Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

OCCUPATIONAL THERAPY CLASSROOM RESOURCE PACK FOR PRIMARY SCHOOLS

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Contents

Purpose of the pack

This resource pack was designed by the Cork North Lee Primary Care Occupational Therapy Department to offer tips and advice to primary school staff on how to manage a child's early functional difficulties in school. The aim is to help identify why the child is having difficulty with a particular activity and to provide some ideas on how to deal with them.

We would advice that the child is supported to carry out the strategies and activity ideas offered in this pack for a minimum of three to six months prior to evaluating the outcome. Following this time if the child continues to find the activity difficult, it may be appropriate for the child to be referred to the occupational therapy team. When completing the referral to occupational therapy, please complete the "record of activities tried" form provided on page X and attach to the referral form.

***Please note:* that these activities are just suggestions; some may work, others may not. Should any child respond negatively to any of the included activities, please discontinue immediately.**

Please feel free to contact us if you have any questions, comments or suggestions about the pack. We would be grateful if you could kindly complete the feedback form (pg. 37) when you have used the pack. This would help us to make any necessary improvements.

SECTION ONE:

SENSORY – MOTOR SKILLS

ADVICE SHEETS

IMPORTANT: PRECAUTIONS ARE TO BE TAKEN WHEN ENGAGING A CHILD IN ANY OF THE FOLLOWING LISTED ACTIVITIES. WE DO NOT RECOMMEND DOING THESE ACTIVITIES WITH A CHILD WHO MAY REACT BADLY AND/OR WHERE A SAFE ENVIRONMENT IS NOT POSSIBLE

Developmental Milestones

5 – 6 years of age

Gross motor skills	▪ Walks up and down stairs alternating feet ▪ Throws a ball approximately at a target ▪ Adjusts body to catch a ball ▪ Jumps forward and hops forward several times ▪ Kick a rolling ball, making successful contact ▪ Runs smoothly with changes in speed and direction
Fine motor skills	▪ Threads small beads ▪ Uses a scissors to cut along a square or triangle ▪ Holds a pencil with a dynamic pencil grasp (quadrupod grasp or tripod grasp) ▪ Copies shapes including "▲", "⁋", "+", "X" ▪ Draws a person with 6-8 parts
Self-care skills	▪ Uses cutlery independently ▪ Dresses and undresses self manipulating buttons and zips ▪ Independent with toileting ▪ Brushes teeth and hair independently

Introduction to Sensory Integration

What is Sensory Integration?

We learn about and experience the world around us through our senses. Essentially Sensory Integration is the organisation of sensation for use. Our body receives information from our senses and we use this information to understand what is happening around us, to know what we need to do and to plan how we should do these things. Our brain's ability to organise the information from our senses is essential to successfully function in all aspects of daily life – at home, at school, at play, at work and engaging with others.

We have 7 senses:

1. Hearing –We use our auditory system to identify the quality and directionality of sound. Our hearing plays a key role in our ability to listen to instructions and follow verbal commands.
2. Vision – Our sight and vision allows us to interpret what we see. It is critical in recognising shapes, colours, letters, words and numbers. It has close links with the vestibular system for our posture and it plays a key role in eye-hand coordination.
3. Taste – The gustatory system allows us to enjoys tastes of food. It has a key role our diets and our food preferences.
4. Smell – The olfactory system allows us to notice pleasant and unpleasant smells. It is linked closely with the gustatory system.
5. Touch – The tactile system is information from the skin on the body and in the mouth. It allows us to be aware of and interpret different types of touch e.g. deep pressure, pain, temperature, light touch. It provides information about the shape, size and texture of objects in the environment.
6. Proprioception – Proprioceptive sensors in the muscles, joints, tendons and ligaments provide unconscious awareness of where the body is in space. It is sometimes referred to as body awareness. It is essential in helping our bodies process both movement (vestibular) and touch (tactile) information. Children who have difficult processing proprioceptive input have trouble grading and planning their movements and regulating their level of arousal.
7. Vestibular - The vestibular system of the inner ear provides information about the position and movement of the head in relation to gravity. It is the foundation of our balance and posture for movement.

What are Sensory Processing Difficulties?

For most people sensory integration develops in the course of ordinary childhood activities. For some people, sensory integration does not develop as efficiently as it should. Sensory Processing Difficulties describe the difficulty some people's nervous systems have with taking in, integrating and making use of sensory information. This changes how the person then responds to changes in their own body, the environment and how they interact with it and others around them.

Sensory processing difficulties can occur across the lifespan. They can been seen in isolation or in combination with other diagnoses - including Autistic Spectrum Disorders, Attention Deficit, Learning Disabilities and Developmental Coordination Disorder.

