



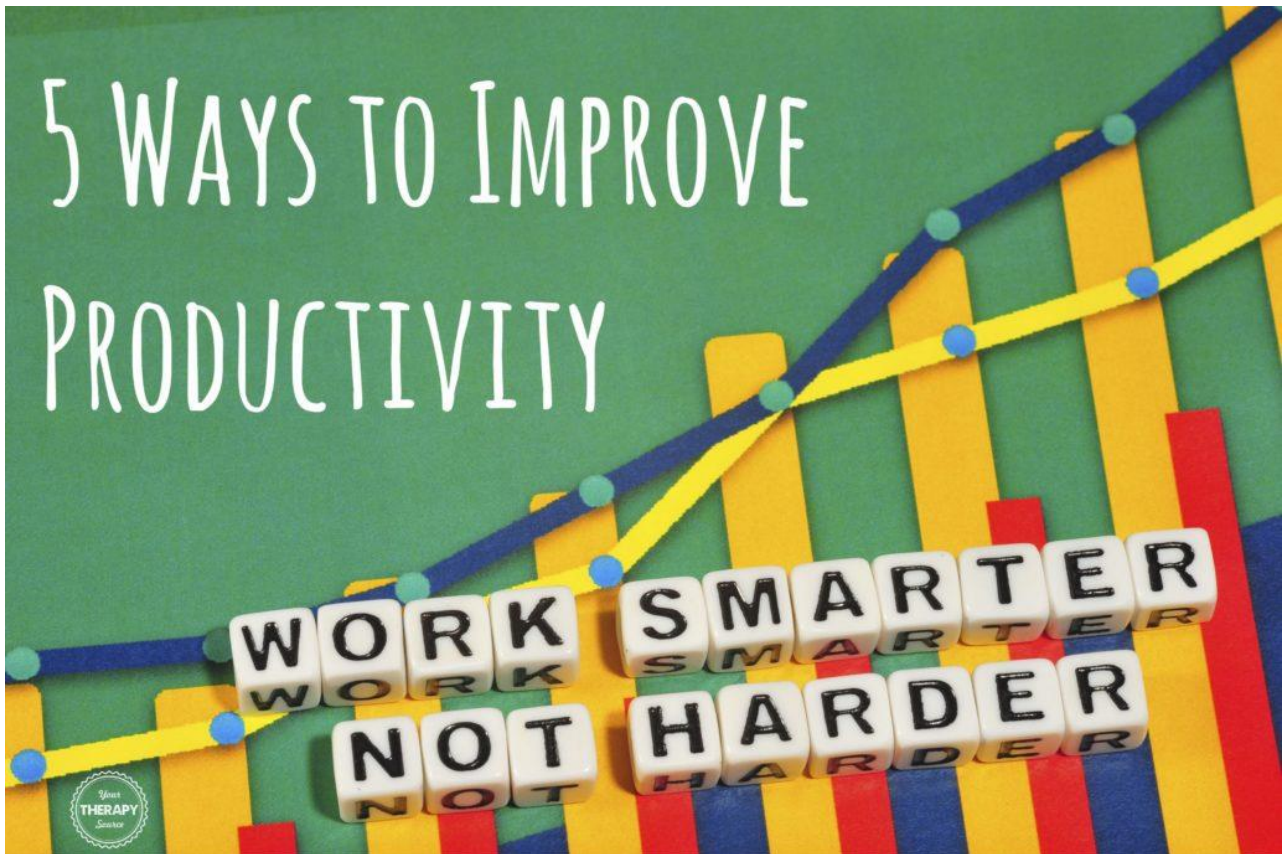
**Digital Magazine for Pediatric  
Occupational and Physical Therapy**  
*January 2017 Issue 90*

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## 5 WAYS TO IMPROVE PRODUCTIVITY



The schedules of pediatric occupational or physical therapists tend to be extremely busy. If you work in the schools, you know how hard it is to complete all the daily tasks, follow your schedule and maintain focus throughout the work day. After work hours, add bringing paperwork home or phone calls to parents and doctors not to mention managing your own home life. With the digital age being in full swing, your attention and focus can be pulled in many different directions affecting overall productivity. Here are 5 tips to help improve your productivity throughout the day as a pediatric therapist:

1. **Start the day with a simple mindfulness practice.** Whether it be to take a few deep breaths, pray or meditate for awhile upon waking up take some time to be calm. Don't roll over and grab your phone.
2. **Organize your day efficiently.** Your brain is most likely more clear and fresh in the morning. Schedule complex tasks in the morning. Move simple tasks to the afternoon whenever possible. Stay organized throughout the day and maintain a clean work environment (this one is really difficult for me!). You will be more productive if you are less distracted by a physical or digital mess around you. Try to keep your physical work area clean which would include your therapy bag to carry all your supplies, your car and your paperwork. Also, try to keep your digital work

area clean. Delete unnecessary emails, apps or files. Reduce clutter as much as possible on your home screen.

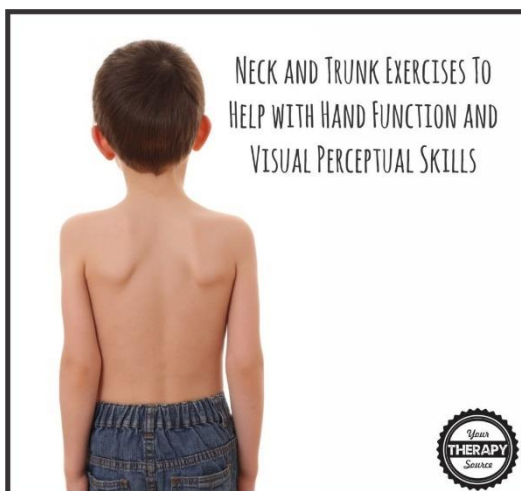
3. **Schedule smaller team meetings when possible and delegate tasks.** Limit the number of people to attend group meetings. This cuts down on some people just sitting there for extended periods of time being unproductive if their opinion is not needed. When in a meeting, delegate one person to be directly responsible for each task to make it clear who needs to complete each action item. For example, if you are meeting on implementing [modified seating](#) then assign specific tasks to each individual ie therapist provides the [alternative seating](#) equipment, student must be safe with [alternative seating](#), teacher's assistant collects simple data on whether the modified seating is increasing attention to task, teacher reports on improvements noted in academic abilities and therapist modifies [alternative seating](#) choices if necessary.

4. **Create templates or forms for frequent communication or documentation.** By streamlining the paperwork process you will be more productive. Check out [School and Home Communication Forms for Therapists](#) – a download of 21 forms to increase communication between therapists, school staff, students and parents or [Data Tracking Forms for School Based OTs and PTs](#) – a download of 7 data collection forms for monitoring progress in occupational and physical therapy in the school setting

5. **Take your own brain break.** Allow for time to reflect throughout the day and at the end of the day. What did you do right and what can you improve upon?

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## NECK AND TRUNK EXERCISES HELP WITH HAND FUNCTION AND VISUAL PERCEPTUAL SKILLS



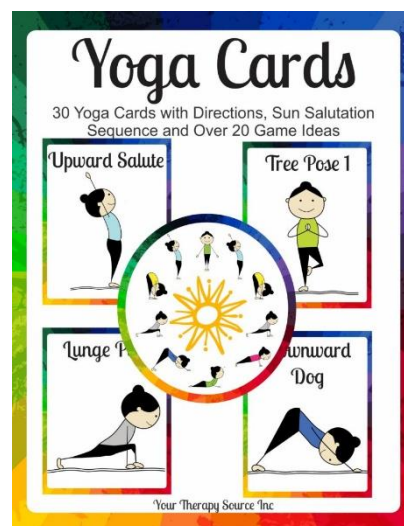
The *Journal of Physical Therapy Science* published research examining the effects of neck and trunk stabilization exercises on hand function and visual perceptual skills in 11 school aged children with cerebral palsy (GMFCS I-III). Each participant was evaluated using the Jebson-Taylor hand function test and the Korean Developmental Test of Visual Perception-2 (K-DTVP-2) test. Kinesitherapy was implemented in individual sessions for eight weeks, twice a week, for 45 minutes at a time. The neck and trunk stabilization exercises were implemented according to the functioning and level of each child. Some of the exercises included: raising the

head up in a modified bridge exercise posture, pushing the neck backward in order to activate the erector muscle of the cervical and upper thoracic vertebra and activating the deep abdominal muscles in the bridge exercise posture. Following the 8 week intervention, a post evaluation was performed. Data analysis revealed the following results:

1. a significant effect in five subcategories of the Jebson-Taylor hand function test: short sentence writing, card turning, placing small objects into something, large & lightweight can lifting, large & heavyweight can lifting.
2. there was a significant effect in visual motor speed on the K-DTVP-2 test.

