what they notice, students reinforce visual discrimination skills that assist them in the abstract task of writing.

The teacher's role is to model writing as a process inherent throughout each school day. During the writing process, students should observe both the formation process of letters including basic strokes as well as the finished products of writing letters or words. By incorporating writing across the curriculum, students will realize the importance of writing and the purpose for learning this valuable skill.

In order to acquire the prerequisite skills of understanding directional terms and the ability to recognize similarities and differences in form and line, parents can provide opportunities for their child to strengthen these abilities by incorporating the following activities into their daily routines:

- **Simon Says:** Students will increase their listening skills and enhance their directional skills by participating in a game based on directions.
- **Daily Routines:** Parents can set up routines which assist students in following directions and sequencing events throughout the day.

- **Drawing:** Have your child draw pictures and ask questions that focus attention to similarities/ differences (Ex. - "How do you know those are both people?" "Why is this shape your dad and this shape your mom?" "What makes the dog different?")
- **Read Aloud:** Point to text as you read aloud to your child, modeling left-to-right progression so they understand and visualize left-to-right directionality.
- **Labeling the Room:** Encourage your child to label objects in various rooms and compare objects for similarities/differences.
- **Following Directions:** Have your child follow directions in a sequence by completing the task step-by-step.
- **Writing Stories:** Have your child tell you a story and record their ideas in a sequential format, modeling for your child the visual cues of writing from the left to right.
- **Parquetry Shapes:** Have your child use geometric, wooden shapes to make objects following a pattern card.
- **Puzzles:** Children can build puzzles sorting through each puzzle piece to find the shape that they need to make the pieces fit together.
- **Sorting:** Children can separate objects according to size, shape, color, etc.
- **Straight Line/ Curved Line Exploration:** Have your child manipulate commercially-made wooden, plastic or foam pieces, cut into big and small lines and curves, to form letters.

Sources: "Handwriting in an Early Childhood Curriculum" by Linda Leonard Lamme
 "Helping Hands: A World of Manipulatives to Boost Handwriting Skills" by June M Naus

Hand Dominance

Hand dominance is the natural tendency for human beings to favor one hand over the other. It requires coordination of the small muscles in the hand to properly control a writing tool. This skill facilitates efficient use of the hands. The **dominant hand** develops skills and precision to perform fine motor tasks while the **non-dominant** hand supports and assists with the task.

Natural-handedness should be determined before students begin to write. In order to develop **hand dominance**, parents need to provide their children with opportunities to explore hand preference. As a precursor, children must develop their small muscles, which aid in fine motor skills. The following activities will increase hand strength (Miller and Decker, 1989):

- Tearing paper to make art projects.
- Using plant sprayers to water household plants.
- Gathering small objects from around the house (buttons, beans, and beads) and placing them in a small container. Children can use tweezers or tongs to place the items back into the container.
- Using a meat baster to have a cotton ball race across the table.
- Using eye droppers to transfer water from one container to another.
- Singing finger play songs and rhymes with your child, using his/her fingers to act out the rhyme.
- Finger painting with Jell-O on a paper plate.
- Stringing popcorn, buttons and beads to make necklaces.

The following activities will encourage **hand dominance** (Naus, 2000):

- **Playing “Simon Says”**: Give directional clues to your child and observe hand preference. Ex. -“Put one hand on your head.” **Drawing with stencils, templates, or a ruler**: Children should use their **dominant hand** to manipulate the writing utensil and their **non-dominant hand** to hold the object being drawn or traced.
- **Opening containers with lids**: Children demonstrate hand preference by holding the container with one hand and using their **dominant hand** to remove the lid.

- **Using wind-up toys:** Children use their **dominant hand** to wind up the toys as they play with them.
- **Wearing a bracelet or ring as a reminder:** Place a visual clue on your child's hand so he/she can remember with which hand to color/paint.