Sensory Modulation

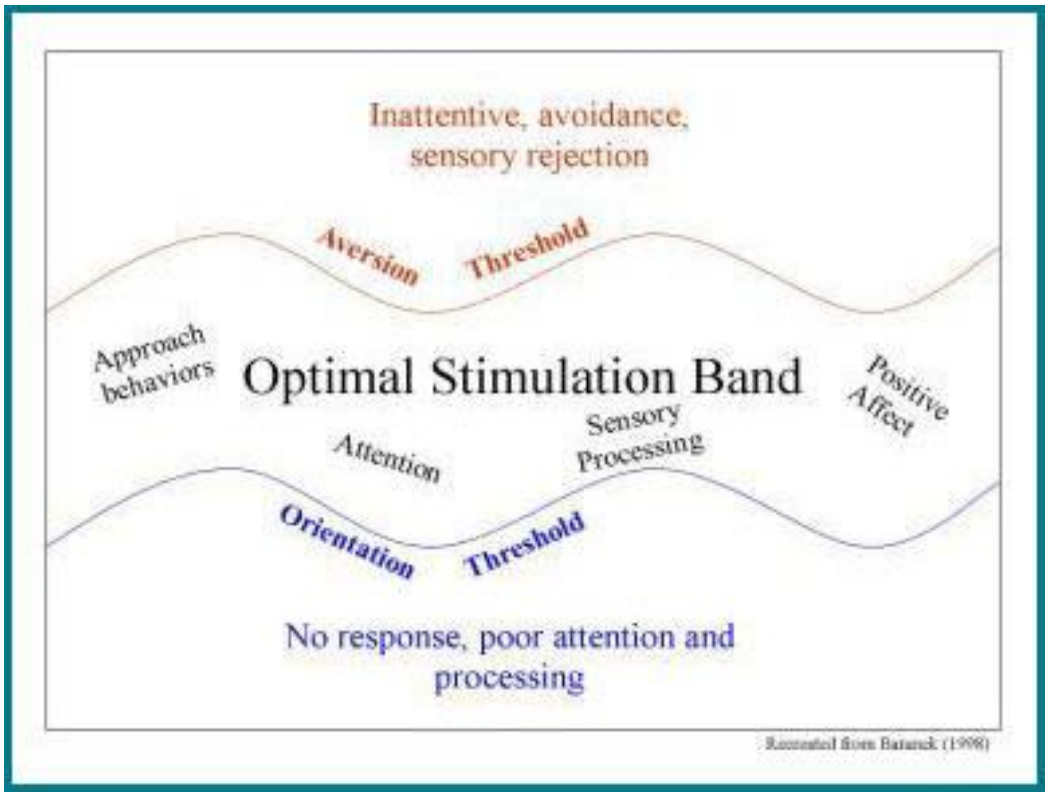
Sensory modulation is the ability to regulate and organise reactions to sensory input in a graded and adaptive manner. We all respond to sensory information differently. This is individual to each person and is impacted by many factors including tiredness, stress and illness. Our sensory modulation can be observed in our arousal levels.

A child with difficulty in sensory modulation may show the following:

- A defensive response to certain types of sensory input i.e. light touch, certain types of movement, loud noises
- Difficulty switching off to get to sleep
- Difficulty "getting going" in the morning and/or may seem lethargic
- Difficulty making transitions from one activity to another
- An over-emotional response to change in routines
- Move quickly from one activity to another, dabbling and not finishing things
- Seem to move and fidget a lot
- Seem passive and need a lot of prompting and encouragement to participate

Specific sensory activities targeting vestibular and proprioceptive sensory processing can help to improve a child's arousal levels for school and home. It is important to consider the individual child when using sensory based activities to support the child's arousal. Consider:

1. Individual preferences and needs of the child
2. What type of sensory input does the child need? Remember if unsure Proprioceptive/ Deep pressure activities are a safe place to start for most children
3. When, how much and how often should we do the activities? How much input and how many times during the day and at what time?



Vestibular Activities for Movement Breaks

Movement Activities

These activities activate the vestibular system. The vestibular system is the child's perception of movement due to the inner ear being activated and the position of the head being changed. These vestibular stimulating activities must be done with caution and calmly so as to prevent the child from falling or bumping their head.

Children may not be able to tell you if they are hurting/feeling sick/disliking an activity so be cautious. These activities most often alert and organise the mind and body, but they can also over alert.

To avoid over alerting, follow these activities with proprioceptive activities.

Rolling Games

- Roll along the ground on different surfaces. Encourage the child to roll faster.

Ball Games

- Bouncing on the gym ball
- Rocking body on ball either facing down on ball or with back on ball
- Jumping with space hopper/ hippity hop balls

Trampoline Workout

- Stand on trampoline and jump on it
- Run on the spot on the trampoline

Playground

- Seesaw
- Going down the slide

Other ideas

- Action Songs like "Row your boat", "Rock the boat", "ring a Rosie" that involve singing and rocking in a circle moving back and forth, sideways.
- Running and changing direction in play – negotiating cones, play on uneven surfaces

Proprioceptive Activities for Movement Breaks

Proprioceptive input is the performance of tasks that involve heavy resistance and input to the muscles and joints.

Heavy work activities include:

- Whole body actions involving pushing, pulling, lifting, and moving
- Oral actions such as chewing, sucking and blowing
- Use of hands for squeezing, pinching or fidgeting

This resistive input obtained through heavy work activities is generally organising and can improve attention, arousal level, body awareness and muscle tone, as well as decreasing defensiveness. These activities involve muscle effort. The effort and resistance activities of push/pull/pressure are calming.
Deep Pressure activities with tactile sensory input is also beneficial. These activities act to calm and settle the child's nervous system and behaviour. Use these as a get ready, refocus or transition strategy.

Try to follow a movement activity which is alerting with a proprioceptive activity which is calming. This is a nice mix and helps in achieving a good arousal level for engagement.

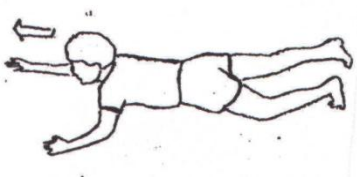
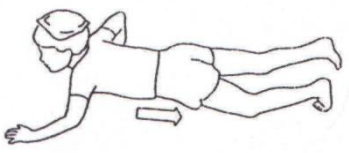
Seated activities

- Theraputty play – Roll, pinch, squeeze, pull
- Use a "Move n' Sit" cushion.
- Use quiet squeeze toys that won't distract others
- Chair push-ups
- Have snacks for lunch that are chewy or crunchy
- Sip from a water bottle with a straw, curly straw or sports bottle

Whole body activities

- Stack Chairs or place chairs on desks at the end of the day or take down at the beginning of the day
- Wash desks and/or chalkboard/dry erase board
- Help rearrange desks in the classroom
- Hideaway: Use towels, sheets, blankets, and other materials to make a hideaway in the classroom. Use heavy blankets to increase resistance.
- Wall push ups
- Tug of war games (e.g. in high kneeling or standing)
- Animal walks (e.g. crab walk, duck walk, commando crawling- see below pictures) Please refer to page 38 of pack for full list and details of animal walks.



Body Awareness

Body Awareness refers to the awareness of our body parts and knowing where our body is in space. Body Awareness is the foundation on which children learn to coordinate their body parts and move through space and about objects in their environment.