The neck and trunk exercises used in this study helped improve short sentence writing, card turning, placing small objects into something, large & lightweight can lifting, large & heavyweight can lifting and visual motor speed.

Reference: Shin J-W, Song G-B. The effects of neck and trunk stabilization exercises on upper limb and visuoperceptual function in children with cerebral palsy. *Journal of Physical Therapy Science*. 2016;28(11):3232-3235. doi:10.1589/jpts.28.3232.



[Yoga Cards and Games](#): This digital download is a collection of 30 full sized yoga cards (8.5" x 11") with directions, Sun Salutation sequence and over 20 game ideas with small size yoga cards (4" x 5"). They are reproducible for the clients on your caseload or students in your classroom. Send them home for carry over activities. **Yoga Cards** help to improve muscle strength, increase flexibility, relieve stress and calm the mind. You will receive a link to download the document immediately following payment for \$6.99. [ADD TO CART](#).

## TWO KEY FACTORS TO HELP INCREASE PARTICIPATION OF CHILDREN WITH AUTISM

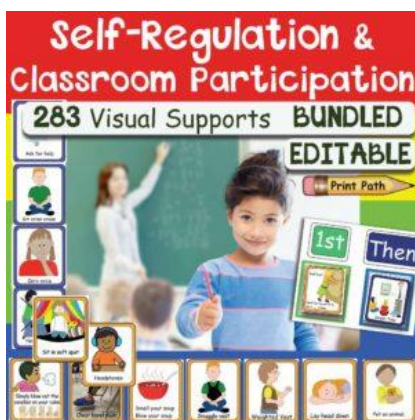
*OTJR: Occupation, Participation and Health* published qualitative research investigating the viewpoint of teachers and occupational therapists (who work with children with autism) on the sensory-related environmental barriers to participation within the preschool context. Following interview questions, the data was analyzed and indicated that there are two essential components to increase the participation of children with autism in the preschool setting:



1. Provide consistent routines. Provide structure to the day and provide consistent participation in sensory activities. The teachers and OTs stressed the importance of [visual schedules](#) and routines to offer a predictable sensory experience for children, increase on task behavior and to reduce harmful behaviors.
2. Modify the task or environment and offer sensory supports to increase participation. Modifications include changes to the environment, grading the amount of sensory stimuli or changing the type of sensory stimulation.

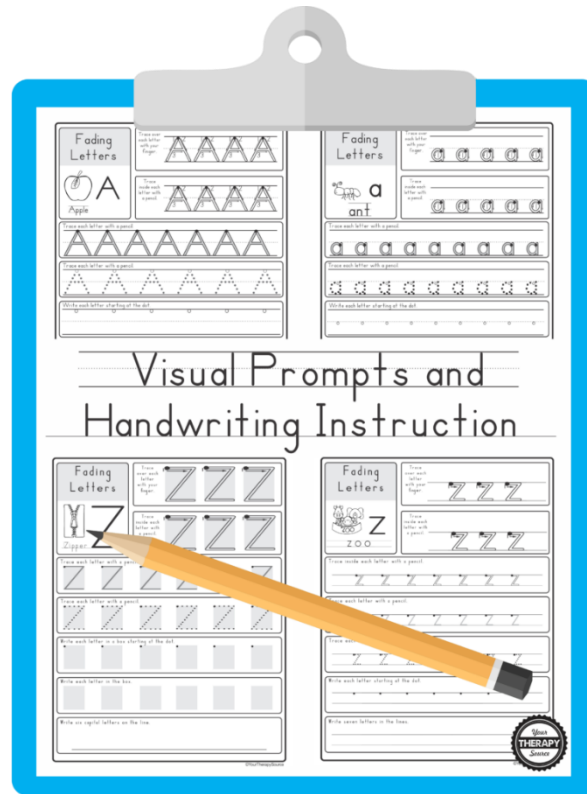
This study can help educate parents, teachers and school staff on a starting point when evaluating the participation of children with autism in the preschool setting. Read more on visual supports – [5 Ways to Incorporate Visual Supports During a Therapy Session](#).

Reference: Aimee Piller and Beth Pfeiffer. The Sensory Environment and Participation of Preschool Children With Autism Spectrum Disorder. *OTJR: Occupation, Participation and Health* July 2016 36: 103-111, doi:10.1177/1539449216665116.



[Self-Regulation and Classroom Participation Visual Supports](#) Designed by a school based occupational therapist, Thia Triggs, this color coded visual support system is suitable for children with autism, emotional behavioral disturbance, intellectual disabilities, ADHD, communication disabilities, and more. Pictures are cute, engaging, and easy for children to understand. Visual supports for self-regulation can be pivotal in implementing an IEP in the least restrictive environment. This digital download includes 283 visuals. [Find out more information.](#)

## VISUAL PROMPTS AND HANDWRITING



There are many types of [handwriting programs](#), [papers](#) and videos available to help children with visual prompts for proper letter formation. Regardless of the handwriting program used, some visual prompts used for teaching handwriting include:

- [alphabet strip or wall cards to copy proper formation](#)
- modeling proper letter formation
- [wide lined paper](#)
- [three lines with one dotted in the middle](#)
- [two lines similar to Handwriting Without Tears style lines](#)
- [start and stop lines at the margins](#)
- numbers to guide what strokes to form in what order
- [highlighted paper](#)
- dotted lines to trace for letter formation

Verbal prompts when teaching handwriting may include:

- reminders to start at the top
- scripted letter formation guides

Physical prompts when teaching handwriting may include:

- guiding a child's hand to start at the top

- guiding the hand to hold the pencil correctly

As the child learns to master parts of the skill of handwriting, gradually fade the visual, verbal or physical prompts to encourage full independence by the child. Some research indicates that reducing prompts is the most effective fading prompts technique because it results in fewer errors and quicker skill acquisition than the least to more prompting method (starting with the least amount of prompts possible).

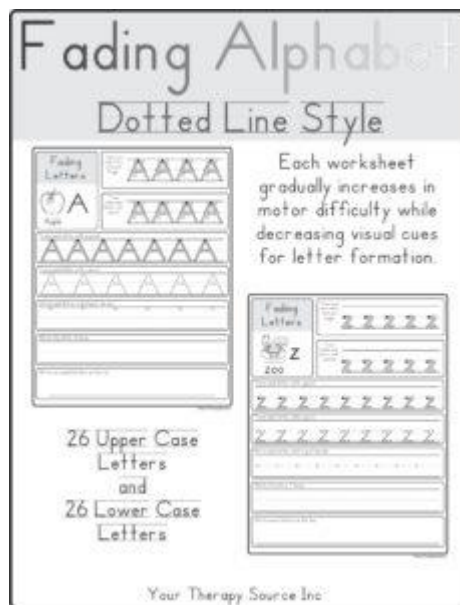
Here are some free downloads that provide visual prompts when teaching handwriting:

[Download the Fading Alphabet Letter Aa Dotted Line Style](#)

[Download the Fading Alphabet Letter Zz Double Style](#)

[Download Handwriting Templates with the Alphabet Freebies](#)

Read more about [how to use prompts effectively](#).



[Fading Alphabet](#) includes worksheets that gradually increase in visual motor difficulty while decreasing visual prompts for letter formation. There are 26 double lined worksheets for boxed capital letters and 26 double lined lowercase letters (Handwriting with Tears style) OR Fading Alphabet – 26 Uppercase Letters and 26 Lowercase Letters Dotted Lined worksheets (Zaner-Bloser style). [Find out more information](#).

**Reference:** MacDuff, Gregory S., Patricia J. Krantz, and Lynn E. McClannahan. “Prompts and prompt-fading strategies for people with autism.” Making a difference: Behavioral intervention for autism (2001): 37-50.