Having a Functional Pencil Grasp

Before being able to hold and control a writing tool, children must be able to coordinate movement and have control over the small muscles of the hand. Small muscle coordination activities should be a part of handwriting instruction. The following activities may be helpful if your child is struggling:

Using manipulatives:

- Jigsaw puzzles
- Legos®
- Tinker Toys®
- Snap beads

Playing with small toys:

- Cars
- Miniature gas stations
- Transformers
- Doll furniture

Molding with:

- Clay
- Sand
- Play-dough
- Silly Putty®
- Paper-mâche

Using "daily experience activities":

- Zipping
- Buttoning
- Sewing
- Screwing lids on small jars
- Screwing nuts and bolts
- Typing
- Tying knots and bows
- Playing a piano

Practicing art skills:

- Coloring
- Drawing
- Sketching
- Tearing paper
- Folding paper
- Cutting paper with scissors

Once children have developed small muscle coordination, introduce a variety of "hand tools" requiring a variety of grasps. These tools can be incorporated into a sand or water table. Include items such as:

- Sponges
- Funnels
- Straws
- Squeeze bottles
- Sieves
- Strainers
- Tongs/ Tweezers
- Containers of different shapes/sizes
- Sticks
- Shovels
- Pails

- **Sequencing:** Direct your child to use only one hand when sequencing items.
- **Cutting with scissors:** Have your child cut out pictures from newspapers or magazines that have a black marker line drawn around the picture to provide a guide for cutting.

Once children are ready to move on to using writing tools, they can begin using markers or felt tip pens. These two tools are easy to use because students do not need to apply pressure to get results. All too often, crayons are introduced and used as beginning writing tools. However, children are required to use more pressure when writing with a crayon than with markers or felt tip pens to get colorful results. After children have had practice using markers, pens and crayons in a variety of activities, they should be introduced to using pencils.

Primary or "fat" pencils are often used in kindergarten classrooms. Traditional thinking was that these were the most beneficial types of pencils for young writers to use. However, current research (Lamme, 2000) suggests there is no real advantage to giving students primary pencils. In fact, some students write better using regular adult-sized pencils or smaller "golf pencils". Regular sized pencils with soft lead are the most useful tools for children to use. These regular pencils make grasping easier, which results in smoother, clearer strokes.

Pencil grasp refers to how a child holds a writing implement. It is important that a child learns how to hold a writing tool correctly from an early age. Incorrect grasps are very hard to change. As a child's hand muscles become stronger, he/she should naturally develop an increasingly more effective **pencil grasp**. The development of an effective and correct **pencil grasp** will improve a child's ability to learn to print.

Initially, children will hold a writing tool with a closed fist. This is commonly referred to as a **power grasp or gross grasp**. When using a **power grasp**, children move their writing tool by moving their shoulder. This is considered to be an inefficient grasp because:

- Children use a lot of energy to perform this grasp which causes their hand and arm to become fatigued
- This particular grasp prevents a child from forming symbols/letters that require small, precise movement

By the age of four, most children will have progressed through a number of different grasps. As their hand muscles get stronger, children begin to place their fingers in different ways on the pencil until they develop a more effective **pencil grasp**. The most efficient grasp is called the **tripod grasp**. This grasp consists of the following steps:

- A child holds the pencil with three fingers - the middle, the thumb and the index fingers.
- The pencil is resting on the knuckle of the middle finger while being pinched between your thumb and index finger.
- The ring and "pinky" finger are bent and rest on the table.

This is considered to be an efficient grasp because:

- It requires less energy to perform, which causes a child's hand to become less fatigued.
- It allows for the greatest amount of movement and precision, which makes it easier for a child to form symbols/letters that require small precise movements.

If a child has difficulty using a correct pencil grasp, encourage practice using the following writing tools:

- Small/broken pieces of crayons and chalk
- Primary crayons
- Primary-sized markers
- **Adaptive pencil grips**

Adaptive grips are used to position fingers correctly on the pencil. It is very important that children only use these grips for a short period of time each day. These short time periods will give children a chance to get used to the feeling of a new grasp without making them feel discouraged.

Source: "The Development of Pre-Printing Skills" at <http://www.skillbuildersonline.com> last visited April 4, 2003.