Children who do not have adequate body awareness may appear awkward in their movement, have difficulty judging force and frequently have difficulty with gross and fine motor activities that require subtle changes in posture, strength, force or dexterity. Poor body awareness can also cause difficulty with daily tasks e.g. if a person is unsure where their leg is it will make it very difficult to put their foot into a pair of tracksuit bottoms.

The following activities may help to improve a child's body awareness:

- Play **Simon Says** and have a child imitate your movements or respond to verbal directions e.g. wiggle your fingers/ toes, shrug your shoulder, nod your head, stomp the right foot, shake the right leg, bend the left elbow etc.

- Place **floor spots (or stepping stones)** along the floor at varying distances apart. Child is to jump along adjusting their body for the changes in distance

- **Criss-cross walking**- spread a long rope along the floor (or piece of tape) and get the child to walk along with left foot stepping to the right side of the rope and right foot stepping to the left side of the rope

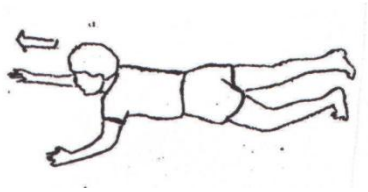
- **Ball pass**- Get the child to pass a ball around their body. Adult to reinforce "over", "around", "behind", "under", "through"

- **Obstacle courses** e.g. crawl over/ under/ through an object or propelling oneself (using arms only) around objects whilst lying on the tummy on a scooter-board or wide skateboard

- **Throwing a beanbag to a target** placed at different distances where the child needs to grade the force of the throw in order to reach the target

- **Animal walks**- Child to adopt animal positions and move as an animal does e.g. crab walking, commando crawling or duck walking (see below pictures). Please refer to page 38 of pack for full list and details of animal walks.

Crab Walking



Commando Crawling

Duck Walks

Motor Coordination

Motor Coordination refers to the ability to smoothly execute a task. It involves a number of underlying skills including eye-hand coordination and eye-foot coordination.

Children with poor motor coordination may have difficulties with catching a ball, kicking a ball, running smoothly and being able to change direction during running.

The following activities may help improve a child's motor coordination:

- Catching and throwing a ball
- Throwing a beanbag or ball at skittles, into a bucket/ basket or at a wall target
- Playing with bubbles e.g. popping bubbles with the hand, catching bubbles on a wand, kicking the bubbles with one foot
- Kicking a football around obstacles to a goal
- Stepping stone games where the child has to walk or jump onto stepping stones to cross the floor
- Hopscotch
- Playing a game of basketball

Bilateral Integration

Bilateral Integration is an important foundation for development of all coordination. It refers to the ability to use both the right and left sides and the upper and lower body together in a coordinated fashion.
Most hands skills require a degree of bilateral integration. In fact most activities that we do every day require the coordinated use of different parts of the body, including very basic tasks like walking, dressing, feeding to more complex tasks like cycling or tying shoe laces. Handwriting requires asymmetrical bilateral co-ordination as each upper limb is involved yet each upper limb has a different pattern of activity.

Identifying a difficulty with bilateral integration:

- Children with poorly established hand dominance
- Children struggling with handwriting
- Children with a lot of difficulty with dressing
- Children who struggle in PE
- Difficulty using non-dominant hand to stabilise page during writing

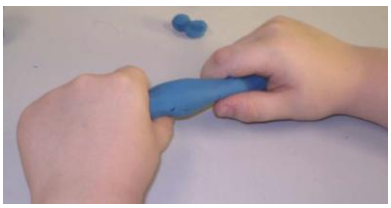
Activities to improve bilateral integration:
When trying to improve a child's bilateral coordination /integration it is best to start at a basic level. (Please refer to crossing the midline and handedness sections also).

Gross motor:

- Ball Rolling – for a child who is having a lot of difficulty with bilateral integration. Start with a child rolling a large therapy ball to and from an adult.
- Batting a large ball – get a tennis racket or similar item and ask the child to hold it with both hands while they hit back a large therapy ball rolled to them.
- Ball Catching –starting with a large ball move down to smaller balls. Be sure to throw both in the midline and then throw from side to side.
- Move to a small ball/bean bag which can be caught with one hand, remember to throw to both sides of the body (this is a high level skill).
- Cycling
- Jumping Jacks or half jumping jacks where hands are kept on the hips. The rhythm is very important when doing jumping jacks so be sure that the child is pairing their jumps (in and out)
- Stride jumps with right arm and left leg alternating with left arm and right leg
- Swimming

Fine motor:

- Paper tearing
- Paper weaving
- Figure of 8's
- Cutting
- Paper folding
- Sharpen pencils
- Unscrew/screw jars, lids
- Threading/beading
- Opening closing zip lock bags
- Lego



Motor Planning

Motor Planning or praxis is the ability of the brain to conceive, organise and carry out a sequence of unfamiliar actions. A child who has motor planning difficulties will demonstrate difficulty with carrying out new movements even though there is an adequate motor and conceptual capacity to do so. This can become quite frustrating for the child.

Praxis is believed to be a single function involving three processes:

1) Coming up with an idea
2) Getting a plan and
3) Doing the action

Identifying a difficulty

- Motor Planning difficulties can manifest in different ways. A child can have difficulties with just specific tasks or with everything.
- It will take a child with motor planning difficulties (dyspraxia) a long time to learn a new skill. They often get very muddled when doing a task.
- Following instructions is hard for a child with motor planning, especially if there are multiple steps.
- Such difficulties often contribute to feelings of low self esteem as a child often "knows" what to do but cannot get their body to move how they want it to. It can be very frustrating for a child.

Activities to improve motor planning:

It is important to remember that when a child has difficulties with motor planning it does not mean that they cannot do/learn a task. It means that it will take them much longer to learn it. For example an average child learning to tie a shoe lace may need 20 practice goes, a child with motor planning difficulties will require maybe 50 or 70 practice goes but when they have learnt the skill. There is no reason why they cannot be very good at that skill. Therefore, the instruction and example a child gets when learning is key to success.