## MINDFULNESS AND YOGA FOR SCHOOL CHILDREN



Mindfulness can be defined as paying attention in a particular way: on purpose, in the present moment, and nonjudgmentally. Research has indicated that mindfulness in school children may help to improve:

1. emotional well being.
2. learning and associated cognitive processes, such as attention, focus and executive function skills.
3. mental health.
4. physical health (reduction in blood pressure).

Many schools are adding mindfulness and yoga programs into their daily routine.

*Move with Me* offers a wide variety of videos and flash cards to help you get started with a combination of mindfulness and yoga programs for young children. Here are some suggestions if you are working on:

1. strengthening and balance – [Body Series: 3 Yoga/Movement Story Videos for Strength, Flexibility & Balance](#).
2. self control and focus – [Mind Series: Yoga Story Videos for Focus, Self-Awareness & Self-Control](#).
3. calming, confidence and self regulation – [Heart Series: Yoga Story Videos for Calm, Caring & Confidence](#)
4. self regulation skills – [Adventure Skills Self Regulation Flash Cards](#).

The best deal is on the [complete bundle of 9 videos and flash cards](#). This can take care of your lesson planning for all of 2017!

Reference: Weare, Katherine (2012) Evidence for the Impact of Mindfulness on Children and Young People. Retrieved from the web on 12/9/16 at <https://mindfulnessinschools.org/wp-content/uploads/2013/02/MiSP-Research-Summary-2012.pdf>

## IMPROVING GAIT SPEED IN CHILDREN WITH CEREBRAL PALSY

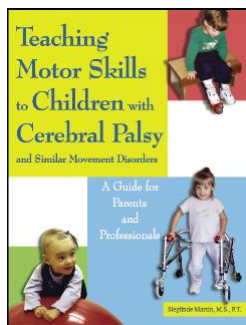


*Physical Therapy* published a systematic review and meta-analysis on the effectiveness of interventions for improving gait speed in ambulatory children with cerebral palsy (CP). Twenty four studies were divided into three categories of interventions: gait training (n=8), resistance training (n=9), and miscellaneous (n=7). The analysis indicated that:

- gait training was effective in increasing gait speed.
- resistance training was shown to have a negligible effect.
- velocity training, electromyographic biofeedback training, and whole-body vibration were effective in improving gait speed in individual studies.

The researchers concluded that gait training was the most effective intervention in improving gait speed for ambulatory children with CP.

Reference: Moreau, N. G., Bodkin, A. W., Bjornson, K., Hobbs, A., Soileau, M., & Lahasky, K. (2016). Effectiveness of Rehabilitation Interventions to Improve Gait Speed in Children With Cerebral Palsy: Systematic Review and Meta-analysis. *Physical Therapy*, 96(12), 1938-1954. Accessed December 13, 2016.  
<http://dx.doi.org/10.2522/ptj.20150401>.



[Teaching Motor Skills to Children with Cerebral Palsy and Similar Movement Disorders – A Guide for Parents and Professionals](#) digital download – [Find out more information.](#)

## SELF REGULATION SKILLS AND DEVELOPMENTAL COORDINATION DISORDER

The *Journal of Physical and Occupational Therapy in Pediatrics* published observational research on self regulation skills and developmental coordination disorder (DCD). The study included 15 children, with and without DCD and examined the differences in children's use of self-regulatory and metacognitive skill during motor learning. The self regulatory behavior of the participants was observed using a quantitative coding scheme and qualitative analysis of video-recorded sessions. Data analysis indicated that children with DCD:

- exhibited less independent and more ineffective self-regulatory skills during motor learning than their typically developing peers.
- relied more heavily on external support for effective regulation.
- were more likely to exhibit negative patterns of motivational regulation.

The researchers concluded that children with DCD experience difficulty effectively self-regulating motor learning.

Reference: Sangster Jokić, C. A., & Whitebread, D. (2016). Self-Regulatory Skill Among Children with and without Developmental Coordination Disorder: An Exploratory Study. *Physical & occupational therapy in pediatrics*, 1-21.



[Move~Work~Breathe](#) is a self-regulation curriculum designed by a school based occupational therapist, Thia Triggs. This curriculum provides an effective, time-efficient structured system to provide classroom breaks, improve self-awareness and self advocacy and teach specific self-regulation skills so that kids have tools to use in their classrooms. This system will get kids moving, give them the benefits of a brain power boost [from getting their heart rate up], give them heavy work and isometrics to help them calm down, and help them learn techniques to quiet and control their bodies in order to return to their academic work. [FIND OUT MORE INFORMATION.](#)

## RESEARCH REVIEW ON HANDWRITING INSTRUCTION

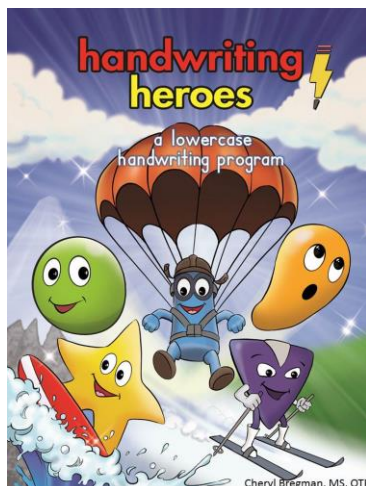


*Educational Psychology Review* published a research review on handwriting instruction. A meta-analysis was completed on experimental intervention studies with K-12 students to determine if teaching handwriting enhanced legibility and fluency and resulted in better writing performance. The results indicated the following:

- when compared to no instruction or non-handwriting instructional conditions, teaching handwriting resulted in statistically greater legibility and fluency.
- motor instruction did not produce better handwriting skills.
- individualizing handwriting instruction and teaching handwriting via technology resulted in statistically significant improvements in legibility.
- handwriting instruction produced statistically significant gains in the quality, length and fluency of students' writing.

Reference: Santangelo, T. & Graham, S. A Comprehensive Meta-analysis of Handwriting Instruction. *Educ Psychol Rev* (2016) 28: 225. doi:10.1007/s10648-015-9335-1

Check out all of our resource for [handwriting instruction](#) including the new [Handwriting Heroes](#) lowercase handwriting instruction program.



[Handwriting Heroes](#) digital download is a highly effective, and easy to implement program for learning how to write lower case letters accurately and fluently. This powerful teaching tool is designed to accelerate handwriting instruction. This handwriting program includes everything you need for consistent handwriting instruction for lower case letters. [FIND OUT MORE INFORMATION.](#)

## AQUATIC EXERCISE AND SLEEP IN CHILDREN WITH AUTISM



The *Focus on Autism and Other Developmental Disabilities* published research on whether participation in an aquatic exercise program improved the sleep in 8 children with Autism Spectrum Disorder (ASD). Using an A-B-A withdrawal design for 4 weeks of each phase, the children participated in 60 min of aquatic exercise 2X/week. Data was collected via phone interviews with parents who were asked questions related to sleep latency, nighttime awakenings, and sleep duration.

The results indicated a statistically significant difference for sleep latency and sleep duration in the children with ASD following aquatic exercise.

The researchers concluded that participation in aquatic exercise may improve the sleep habits of children with ASD.

Reference: Kathryn N. Oriel, Jennifer Wood Kanupka, Kylee S. DeLong, and Kelsie Noel. The Impact of Aquatic Exercise on Sleep Behaviors in Children With Autism Spectrum Disorder: A Pilot Study. *Focus on Autism and Other Developmental Disabilities* December 2016 31: 254-261, first published on November 25, 2014 doi:10.1177/1088357614559212



[Autism Sleeps™](#) is an easy-to-read manual to help people with sensory processing difficulties, Autism Spectrum Disorders or a restless mind, achieve an overall healthy sleep experience. It serves as a thorough resource of sleep sensory strategies and suggestions for preparing the “sleep environment”. Sample bedtime and wake-up routines are provided as templates, especially to guide parents of children with sleep difficulties. [Find out more information.](#)

## BENEFITS OF PEER-MEDIATED INTERVENTIONS FOR STUDENTS WITH INTELLECTUAL DISABILITY AND PEERS



The *Journal of Remedial and Special Education* published a review of the 53 studies on the impact on peers from peer-mediated interventions for students with intellectual disability (ID). Although inclusion is increasing there are still some administrators, educators and parents who are hesitant. They may have concerns regarding the effects of peer mediated interventions that include students with intellectual disability. Previous research indicates that peer-mediated interventions are an evidence-based approach for improving social and learning outcomes for students with intellectual disability (ID) but their impact on participating peers has not been explored in depth. The review of the research indicated that:

1. interacting with students with ID has no adverse effects on peers' academic achievement or engagement for peers from elementary through high school.
2. peers' engagement increased.
3. peer-mediated interventions lead to positive changes in peers' attitudes toward and peers' expectations of their classmates with ID.