The Ability to Copy Lines and Shapes/Basic Strokes

Once a child begins to develop **eye-hand coordination** and **pencil grasp**, they will begin to use these skills to scribble. Eventually, a child's scribbling includes the use of basic strokes to form definite shapes and pictures. Before receiving formal handwriting instruction, children must be able to form basic strokes smoothly, in the appropriate direction and with clean, precise intersections. The following are examples of **basic strokes**:

- Vertical lines
- Horizontal lines
- Diagonal lines
- Circles
- Partial circle strokes

It is very important that a child learns to make these particular strokes from top-to-bottom and from left-to-right.

One way for parents to observe the appearance of **basic strokes** is to study a child's drawings, because circles and straight lines occur naturally in artwork. A parent can observe if a child can form circles and lines, how smoothly the strokes are drawn and how precisely the lines and circles are connected. Parents can check to make sure that the circles are round and closed and that the straight lines intersect properly. Observe your child's drawings for body parts attached to bodies, kites attached to strings, etc. Until these basic strokes appear in a child's drawings of people, houses, flowers, etc., the child is not ready for formal handwriting instruction. The following activities give students an opportunity to practice using **basic strokes**:

- Drawing
- Painting
- Stirring
- Sand play
- Water play
- Finger painting
- Filling in the missing parts of pictures/letters
- Connecting dots
- Tracing
- Drawing lines to connect matching pictures on paper/chalkboard

Although it is very important that parents examine their child's artwork to observe the use of **basic strokes**, parents should keep in mind that a child should not receive formal instruction in basic strokes while creating a work of art. These strokes evolve through time and experience, which enhances a child's creativity as well as their handwriting.

Sources: "Handwriting in an Early Childhood Curriculum" by Linda Leonard Lamme
Helping Hands: A World of Manipulatives to Boost Handwriting Skills by June M. Naus

Materials to Have On Hand

Some materials that are good to have that can promote your child's hand development are listed below. Most of these are inexpensive and normally found within the early childhood classroom. However, you may want to keep these in a storage tray that can be easily accessed specifically for pre-handwriting activities. Young children also benefit greatly from using vertical surfaces as opposed to horizontal ones. Therefore, be creative! Think of ways to place some of these materials on a vertical frame. Helpful materials include:

- small individual chalkboards
- large chalkboard
- wide and thin tipped markers
- crayons of varying widths
- small pieces of chalk
- easels and paint
- finger paint
- clay/play dough
- unlined paper
- lined paper
- rubber bands
- pencils in a variety of widths
- stamps and stamp pads
- pincers and cotton balls
- newsprint for tearing
- beads for stringing
- laces and lace-up pictures
- pegs and pegboards
- variety of manipulatives- Legos®, Bristle Blocks®, etc.
- scissors (Fiskar® or Crayola®)
- eye droppers
- dice games
- coins
- buttons
- plant sprayers
- tweezers and tongs
- finger play songs and puppets

Glossary

These terms have been **bolded** throughout the document.

1. **Adaptive Grips**- A tool added to a pencil to help correct an ineffective pencil grasp.
2. **Automaticity**- A task completed with ease, fluency and without hesitation.
3. **Basic Strokes**- Lines used in handwriting to create definite shapes, forms and pictures; basic strokes include vertical, horizontal and diagonal lines as well as circles and partial circle strokes.
4. **Bilateral Hand Skills**- The ability to use the hands together to accomplish a task.
5. **Dominant Hand**- The hand that develops strength, skills and precision to perform fine motor tasks.
6. **Explicit**- Direct instruction of handwriting skills.
7. **Eye-Hand Coordination**- The ability to use fine motor skills to accomplish a task that the eye and brain wish to complete.
8. **Hand Dominance**- The natural tendency for human beings to favor one hand over the other.
9. **Implicit**- Handwriting instruction based on modeling that is imbedded into a task. Ex. - modeled writing during the *Morning Message*.
10. **Midline** - The imaginary vertical line that divides the body into two equal and symmetrical halves.
11. **Non-Dominant Hand**- The hand that supports and assists with a task.
12. **Pencil Grasp**- How a student holds a writing tool.
13. **Power Grasp**- Holding a writing tool with a closed fist.
14. **Tripod Grasp**- Holding a writing tool with three fingers; the pencil is resting on the knuckle of the middle finger while being pinched between your thumb and index finger.

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