1. Give very clear instruction.
2. Where possible give a physical example.
3. Consider if you should include or exclude information from your instruction.
4. Visual instruction like a graph or picture schedule can be very helpful.
5. When a child is learning a new skill assume that he will take longer to learn it and give him extra time to practice. Explaining this to a child may be helpful.
6. Give a child a strategy to help remember multiple step commands (repeating back the key words)
7. Help the child to identify steps and to be able to sequence those steps. It will help if the child visualises, verbalises and writes down exactly what the steps and sequence of steps are.

SECTION TWO:

FINE MOTOR SKILLS / HANDWRITING /SELF-CARE SKILLS

ADVICE SHEETS

IMPORTANT: PRECAUTIONS ARE TO BE TAKEN WHEN ENGAGING A CHILD IN ANY OF THE BELOW LISTED ACTIVITIES. WE DO NOT RECOMMEND DOING THESE ACTIVITIES WITH A CHILD WHO MAY REACT BADLY AND/OR WHERE A SAFE ENVIRONMENT IS NOT POSSIBLE

Arm and Shoulder Girdle Strengthening

Children need to have stability at the trunk and shoulders so they can use their hands effectively. Think of a crane or a large digger where your hand is the end part of the crane or digger i.e. the grasp part, which is dependent on all the other parts being secure and firmly under control. Otherwise whatever you do with that hand, it will be very hard to make it behave the way you want it to.

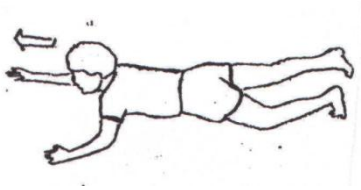
Some activities to help strengthen the arm and shoulder girdle include the following:

Sports:

- Sports activities – any kind of climbing activities (i.e. playgroup equipment) or that involves whole body and shoulder movement such as swimming
- Wheelbarrow walking
- Wall Presses – Stand a short distance away from the wall. Place hands flat at shoulder height on the wall. Lean toward the wall, keeping feet in place. Stop just before your nose touches the wall. Hold for 10 seconds.
- Chair Presses: Whilst seated, putting hands on the side of the chair and pushing to lift you up off the chair. Hold for 5 seconds
- Write on a vertical surface (e.g. chalkboard) or draw/ colour on paper positioned on a wall
- Animal walks such as:
    - Bear Walking: Assume creeping posture, progress forward and backwards, moving arms and legs of same side simultaneously. Keep the head down.

    - Crab walking: In a squatting position, the child reaches backwards with the arms and puts both hands flat on the floor behind him/ her, the arms are raised up until the head, neck and body are in a straight line

    - Commando Crawling: Child moves across the floor on his/ her tummy



Positioning for tabletop activities

A good position at the table will help the child to be stable and be able to concentrate and use their hands most effectively, but remember we all adjust our position as we work.

For children with difficulty in maintaining good posture at the table, one may observe:

- Poor posture – "slumping over the desk"
- Tendency to lean to one side in an awkward position

Note: Make sure that the table and chairs are at the appropriate height for the child's size.

A correct sitting position allows:

- For comfort and good writing having the hips above the knees is helpful. This is part of the reason that cushions help a child. When the hip are raised above knee height it helps support the pelvis and lower back and is a lot less tiring for the child.
- Feet to be placed flat on the floor or on an appropriate support (e.g. foot block or phone book)
- Arms are forward symmetrically
- The work surface is high enough to stabilise the elbows
- A slanted writing surface can help (e.g. sloped desk board)
- Make sure the child is directly facing the board
- Keep the work surface clear from clutter to allow the working arm to move

Hand Dominance

Hand dominance is also referred to as laterality. It is the ability to use a preferred hand for activities that require fine manipulation with accuracy and power. Children normally develop hand dominance at around 3-5 years. Having hand dominance allows the dominant hand to be active while the other hand supports and is stable.

To work out which hand is dominant ask the child to open a jar, or look at which hand they brush their teeth with and hold their spoon with for eating. Make sure when offering items like the spoon or toothbrush to the child to offer it at the midline. Sometimes children switch hands during tasks and it is important to consider if the child has midline crossing difficulties (please refer to page 18).

Here are some activities that assist with developing hand dominance:

- When writing and drawing encourage the child to hold the page steady with their non-dominant hand. If they don't do this, cut out a picture of a hand as a reminder.
- Opening jars and containers, remind the child to hold the jar/container very still with one hand whilst turning with the other hand.
- Use stencils or rubbings, which the child has to hold very still with one hand.
- When using scissors encourage the child to rotate the paper with one hand whilst cutting with the other hand.
- Collecting items (e.g. pencils, brushes) from around the classroom having the child hold the pot in one hand and pick up with the other.
- Threading beads – holding the string with one hand and thread the beads with the other.
- Using a ruler also encourages one hand to be stable while the other uses the pen.

TIPS

- Encouraging the child to use one hand is a good idea by the time the child is 5 years and older
- Always give objects to the child in their middle so they have to choose which hand to use.
- Always encourage children to draw left to right across a page

Crossing Midline

The midline is an imaginary line drawn vertically diving the body into two equal parts. Midline crossing is the ability to spontaneously cross this imaginary line. Children need to be able to use their arms and legs and eyes across their body (midline) e.g. to write across the page, read or use cutlery.

When a child has problems crossing the midline, they will often use their left hand for actions on the left side of the body and right hand for the right side of the body. During fine motor tasks a child who has difficulties crossing the midline may be observed to:

- Reach for an object situated on the left with their left hand, bring to the midline and swap the object into their right hand to release object on their right side.
- Swap scissors and pencils between hands when drawing and cutting
- Move the trunk to cross the midline, rather than the arm
- Be slower to develop a dominant hand

Difficulty in this area can result in confusion over hand dominance and swapping left to right, reversals and poor posture in sitting.