4. peers often rated their interactions with students with ID as enjoyable, instilling a sense of pride in their participation and pride in the accomplishments of their partners with ID and expressed a desire to continue interacting with the student with ID.

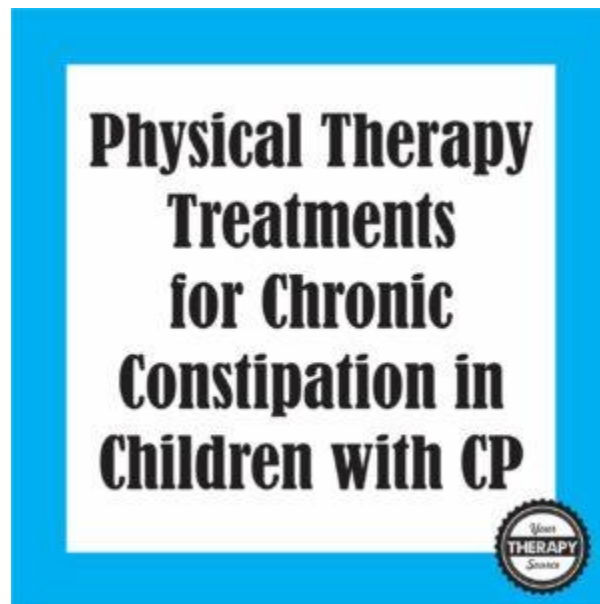
Educating school staff and parents on the benefits of peer-mediated interventions can be beneficial to explain why students benefit from group therapy sessions. There are many reasons to support group therapy (ie modeling, turn taking, self regulation, etc.). This research can also help to support your clinical decision making to determine is a student would benefit from group sessions versus individual therapy sessions.

Reference: John M. Schaefer, Helen I. Cannella-Malone, and Erik W. Carter. The Place of Peers in Peer-Mediated Interventions for Students With Intellectual Disability. *Remedial and Special Education* November/December 2016 37: 345-356, first published on February 16, 2016 doi:10.1177/0741932516629220



Get [25 instant sensory motor activity ideas](#) for your group occupational or physical therapy sessions. The ideas require absolutely NO equipment, just a little imagination and fun. These activities allow you to get your group therapy sessions off to an immediate, productive start taking full advantage of your students' desire to move. [Find out more information.](#)

## PHYSICAL THERAPY TREATMENTS FOR CHRONIC CONSTIPATION IN CHILDREN WITH CP



The discomfort and pain of constipation can affect a child's quality of life. For children with cerebral palsy, constipation is particularly common. An epidemiological survey of nutritional and gastrointestinal problems indicated that 26% of children with cerebral palsy experienced constipation (defined as opening of the bowels less frequently than once in every 3 days) (Elawad, M. A., & Sullivan, P. B., 2001). One PT approach to improve bowel functions is having children with cerebral palsy take steps in a Hart Walker device (Eisenberg et al, 2009).

*Disability and Rehabilitation* published a randomized controlled study on the effects of connective tissue manipulation (CTM) and Kinesio Taping (KT) on chronic constipation in children with cerebral palsy. Forty children diagnosed with chronic constipation were randomly assigned to CTM group, KT group or control group. Participants were evaluated with 7-day bowel diaries, Bristol Stool Form Scale (BSFS), Visual Analog Scale (VAS), and Pediatric Quality of Life Inventory (PEDsQL).

The results indicated statistically significant differences between the CTM, KT and control groups regarding the changes in:

1. defecation frequency
2. duration of defecation
3. Bristol Stool Form Scale
4. Visual Analog Scale
5. PEDsQL total scores



The researchers concluded that CTM and KT seem equally effective physiotherapy approaches for the treatment of pediatric constipation and these approaches may be added to bowel rehabilitation program.

Reference:

Eisenberg, S., Zuk, L., Carmeli, E., & Katz-Leurer, M. (2009). Contribution of stepping while standing to function and secondary conditions among children with cerebral palsy. *Pediatric Physical Therapy*, 21(1), 79-85.

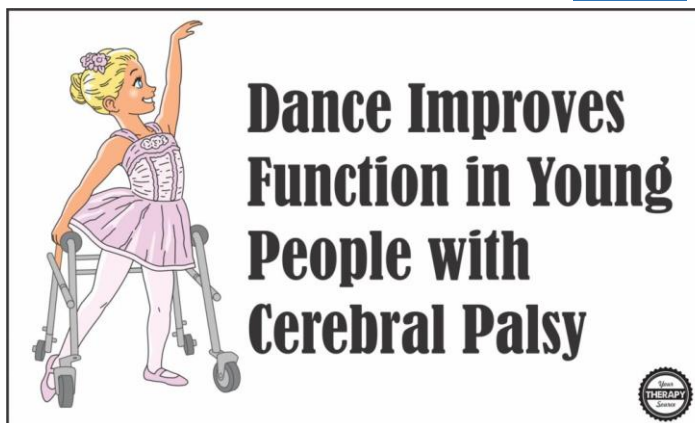
Elawad, M. A., & Sullivan, P. B. (2001). Management of constipation in children with disabilities. *Developmental Medicine & Child Neurology*, 43(12), 829-832.

Orhan, C., Kaya Kara, O., Kaya, S., Akbayrak, T., Kerem Gunel, M., & Baltaci, G. (2016). The effects of connective tissue manipulation and Kinesio Taping on chronic constipation in children with cerebral palsy: a randomized controlled trial. *Disability and Rehabilitation*, 1-11.

**Check out our full list of [pediatric physical therapy resources](#) at [Your Therapy Source](#).**

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## [DANCE IMPROVES FUNCTION IN YOUNG PEOPLE WITH CEREBRAL PALSY](#)



*The American Journal of Physical Medicine and Rehabilitation* published the results of a randomized controlled clinical trial on the effects of dance in the functionality and psychosocial adjustment of 26 young people with cerebral palsy (GMFCS levels II to V). The participants were randomly chosen to complete 1 hour sessions,

two times per week, for a total of 24 sessions of either kinesiotherapy or dance. Each participant was evaluated with the Functional Independence Measure and World Health Organization Disability Assessment Schedule.

The results indicated that dance increased the classification of:

1. independence function
2. self-care
3. mobility
4. locomotion
5. communication
6. psychosocial adjustments
7. cognitive function

The researchers concluded that dance improved functionality and social activities regarding psychosocial adjustments in cerebral palsy young subjects.

Reference: Teixeira-Machado, Lavinia PT, PhD; Azevedo-Santos, Isabela PT, MD; DeSantana, Josimari Melo PT, PhD. Dance Improves Functionality and Psychosocial Adjustment in Cerebral Palsy: A Randomized Controlled Clinical Trial. *American Journal of Physical Medicine & Rehabilitation*. Published ahead of print 11/14/16 doi: 10.1097/PHM.0000000000000646.

Here are some additional resources to help children with cerebral palsy improve their function.



