

## CONTINUOUS STROKE PRINTING

The more times a beginning writer has to lift a pencil, the harder it becomes to make a legible letter. Every pencil lift creates another opportunity to make a mistake. Fewer strokes means fewer steps to remember in forming each letter and decreases directionality confusion. It also increases the chances the student will develop the correct "motor memory" for the letter formation. The development of motor "memories" for the patterns used in printing is what helps the student's printing to become fast and automatic, without sacrificing legibility.

Continuous stroke printing may also help eliminate letter reversals. As the student is not lifting his/her pencil, there is less opportunity for confusion around which side of the "ball" to place the "stick" on (e.g., 'b' vs. 'd'). Likewise, as the student does not have to pause and think about where to place each connecting stroke, the speed and flow of printing often improves.

### **Which Letters Are Non-Lifting?**

- Uppercase lifting letters include: A, E, F, H, I, J, K, Q, T, X, Y
- Uppercase non-lifting letters include: B, C, D, G, L, M, N, O, P, R, S, U, V, W, Z
- Lowercase lifting letters include: f, i, j, k, t, x, y
- Lowercase non-lifting letters include: a, b, c, d, e, g, h, l, m, n, o, p, q, r, s, u, v, w, z
- Please see the following page for a stroke directionality chart.

### **Tips to Make Teaching Easier**

- Encourage the student to begin all uppercase letters from the top and lowercase letters from the middle or top, as this will reduce the chance of reversals and/or directional confusion.
  - Try modifying printing sheets with dots to visually cue the student where to start the letter.
  - Try highlighting the top line with a green marker and bottom line with a red marker ("green means go and red means stop").
- Try grouping letters with similar shapes, so the students have lots of practice reinforcing the same motor pattern:
  - Start with straight-line letters, which are easiest to form such as: i, l, t.
  - Next try "magic c" letters such as: a, c, d, g, o, q, s. These letters all start by making a small 'c'.
  - Then try "diver" letters such as: b, h, m, n, p, r. These letters all start with a straight line down, then come back up and over to form a bump.
  - Next teach the letters that have "unique" formations: e, f, j, u
  - Diagonal letters are hardest to form, so teach these last: k, v, w, x, y, z.

#### **Continuous stroke printing helps:**

- **Improve legibility.**
- **Reduce letter reversals.**
- **Develop "motor memories" for letter formations.**
- **Reduce directionality confusion.**
- **Increase speed and flow of printing.**

# CONTINUOUS STROKE PRINTING

- Each day, review the letter(s) taught the previous day. For many students, one day of practice is often not enough to remember the correct formation.
- Practice letters using a multi-sensory approach:
  - Trace the letters in a cookie sheet filled with sand, rice, finger paint or shaving cream. Or, try putting lotion, hair gel or pudding in a ziploc bag for the student to trace on top of.
  - Form letters out of "wikki stix" (bendable wax strings) or snakes of playdoh then trace them using index finger.
  - Draw large letters in the air using index finger. Your back should be facing the students when demonstrating, so the letter is not reversed for them.
  - Try cutting letters out of different materials (e.g., sandpaper, flannel, velvet, cotton balls, etc) and gluing them onto bristol board to make a tactile alphabet for tracing.
  - Try having the students draw letters on each others' backs and take turns guessing what letter was formed. As a variation, this activity can be done with pencil and paper. The student holding the pencil keeps his/her eyes closed. The student's partner (with eyes open) then guides their hand through a letter formation. Keeping eyes closed, the student holding the pencil must guess what letter he/she formed.
- Emphasize quality over quantity. Forming a letter 4 or 5 times correctly is much more beneficial to learning than producing row after row of letters that decrease in quality or don't follow the correct stroke directionality.



**References:** Olsen, J.Z. (2003). Handwriting Without Tears. Potomac, MD. ([www.hwtears.com](http://www.hwtears.com))  
Simmer, M.L. (2003). Promoting Skilled Handwriting: The Kindergarten Path to Meaningful Written Communication. Ottawa, Ontario: The Canadian Psychological Association.