TIPS:

Make sure the child does not adjust their body position in order to avoid crossing the midline. It is a good idea initially to encourage the child to assume positions for play that no not allow much trunk rotation e.g. high kneel, side sitting, lying on tummy and sitting straight legged.
Tape a small cross on the child's desk as a reminder for their trunk posture to prevent them compensating for difficulty in crossing the midline by leaning to one side.
Do not make the child aware that you are wanting them to cross the midline. It should be spontaneous in order for this skill to generalise to all areas.

Whole body activities:

- Activities in standing
- Lift right knee and touch it and touch it with left elbow and then lift left knee and touch it with right elbow. Continue this sequence for a count of 10.
- Copying body positions that cross the midline e.g. Simon says and mirror games
- Criss-cross walking – Tape a line on the floor and get the child to walk along the line crossing their legs over

Activities in high kneel or sitting

- Drawing across the body on large paper or black/white board, holding pencil/chalk with both hands first and then with preferred hand.
    - Draw Large Rainbows back and forth
    - Trace over a large +
    - Draw a large X
    - Draw a large T
    - Draw a large figure 8 on its side (infinity sign).
- Racquet or Bat ball play– Child holds the bat/racquet with two hands and hits the ball. Then progress to using one hand (usually the dominant hand)
- Hand clapping during music sessions e.g. clap your right hand to your left knee or partners right hand if opposite)

Left Handedness

Writing from left to right, as we do in English, allows a right handed person to look at his writing as it progresses. A left handed person, however, has difficulty seeing their handwriting since the hand covers the writing. The left handed person has to write in a less natural direction from left to right across the midline. It is because of this that children who are left handed can present with poor pencil grasp or other handwriting difficulties.

TIPS

- Try not to sit a left-handed child on the right side of a right handed child during writing activities or their arms will bump into each other and restrict movement.
- Position the paper to the left of the body midline. Never in the writing process should the left handed child have to fully cross over the midline of their body.
- Tilt the paper clockwise so that edge of the page is parallel to the child's forearm. It is likely to be close to a 45 degree angle which is a greater angle than right handed people use. This will avoid the child's hand obscuring the view of the line. It may be useful to place a tape on the table to outline where it should be positioned until the child gets used to it.
- Encourage the child to steady the paper with their right hand in the middle or towards the right edge of the paper, not under where they are writing.
- The left forearm should remain parallel with the sides of the paper to prevent the development of a "hooked" hand. The back of the hand should be kept in a straight line with the forearm.
- Left-handed child should hold their pencil slightly higher up that a right handed child for more seeing room, about 1.5cm from the point.
- Check the child has a left-handed scissors for cutting
- Think about the other items the child uses and consider getting left handed items e.g. left-handed pencil sharpener.

Finger Isolation

This is the ability to move the thumb and each finger independently.

For children with difficulty in finger isolation, one may observe:

- Whole arm movements during activities
- Child may not demonstrate mature pincer grasp

Activities to promote finger isolation:

- Pointing songs or games – e.g. 'two little dickie birds sitting on a wall" - use the index finger and thumbs as the beaks of the birds
- Popping bubbles with pointed finger
- Finger painting – encourage the child to use each finger but one at a time
- Encourage the child to point to things in books or pictures. E.g. 'find the…'
- Encourage the child to turn the page in the book, by using his fingers rather than his/her whole hand
- Finger puppets – move each finger independently

Division of Function within Hands

In order to move we need to be able to keep part of our body stable. Otherwise we would have no control over our movements and a movement in the arm could cause the whole body to fall over. When you move an arm it is therefore necessary to keep our body stable. If we want to move our hand we must keep our arm relatively stable. The hand itself also requires part of it to remain stable for optimum function or movement. Without this stability it is not possible to develop good hand skill or dexterity.

- Thumb, index and middle fingers work together for activities that require precision and are referred to as the *"skilled side of the hand"*
- The power side of the hand (i.e. Ring and little finger) flexes to provide stability for the arches to control the "skilled" fingers
- Thumb web space should be circular
- Cutting activities and holding a pencil correctly are activities that require efficient use of "skilled use of the hand"

The following are some ideas to help develop division of function within the hand:

- Using tweezers to pick up small items
- Turn over cards, coins, or buttons without bring them to the edge of the table
- When writing get child to hold a piece of broken chalk, or sponge with the ring and little fingers.
- Hammering/drumming, is good for the developing the strength required for stability in the ring and little fingers.
- Finger puppets: Child places one puppet on each finger and straightens or wiggles each as the puppet "talks" or "dances".
- When playing imitation games like "Simon Says" or "Mirrors", ask child to keep fingers together or to spread them apart in different ways.
- Get child to hold a piece of paper between different fingers, e.g. ring and little finger, gentle pull the paper and see how long the child can keep the paper in between his fingers.
- Resistive material: Child pokes fingers into dough, putty or clay.
- Playing games like tiddle-dee winks, where a child has to hold a counter or a coin and press down on another to make it jump.

Pincer grip

Before you start with handwriting encourage the child to develop a good pincer grasp. This is the ability to grasp small objects with thumb and forefinger. It is an important part of a child's fine motor developmental, and necessary for holding and manipulating a pencil.