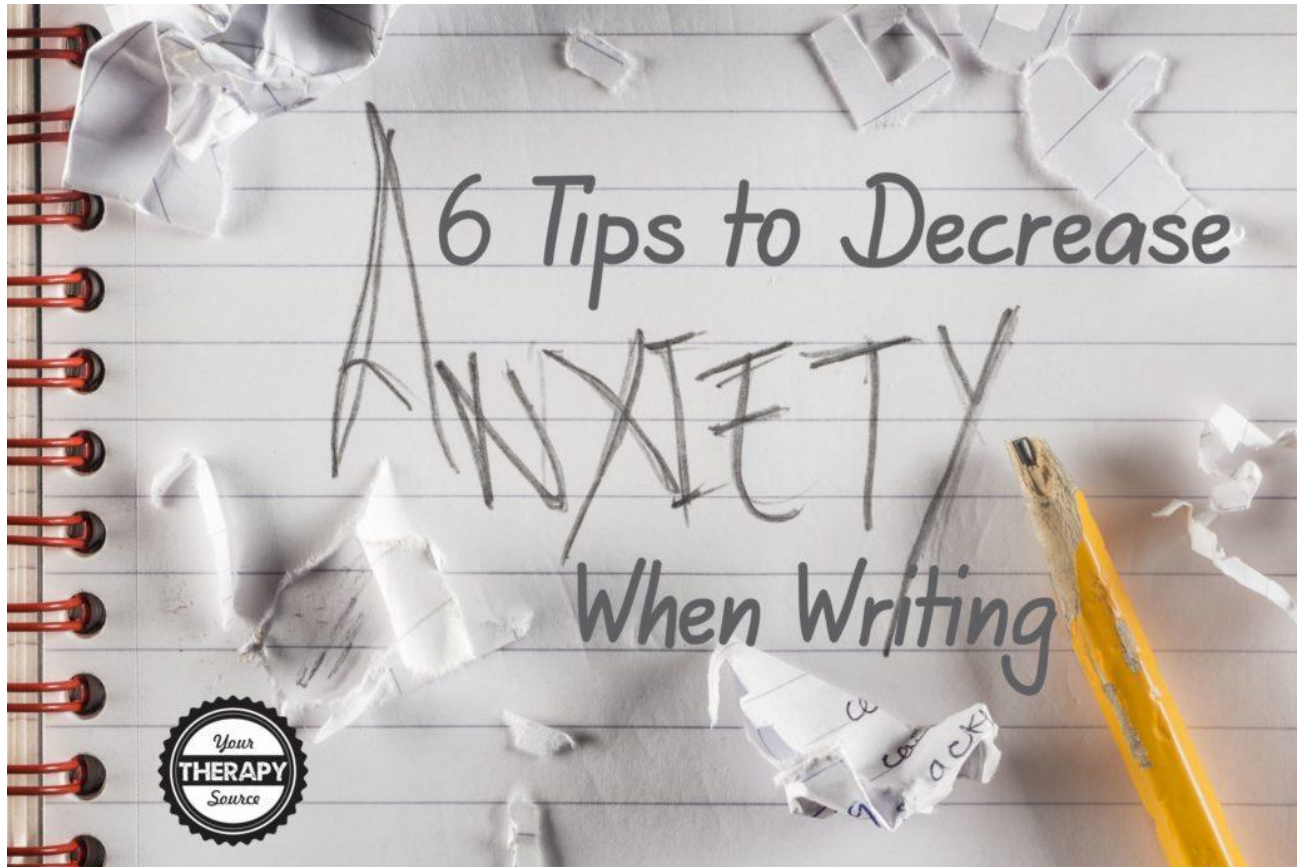
[Tuned Into Learning Volume 9 Adapted Dance & Movement Music CD Download](#)

[Teaching Motor Skills to Children with Cerebral Palsy](#)

[Tai Chi for Children](#)

[Play Move Develop](#)

## 6 TIPS TO DECREASE ANXIETY WHEN WRITING



Many students who struggle with handwriting and writing assignments may encounter feelings of anxiety and stress when faced with school assignments. Here are a few tips to help decrease anxiety with writing assignments:

**Try playing some background music.** According to Dr. David Lewis-Hodgson of Mindlab International, who conducted research on sound therapy and found that listening to that one song — “Weightless” — resulted in a 65 percent reduction in participants’ overall anxiety, and a 35 percent reduction in their usual physiological resting rates. You can listen to the complete 8 minute song on You Tube. You can even listen to it for [10 hours on You Tube](#) if you wish!

**Allow for free writing on the first draft.** Encourage the students to just write and not to erase. Don’t put too much pressure on the first draft just focus on getting your ideas and thoughts on the paper. Educate students that sometimes the first step is just getting ideas down and not to worry about proper grammar or spelling.

**Use highly engaging writing prompts.** Search for prompts that encourage students to share their lives, opinions, and prior knowledge.

**Share your writing when done.** Students can share writing with peers, small groups or teachers.

**Abandon the topic if necessary.** Just like sometimes we have to abandon reading a book, if you are bogged down by the writing process perhaps you need to tweak or abandon the topic to allow for improve written expression.

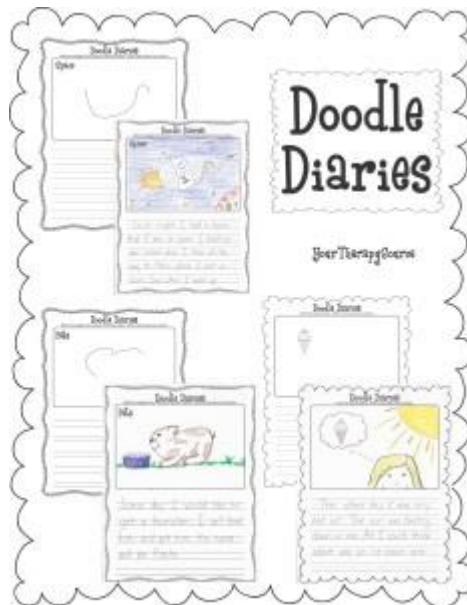
**Provide choices.** Whenever possible provide choices so the student can pick topics that are highly engaging and meaningful to him or her.

References:

Alber, Rebecca. New Teachers: Inspire Your Students to Write, Write, Write. Edutopia. Retrieved from the web on 11/15/16

at <https://www.edutopia.org/blog/new-teachers-inspiring-your-students-write-write-write-rebecca-alber>

Curtin, Melanie. Neuroscience Says Listening to This Song Reduces Anxiety by Up to 65 Percent. Inc. Retrieved from the web on 11/15/16 at <http://www.inc.com/melanie-curtin/neuroscience-says-listening-to-this-one-song-reduces-anxiety-by-up-to-65-percent.html>



Doodle Diaries includes 15 squiggle drawings and 25 doodles drawings to finish then write a story about your drawing. This download has two formats for the writing area – dotted lines or double lines. Use these drawing starters to encourage drawing and writing. [Find out more information.](#)

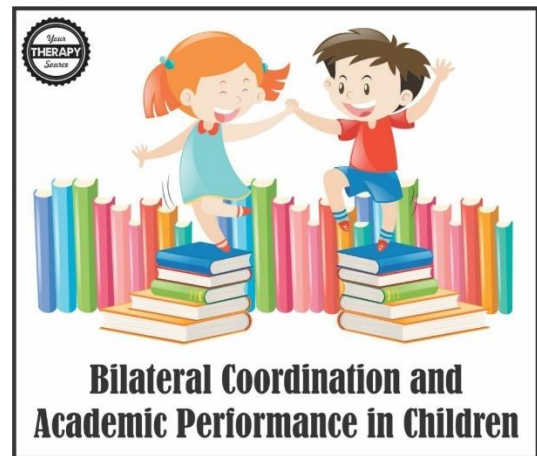
## BILATERAL COORDINATION AND ACADEMIC PERFORMANCE IN CHILDREN

*Pediatrics International* published research on 100 Brazilian children (ages 8-11 years old) evaluating interlimb coordination and its relationship to their academic performance. Each child was assessed with the Bruininks–Oseretsky Test of Motor Proficiency and the Academic Performance Test. Participants were grouped into low (<25%) and high (>75%) academic achievers.

The results indicated:

1. a significant difference between groups for Total Motor Composite on the Bruininks-Oseretsky favoring the high group.
2. a significant association between academic performance and Body Coordination.
3. from the subtests of Body Coordination (Bilateral Coordination and Balance), Bilateral Coordination accounted for the highest impact on academic performance.

Reference: Sheila Cristina da Silva Pacheco, Carl Gabbard, Lilian Gerdi Kittel Ries and Tatiana Godoy Bobbio. Interlimb coordination and academic performance in elementary school children. *Pediatrics International*. October 2016. DOI: 10.1111/ped.12972



[25+ Bilateral Coordination Exercises](#) is a collection of bilateral coordination exercise sheets including QR codes with links to video demonstration of exercises. A QR code is a black and white image with squares, that stores website links for reading by the camera on a smartphone. Each exercise page includes picture images and step by step directions of a whole body bilateral coordination exercise. Also included, is a link to a YouTube video with a demonstration of the exercise along with a slow motion video of the exercise. Parents, students or teachers can simply use a QR code reader app on their smart phone or tablet to go directly to the video demonstration.

These activities encourage: bilateral coordination, motor timing, motor planning, muscle strengthening and balance skills.

[FIND OUT MORE.](#)

## WILL MY CHILD WITH CEREBRAL PALSY WALK?



If you are a pediatric physical therapist who works with young children you have most likely been asked by parents “will my child with cerebral palsy walk?” Many times the response is based on evaluation results, clinical experience and research.

*Disability and Rehabilitation* published the results of a systemic review on 1123 identified articles on prognostic predictors for ambulation in children with cerebral palsy. Twelve articles met the inclusion criteria for qualitative synthesis and eight were appropriate for meta-analysis. Potential predictors for ambulation were the type of cerebral palsy, early motor milestones, primitive reflexes and postural reactions, absence of visual impairment, absence of intellectual disability, absence of epilepsy or seizure, and the ability to feed self.

Meta-analysis revealed four significant prognostic predictors for ambulation:

1. sitting independently at 2 years.
2. absence of visual impairment.
3. absence of intellectual disability.
4. absence of epilepsy or seizure.

Here is some additional research from *Physical Therapy* on 80 children with cerebral palsy (GMFCS levels II and III) ages 2-6 years. Postural control, reciprocal lower limb movement, functional strength, motivation and family support were all measured 7 months to one year prior to attainment of walking.

The results indicated the following:

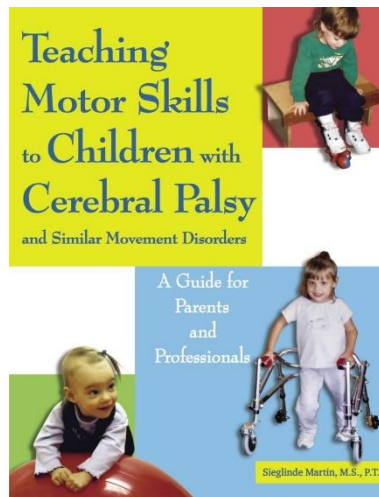
1. a measure of functional strength and dynamic postural control in a sit-to-stand activity was the only significant predictor of taking  $\geq 3$  steps independently.
2. the positive likelihood ratio for predicting a “walker” was 3.26, and the negative likelihood ratio was 0.74.
3. the model correctly identified a walker or “nonwalker” 75% of the time.

The researchers concluded that **the ability to transfer from sitting to standing and from standing to sitting predicted independent walking in young children with CP.** Additional studies were recommended to establish indicators of when children with CP are ready for independent walking.

References:

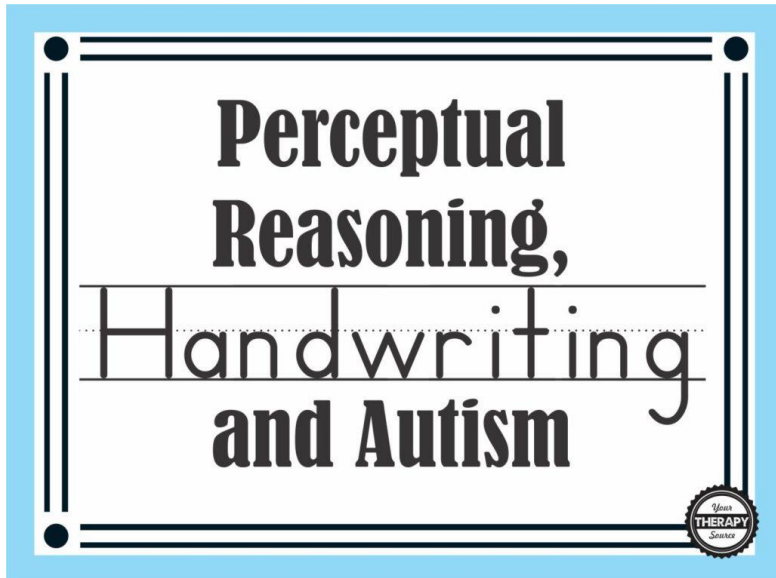
Denise M. Begnoche, Lisa A. Chiarello, Robert J. Palisano, Edward J. Gracely, Sarah Westcott McCoy, and Margo N. Orlin. Predictors of Independent Walking in Young Children With Cerebral Palsy. *PHYS THER* February 2016 96:183-192; published ahead of print June 18, 2015, doi:10.2522/ptj.20140315

Orawan Keeratisiroj, Nuanlaor Thawinchai, Wantana Siritaratiwat, Montana Buntragulpontawee, and Chayanin Pratoomsoot. Prognostic predictors for ambulation in children with cerebral palsy: a systematic review and meta-analysis of observational studies. *Disability And Rehabilitation*. Published online: 16 Nov 2016 at <http://dx.doi.org/10.1080/09638288.2016.1250119>



[Teaching Motor Skills to Children with Cerebral Palsy and Similar Movement Disorders – A Guide for Parents and Professionals](http://yourtherapysource.com/CPmotorskills.html) By: Sieglinde Martin M.S., P.T.  
FIND OUT MORE AT <http://yourtherapysource.com/CPmotorskills.html>

## PERCEPTUAL REASONING, HANDWRITING AND AUTISM



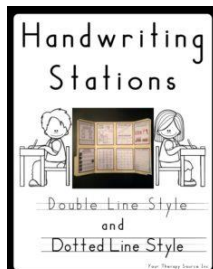
*Neurology* published research on a small study consisting of 24 adolescents, half with autism and half without autism. Using the Minnesota Handwriting Assessment Test, intelligence test and Physical and Neurological Examination for Subtle (Motor) Signs (PANESS), the researchers found that the adolescents with autism showed worse overall scores on [handwriting](#) just like younger children with autism exhibit. Previous research indicated that in younger children

with autism, motor skills (e.g., timed movements) predicted [handwriting](#) deficits. In this study, it was found that the perceptual reasoning skills were significantly predictive of handwriting skills where motor skills were not. One of the researchers, Dr. Bastian states:

“Our research suggests that adolescents with autism may be able to learn and utilize compensatory strategies that involve reasoning skills to compensate for their motor impairments.”

Perceptual reasoning is the ability to reason and solve problems when non verbal material is presented. Just like occupational therapists and teachers offer [environmental modifications](#) for handwriting such as pencil grips remember to consider how the material to be written is presented. Try modifying the work to assist a student’s perceptual reasoning by changing the font type or size, reorganizing material or reducing visual distraction on the page or shorter assignments.

Reference: Kennedy Krieger Institute. New Study Affirms Handwriting Problems Affect Children with Autism into the Teenage Years. Retrieved from the web on 11/23/2016 from <https://www.kennedykrieger.org/overview/news/new-study-affirms-handwriting-problems-affect-children-autism-into-teenage-years>



[Handwriting Stations](#) digital download includes the materials to create a handwriting station on a tri-fold or in a folder. The station includes proper letter formation for capital and lower case letters, correct posture, pencil grip, warm up exercises, letter reversals tips and self check sheet. [FIND OUT MORE INFORMATION.](#)



## BLOCK PLAY AND SPATIAL AWARENESS

Developing the skills to express and understand spatial skills are the first step in understanding spatial ability and awareness such as math skills, visual perceptual skills and [body awareness](#).

*Child Development* published research on the importance of block play in over one hundred preschoolers. The children in the study who were better at [copying block patterns](#) were also better at early math skills.

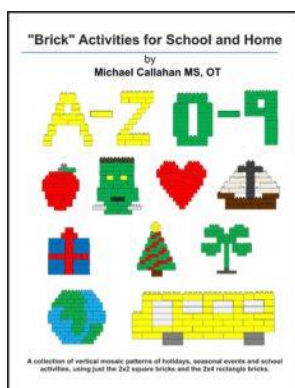
Copying block patterns consisted of knowing whether a block went above or below with the blocks properly aligned. The results also indicated that children from lower income families were already falling behind in visual spatial skills due to limited experiences with blocks or other toys that encourage visual spatial development. Parents of lower income children also reported using the words “above” or “below” less often.



A study in *Mind, Brain and Education* indicated that [playing with blocks](#) helps children to understand spatial concepts such as over, around and through. The researchers found that parents who participated in guided block play with their children had significantly higher proportions of spatial talk. Guided block play consisted of playing with the blocks along with guided instructions for how to build different structures.

References: Fisher, K. Interactive play develops kids’ spatial skills. Temple University. Retrieved from the web on 11/3/11 at <http://news.temple.edu/news/interactive-play-develops-kids-spatial-skills>

Society for Research in Child Development. “A child’s spatial and math thinking likely improved simply by playing with blocks.” *Medical News Today*. MediLexicon, Intl., 27 Sep. 2013. Web. 11 Oct. 2013.