For children with difficulty using a pincer grasp, one may observe:

- Uses whole hand to grasp items
- Difficulty gripping tools and utensils

Activities to promote mature pincer grasp:

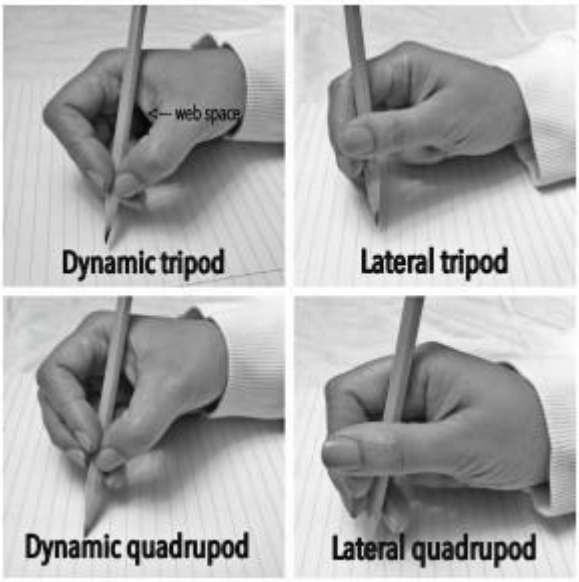
- Clothes pegs opened with the thumb and index finger help to strengthen pincer grip e.g. pegging out paintings to dry
- Pinching play dough
- Pick up coins and post them into a money box
- Threading beads, macaroni, cotton reels, play dough or pieces of straws
- Tear up coloured paper for gluing, papier-mâché or collage making. The thicker the paper the more difficulty the task
- Squirting water from a water pistol

Pencil grip

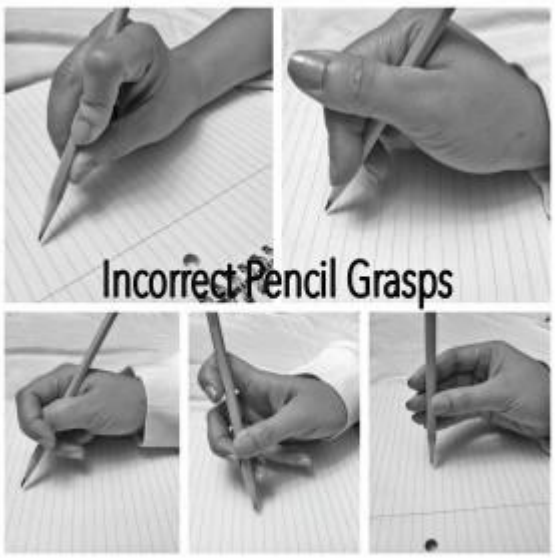
Development of a pencil grip begins in Junior Infants and continues developing until the child is in 1st/2nd class. The most effective pencil grasp allows the fingers to move without using the wrist, or whole arm. This means that less effort is used and writing can be more fluent.

Often times when a writing utensil is held incorrectly it causes muscular tension, fatigue or unnecessary stress on our joints. This can in turn make handwriting more difficult. Although the dynamic tripod grasp with an open web space, is the ideal grasp, there are other types of functional pencil grasps common in children with legible handwriting. These can be seen in the picture below.

Correct Pencil Grasps



Incorrect Pencil Grasps



Strategies to try for children with incorrect pencil grasp:

- Use short/broken (1"), wide pencils/crayons/chalk to encourage the child to hold the pencil correctly.
- Try using a triangular pencil/wide barrelled pencil
- Using a vertical or upright surface (wall, easel)

Pencil Control and Fluency

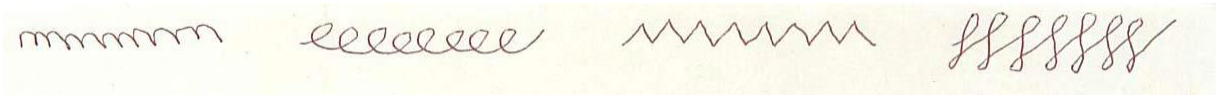
A child needs to have well developed fine motor skills in order to have good pencil. Handwriting fluency is not just about the pencil control needed for handwriting but about being able to constantly change direction based on the words you are spelling and how quickly you need to write them. In order to write efficiently, a child must be able to write the letters automatically with the correct sequence of strokes.

A child with difficulties in pencil control and fluency may:

- Stop regularly for breaks when writing
- Tire easily
- Shake out their hand frequently during writing tasks
- Move their whole hand and arm to control the pencil
- Have a slow writing speed
- Demonstrate an inaccurate stroke sequence for letters
- Demonstrate inconsistent sizing of letters
- Show inconsistency in joining up letters.

Activities to assist in developing pencil control and fluency include the following:

- Use "warm-up" exercises before writing activities such as:
    - Shoulder girdle spirals- hold both arms out horizontally to the side and circle them, initially making small circles but gradually larger
    - Wall press-ups- face a wall standing 1 ½ arms length away from it, stretch out arms keeping them at shoulder level and place palms flat on the wall, bring face to the wall without moving feet
    - Prayer pushes- brings palms together in a prayer position and push
- Dot to Dot activities- encourage continuous movements rather than one dot to another
- Mazes
- Drawing between lines- start with wide lines
- Drawing a small snail or tornado- going round and round whilst keeping the wrist on the table and only moving the fingers
- Tracing over lines e.g. zig-zag, curved or tracing pictures
- Practice letter patterns- start large and progress to smaller patterns e.g.



- The Teodorescu Perceptuo-Motor Programme "Write from the Start" by Ion Teodorescu and Lois M. Addy is a useful resource book that helps to develop fine motor control with the aim of developing fluency and accuracy

Pre-Writing Shapes

Children need to be able to draw pre-writing shapes before they are able to form letters correctly. We first learn to go up and down, then side-to-side and then circles, then diagonals. The pre-writing shapes include: | - O + □ / \ x Δ. If a child cannot do these basic pre-writing shapes then it is likely that they will have difficulties with forming letters and numbers.

Activities to help a child with their pre-writing shapes include the following:

- Start with child imitating your movement so they learn how to make the movement
- Start with large shapes e.g. in the air, on the white boards, floor or large piece of paper. Once they are able to form the shapes correctly then it will be easier for them to make the shapes smaller
- Use a **MULTISENSORY APPROACH.** Various sensory media can be used in pre-writing activities in many different combinations

Visual:

- Use different kinds of paper e.g. regular, greaseproof, foil, and brown
- Use different tools e.g. paintbrush, chalk, crayons, markers, and changeable markers or light up pen

Tactile:

- Write in sand, salt, foam, mud, talcum powder etc.
- Finger painting

Proprioception (Proprioceptive media are those that stimulate joint muscle feedback):

- Vibrating pen
- Write on a child's back or hand and get them to guess what letter you have drawn

Vestibular: Activities in which the child has to move and change positions also affect the vestibular or balancing system

- Walk, run, skip, jump, knee walk
- Follow the leader to form letters, shapes

Letter Formation

Occupational therapists can assess and treat many of the underlying skills for handwriting but letter formation is not a specific area of expertise. However, some key strategies and activities could be considered when helping a child in this area.