[“Brick” Activities for School and Home](#) – “Brick” Activities for Home and School is a collection of activities to use with LEGO® type building blocks. These two dimensional, vertical patterns are easier to complete than your typical 3D LEGO® patterns. Create numbers, alphabet and seasonal objects. You will only need LEGO® style 2×2 and 2×4 size blocks to use the patterns. Also includes tips for data collection and step by step tutorial on how to make your own brick patterns using Word. [Find out more information.](#)

## RECESS AND EXECUTIVE FUNCTIONING SKILLS



*Pediatric Exercise Science* published research examining the effects of a physical activity program including both aerobic exercise and cognitively engaging physical activities on children's physical fitness and executive functions. Children from elementary school were divided into two groups – intervention (53 children) and control (52 children). The intervention group participated in a 22-week physical

activity program for 30 min during lunch recess, twice a week. Children in the control group followed their normal lunch routine. Aerobic fitness, speed and agility, and muscle strength were assessed using the Eurofit test battery. Executive functions were assessed using tasks measuring inhibition (Stroop test), working memory (Visual Memory Span test, Digit Span test), cognitive flexibility (Trailmaking test), and planning (Tower of London).

The results indicated the following:

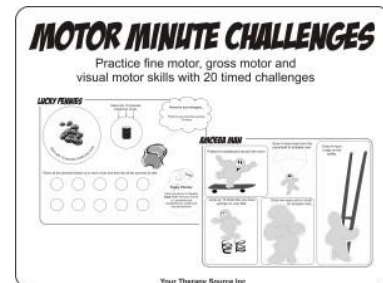
1. children who participated in the cognitively engaging aerobic exercise program showed significantly greater improvement than children in the control group on the Stroop test and Digit Span test, indicating improved inhibition and verbal working memory skills.
2. no differences were found on any of the physical fitness variables.

The researchers concluded that a physical activity program including aerobic exercise and cognitively engaging physical activities can enhance aspects of executive functioning in primary school children.

Reference: van der Niet, Anneke G.; Smith, Joanne; Oosterlaan, Jaap; Scherder, Erik J. A.; Hartman, Esther; Visscher, Chris. Effects of a Cognitively Demanding Aerobic Intervention During Recess on Children's Physical Fitness and Executive Functioning. *Pediatric Exercise Science*. Feb2016, Vol. 28 Issue 1, p64-70. 7p. 2 Charts.

[Motor Minute Challenges](#) is an electronic book of 20 sheets to complete that encourage fine motor, visual motor and gross motor skills. These pages are great for challenges at home, indoor recess time and rainy day activities. [Find out more information.](#)

Read the archives for [more articles on the benefits of recess.](#)



## TOP 10 BLOG POSTS FROM 2016



I always find it interesting to go back and see what were the top 10 Your Therapy Source blog posts from the previous year. So hopefully you will enjoy seeing what everyone else is reading.

Here you go....the TOP 10 YOUR THERAPY SOURCE BLOG POSTS FROM 2016:

10. [Five Gross Motor Activities for Small Spaces](#)
9. [Ten Activities to Work on Hand Strengthening](#)
8. [26 Calming Strategies for the Classroom](#)
7. [Three Group Games to Work on Self Regulation](#)
6. [Self Improvement Worksheet](#)
5. [Norms for Core Strengthening in Children](#)
4. [Five Tips to Help Children Develop Body Awareness](#)
3. [Writing SMART Goals for OT and PT](#)
2. [Gross Motor Skills and Handwriting](#)
1. [Self Regulation Activities](#)

HAPPY NEW YEAR EVERYONE!

## LESS MOVEMENT = HARDER TO READ FOR BOYS

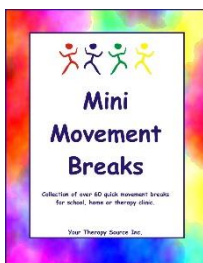


The *Journal of Science and Medicine in Sport* published research on the association of moderate-to-vigorous physical activity (MVPA) and sedentary time (ST) with reading and arithmetic skills in 89 boys and 69 girls aged 6–8 years. MVPA and ST were assessed by monitoring heart rate, using a movement sensor and measuring body fat percentage. Reading fluency, reading comprehension, and arithmetic skills were evaluated using standardized tests in Grades 1–3. Data analysis revealed the following:

- for boys, MVPA was directly and ST inversely associated with reading fluency in Grades 1–3 and arithmetic skills in Grade 1.
- for boys, higher levels of MVPA were also related to better reading comprehension in Grade 1.
- for boys, a combination of lower levels of MVPA and higher levels of ST had consistently poorer reading fluency and reading comprehension across Grades 1–3.
- for girls, ST was directly associated with arithmetic skills in Grade 2. However, this relationship of ST with arithmetic skills was no longer significant after adjustment for body fat percentage.

**The researchers concluded that lower levels of moderate to vigorous physical activity, higher levels of sedentary time, and particularly the combination of the two, were related to poorer reading skills in boys.**

Reference: Haapala, Eero A., et al. "Physical activity and sedentary time in relation to academic achievement in children." *Journal of Science and Medicine in Sport* (2016). DOI: <http://dx.doi.org/10.1016/j.jsams.2016.11.003>



**Mini Movement Breaks** This download is a collection of 60+ quick sensory motor activity cards. The mini movement breaks are quick and require no equipment. The movement breaks can be done indoors. Most of the movement breaks can be done with one child or a group of children. It does not get any easier than this to encourage sensory motor activities in the classroom or home. [Find out more information.](#)

## THREE HANDWRITING GAMES TO PRINT AND PLAY



Handwriting practice is essential for improvement but it can get boring and kids become disinterested. Try adding some fun to your handwriting practice with these 3 FREE handwriting games to just print and play. No prep required!

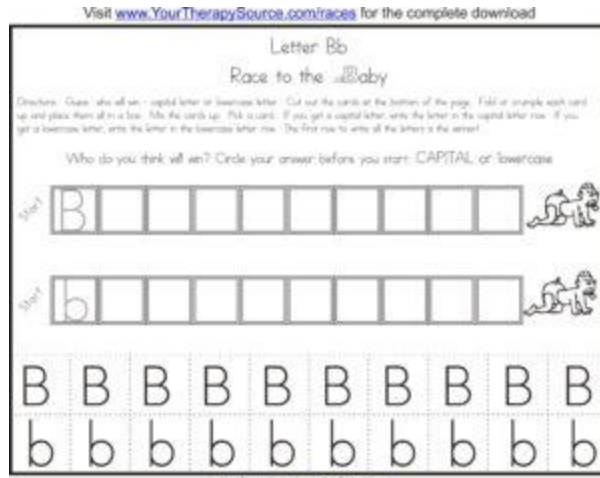
Visit [www.YourTherapySource.com/categories](http://www.YourTherapySource.com/categories) for the complete download

Top 10	Things in a School
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____
6. _____	_____
7. _____	_____
8. _____	_____
9. _____	_____
10. _____	_____

**Category Games Freebie:** PLAYERS: 1+ OBJECT OF GAME: Top 10 – List 10 words for each category card. SET UP: Print the Top 10 recording sheets the category cards. Cut apart the category cards. The single lined recording sheet is included in the freebie. If you do not want to write the words, grab a hole punch. Punch out the number in the category card each time you say a word from the category. If you don't have a hole punch, color in each circle. [Download the freebie here.](#)

**Let's Hang Out – Doggy Hangman:** Play hangman, practice writing letters and learn how to draw all at the same time! [Download the Doggy Hangman freebie here.](#)

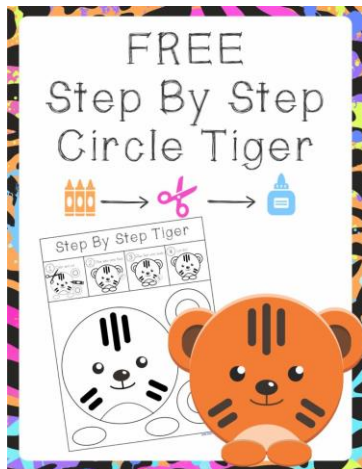
Player one has to think of a word. Guess each egg (until that you do not need)	Doggy Hangman	Player two has to guess the word before player one draws the doggy.						
B	a	e	b	a	i	i	x	x
If a player picks a letter that is not in the word, draw a portion of the doggy.								
Trace any letters below that are present that are not in the word.								
Aa	Bb	Cc	Dd	Ee	Ff			
Gg	Hh	Ii	Jj	Kk	Ll			
Mm	Nn	Oo	Pp	Qq				
Rr	Ss	Tt	Uu	Vv				
Ww	Xx	Yy	Zz					



Letter Races B versus b: Cut apart the cards, practice writing B and b to see who will win the race! Download the [Letter Race Bb page](#) from the [Letter Race packet](#).