Activities to help a child with letter formations include the following:

- Use a multi-sensory approach (i.e. use a variety of the sense including body movements, tactile, auditory, visual etc.) when learning letter shapes similar to the suggestions within the "pre-writing shapes" information. For example:
    - "Air writing" can be a useful teaching strategy where a child imitates the exact movements for writing letters (i.e. using their sense of movement).
    - Wet, Dry, Try – Teacher/Parent writes the letter on chalkboard first; student erases by tracing the letter with a damp sponge; student traces again using a finger to "dry" the chalkboard; student writes with chalk over the imprint of the letter
    - Shaving cream practice– write in shaving cream
    - Salt box spelling– place salt or sand in a box and write

- Children often find it easier to learn letters shapes in groups. The "Hand Writing Without Tears" resource book by Jan Z. Olsen provides a technique of teaching letters by similarity of formation. Within this programme, letters are grouped together as follows:
    - "Centre Starters" include C, O, Q, G
    - The web site for this resource is www.hwtears.com

Pencil Pressure

Pencil pressure refers to:

- The pressure of the pencil on the page e.g. the child may use too much pressure often breaking the pencil tip or the child may use too little pressure making it difficult to see the writing underneath
- The pressure between the hand and the pencil e.g. the child may hold the pencil so tightly that their hand fatigues quickly in the writing task

Activities to improve pencil pressure:

- Writing on tissue paper – the child receives the feed back to lighten off on their pressure to ensure holes don't form in the paper
- Ghost writing – any amount of players can play. Each person writes a word as lightly as they can and then rubs it out. The other players need to guess where the word was on the page and what the word was. If the child exerts too much pressure it is very easy for the other players to see the indented word on the page therefore encouraging the child to lighten their pressure on the page
- Ask the child to write on tin foil on cardboard asking the child to ensure that they don't tear the foil
- Crayon rubbings – place a template under paper. If the pressure is too great paper will often rip
- Lighten the lead
- Have a wider pencil
- Use carbon paper
- Always refer to pencil grasp, one may have to use the egg grip
- Writing on a vertical surface

Copying from the Board

Some children find it difficult to copy down work from the board. They may take longer than their peers to copy down and the legibility of their writing in copying may disimprove.

NOTE: It is important that the child has an eye exam to rule out the need for glasses before looking at other areas.

Here are some ideas to help a child who has difficulty copying:

- Think about the position in the class to the board. It is easier to be facing the board so that you only need to look up and down rather than turn the body
- Work on copying simple pictures - Draw a shape or a picture and have the child copy it exactly the same
- Have the child practice copying simple sequences instead of writing:
    - Simple lines and shapes
    - Copying more complex shapes
    - Copying letters
- Decrease the amount of writing presented on the board at one time. A busy board can be over stimulating and may interfere with the ability to copy down
- Give the child a skeleton outline of what is to be copied down. This will allow the child to practice some copying and follow along but keep up more easily with others
- Give the child a copy of the materials to be copied at their desk. Copying from a nearby source is easier than from a faraway source

It is important to consider also the impact of working memory skills and spelling difficulties on copying. Most children use their memory for copying down work but if the child finds it hard to remember 2-3 word or has difficulty in spelling this will make copying more difficult.

Understanding Spatial Concepts for Handwriting

Children need to be able to understand spatial concepts such as size and form consistency, letter and word spacing, direction of letters (b vs. d) and direction of handwriting (left to right and top to bottom) in order to meet handwriting requirements.

1. Activities to improve poor spacing

- Help the child to be aware of spacing by playing "Writing Detective" where the child corrects a poorly spaced sentence or paragraph you have written.
- For right handed children, judging a space or drawing lines or circles between words prompts the child to learn spaces. Remember: You cannot use this for a left-handed child as it is too awkward to cross over!
- Have the child say the word "space" or "nothing" as they write words and make spaces to reinforce it.
- Challenge the child to make a raisin or M&M space between each word and if they can do that for the sentence or paragraph they could have the treat.
- After a piece of writing ask the child to use a highlighter to indicate the over and under spacing within and between words.
- A child will improve spacing when they learn cursive so it is important to remember when teaching cursive to go slow and encourage the correct letter formation of letters first.

2. Activities to help a child who has trouble with letter sizing and writing on a line:

It is important to consider

- Does the child have a motor memory of each letter? If not encourage correct form not size. Improve the motor memory by:
    - Practicing writing letters with eyes closed
    - Write on a chalkboard or easel
    - Paint the letters
    - Finger writing in finger paint, shaving foam, pudding, sand etc.
    - Use manipulatiees to crease letters such as playdough, popsicle sticks
- Does the child have the fine motor skills needed to control the small muscles of the hands? This is needed to have refined control over the pencil
- Does the child know what top, middle and under mean? If not the child cannot be expected to follow your teaching.
- Can the child identify capital and lowercase letters? The child needs to know the letters before they can be aware of differences for writing.

Ideas:

- Practice writing within the lines on a large scale e.g. on the chalkboard or easel.
- Using paper with a midline helps a child to develop letters of the correct height
- Using handwriting paper place colour in blue on the top to symbolise the sky, green in the middle to symbolise the grass and brown underneath to symbolise the earth. Then use this to explain the sizing e.g. for a "p" start at the grass, go down to the earth and back up to the grass. Use words like "floating letters" in the "sky" to make sizing more concrete for the child.