## STEP BY STEP TIGER CIRCLE SCISSOR PROJECT – FREE

Here is a free step by step tiger circle project (download link at bottom) from the digital packet, [Step By Step Circle Animals](#). Just print this NO PREP activity and get started.



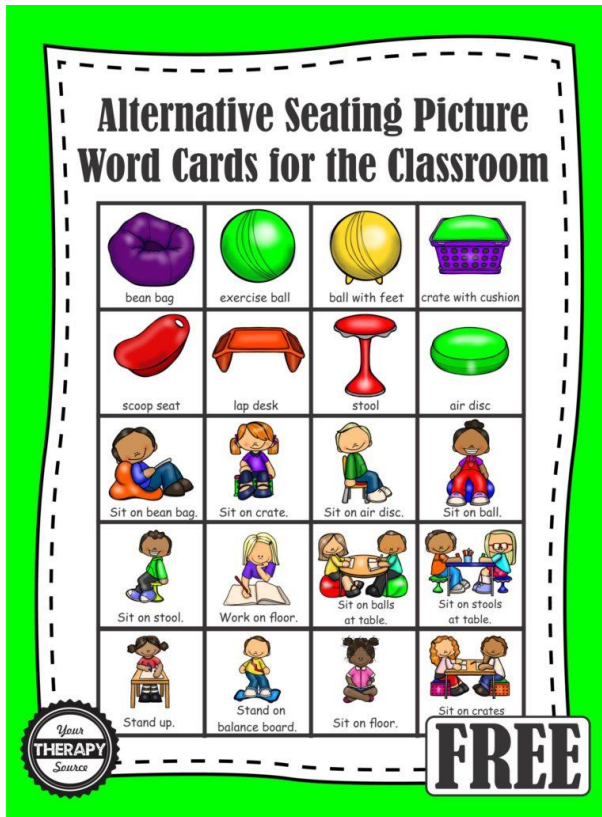
Color the circles. Cut out the circles. Glue the animal together and your tiger is complete! Super cute and wonderful scissor practice and following directions.



[Download the free Tiger Circle Scissor Project.](#)

## 20 ALTERNATIVE SEATING PICTURE WORD CARDS

Do you suggest or use alternative seating to keep children alert and focused in the classroom? Here are 20 FREE picture word cards for alternative seating in the classroom. Scroll down to download your 20 alternative seating picture word cards for free. It includes the following alternative seating picture word cards:



1. bean bag
2. exercise ball
3. exercise ball with feet
4. crate with cushion
5. scoop seat
6. lap desk
7. stool
8. air disc
9. sit on bean bag
10. sit on crate
11. sit on air disc
12. sit on ball
13. sit on stool
14. work on floor
15. sit on balls at table
16. sit on stools at table
17. stand up
18. stand up on balance board
19. sit on floor
20. sit on crates at table

These visuals are an excellent complement to:

[Wiggle Worms: A Guide to Alternative Seating for the Classroom](#) digital download which includes all of the resources you need to begin implementing alternative seating strategies in a classroom. [Find out more information.](#)

[Cut and Paste Sensory Diet](#) includes 2 sensory diet books, one for home and one for school and over 150 picture word cards to reinforce sensory diets at home and at school. [Find out more information.](#)

[DOWNLOAD 20 ALTERNATIVE SEATING PICTURE WORD CARDS FOR THE CLASSROOM – FREE.](#)

## PROPER POSITIONING FOR KEYBOARDING RUBRIC



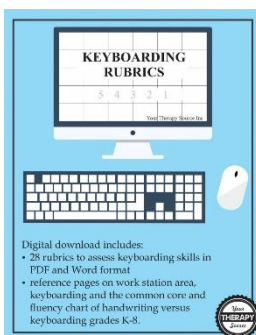
Here is a free rubric on the proper positioning for keyboarding from the [Keyboard Rubrics digital download](#). School based occupational and physical therapists are frequently involved in evaluating positioning needs in the schools including computer stations. With more and more children spending countless hours in front of a computer screen, proper positioning is essential to prevent long term complications with posture or overuse injuries.

A rubric is a scoring guide to judge performance on a specific task. A skill is broken down into different components and a numerical value is given to each component. The performance is then scored by totaling the sum of the numerical values. Rubrics are used as assessment tools to evaluate an individual’s ability to complete a task which in this case is maintaining proper positioning at the computer.

This rubric evaluates head position, back support, elbow position, wrist position, finger position, hip position, knee position, legs and feet.

Download [Proper Positioning for Keyboarding Rubric as a PDF document](#)

Download [Proper Positioning for Keyboarding Rubric as a Word document](#)



[Keyboarding Rubrics](#) digital download includes 28 rubrics to assess keyboarding skills in PDF and Word format. Also includes 3 references pages on work station area, keyboarding and the common core and fluency chart of handwriting versus keyboarding K-8. [Find out more information.](#)



## TROLL YOGA POSES

With the popularity of Trolls in full swing right now, I thought the kids would enjoy some Troll yoga poses. These Troll yoga poses are beneficial to increase focus, concentration, balance, core strengthening and relaxation. Download your free Troll yoga poses below.

Here are the directions to complete the yoga poses:

### **Tree Pose –**

1. Find a point to focus on with your eyes. Place your right foot on the inner part of your left leg. Steady your balance.
2. Bring hands together (prayer hands) at chest and slowly lift overhead. Hold the position.
3. Repeat switching legs.

### **Warrior 1 Pose –**

1. Stand with the feet together and arms at side.
2. Step back with the right foot back about 3 feet and bend the front, left knee. The left knee should be directly over the left ankle. The right foot should be flat, heel down and turned out. The feet should be about hip distance apart.
3. Lift both hands overhead. Reaching up with the fingertips toward the sky. Keep the shoulders relaxed and down.
4. Take several deep breaths while reaching up, stretching and lengthening the back.
5. Step the right foot back up to the left foot returning to feet together, arms at side.
6. Repeat on the other side beginning by stepping back with the left foot.

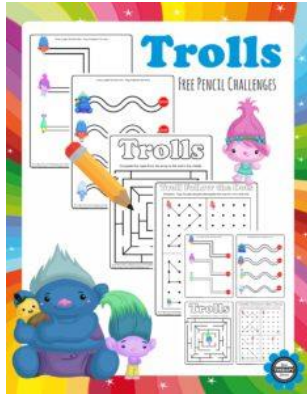
### **Warrior 2 Pose –**

1. Start in a downward dog or mountain pose. Bring the right leg forward, bend the right knee and extend the left leg back. Place the right foot flat on the floor so that the legs are in a lunge position.
2. Move into standing, reach the right arm forward and the left arm back at shoulder height. Keep the front leg directly over the ankle.
3. The shoulders and hips should be facing the left with the back elongated. The shoulders should be directly over the hips. The head should be turned forward and maintain a focus point with the eyes.
4. Introduce self confidence at this point in the pose. Repeat positive affirmations such as “I am strong”, “I am confident” or “I can remain focused”. Take several deep breaths.
5. Reverse the feet and repeat the pose.



## Lotus Pose –

1. Sit on the floor with the legs stretched out in front of you and keep the back straight.
2. Bend the right knee and place it on the left thigh. The bottom of the foot should point upward and the heel should be close to the belly.
3. Bend the left knee and place it on the right thigh. Remember to keep the bottom of the foot up and the heel next to the belly.
4. Keep the back straight and put the hands, palms up, relaxing on the knees or bring the hands together and chest level.
5. Hold the lotus pose and take deep, gentle long breaths in and out.



[DOWNLOAD your FREE Troll Yoga Pose page.](#)  
[Download your free Troll Pencil Challenges 4 Page packet](#)

## Need more yoga ideas for kids?