3. Activities to help a child make fewer reversals

Note: When children first learn to write they frequently have letter reversals. Many children continue to have reversed letters in first and second class. For many children this is due to a lack of left-right awareness. Children need to be taught to use the left hand margin and need to be taught that their work should be organised from left to right. This is difficult to teach the child who does not know his left from his right. The following suggestions may help:

- For first and second class students who consistently reverse letters, introduce cursive early to help correct this.
- Encourage left and right awareness
- Work on one reversal at a time.
- Use rhymes, words or stories that will help the child remember the different letters or numbers.
- Give the child a visual cue at his desk for commonly reversed letters. As the child improves skills they will no longer rely on the visual cue.

Scissors Skills

The correct scissor grasp is with the thumb and middle finger in the holes, the index finger on the outside to stabilise, and the ring and little fingers curled into the palm. Some children learn to cut functionally using their thumb and index finger only, this is acceptable.

The thumb of the hand holding the scissors should be on the top and the scissors should be pointing straight and away from the child. The non-dominant hand, which holds the paper, should also have the thumb on the top of the paper. (Both thumbs up)

Please Note:

- We learn to cut in the following sequence: cutting straight lines —> cutting circles —> cutting around corners —> cutting complex shapes/curved lines.
- Be sure to use child-sized scissors so that the loops and the length of the blades are not too big for the child's fingers. For children who are left-hand dominant, ensure that the child has a left-handed scissors for cutting.
- **Cutting exercises should always be supervised by an adult.**

Activities to improve cutting skills:

- Cutting play dough, or other resistive materials such as playing cards, plastic straws, old credit cards
- Making confetti by cutting strips of paper
- Cutting a fringe on the edge of construction paper
- Once grasp and making singe snips is mastered, cut through broader strips of construction or card paper
- Gradually introduce cutting on straight lines of increasing length, making sure that the non-dominant hand moves along the paper as the line gets longer
- Once straight line cutting has been mastered introduce curves, eventually increasing the length of the curve to a complete circle
- Cutting angles, zigzag lines and along multiple curves

Self Care Skills – Shoe laces, Buttons, Zips

There are obviously a lot more skills and tasks for self-care; these are areas that are commonly mentioned. It may be more relevant for these skills to be practised at home and not in school.

Shoelaces

- If a child wants to learn shoe laces ensure that they own a pair of shoes with laces or the skill may be learnt and lost.
- Having a good grasp of the first knot is essential.
- Get the child to practise doing this simple knot all the time (10-20 times daily). Practise this knot on shoes, hoodies with strings, tracksuits with strings, belts, dressing gowns, etc.
- Only when the first knot is well learnt, begin to progress on to the loops.
- Ask a child to make a loop with one hand and to hold this loop close to the first knot.
- Loop the second lace around.
- Begin to pull second lace through and hold.
- Change hold of first hand from bottom to top of loop.
- 1, 2, 3 pull both hands gently together.
- Using different coloured laces really helps when starting off/ you can colour the end of one lace.

(Please note bunny ears may be easier conceptually but is a more difficult fine motor task. Also it is not that important which hand (dominant or non-dominant does which).

Buttons

- Start with large loose buttons and work towards a smaller tighter button.
- Practise, practise!! A child should do at least one button every day.
- School shirt button holes are tight, for a child struggling asking a parent to slightly increase button hole sizes.
- Shirt buttons often confuse children, starting at the top is often too tight at the bottom is too awkward simply marking the middle button hole and button with a subtle black dot starts the task more easily.
- See bilateral integration tasks handout.

Zips

- Again, start with easy bigger and looser zips.
- Remember the difficulty with zips is not pulling the zip up but positioning the two sides together. Ensure the child sees this and actually understands the task.
- Practise daily.
- See bilateral integration tasks handout.

SECTION THREE:

Additional Documentation

Animal Walks

Animal walks can be practiced to music, used in place of running or walking in traditional children's games or used in relay races.

Bear

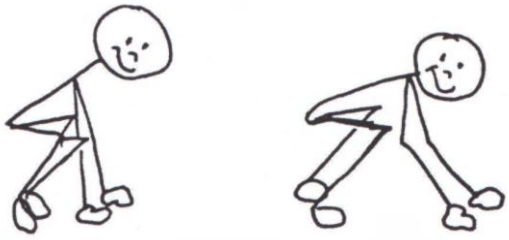
Assume creeping posture, progress forward and backwards, moving arms and legs of same side simultaneously. Keep the head down.

Bird

Stand on tiptoes and wave arms slowly up and down. As the "wings" move faster, run tippy-toe around as if you were flying. As the flapping slows down the bird comes slowly to a stop.

Bunny

Squat low on heels and place hands palm down on floor. Move the hands forward and bring the feet forward between the hands with a little jump.



Crab

In squatting position, reach backward with the arms and put both hands flat on the floor behind you. Raise up until the head, neck and body are in a straight line. Walk or run in this inverted position.

Duck

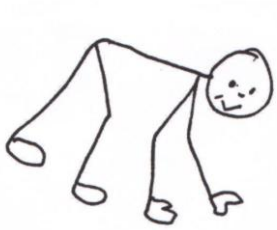
Do a knee bend. Place your hands around your ankles. Walk forward one foot at a time, but remain in the knee-bent position.

Kangaroo

Stand with feet together. Bend the elbows out from the body. Let the hands dangle limply. Bend the knees and jump forward.

Monkey

Run forward with both hands on the floor and the knees slightly bent.



Mule Kick

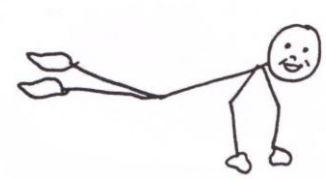
Drop to a squat position. Place the palms of the hands on the floor, between the knees. Bear weight on the hands and kick the feet backward vigorously. When the feet hit the ground, stand erect and take two steps forward. Repeat the sequence.

Rooster

Bending forward at the waist, grasp the ankles. Keep the knees as straight as you can. Walk forward.

Seal

Assume a prone position on the floor. Push the body up with extended arms. Walk forward with the arms while the feet drag behind.



Horses Galloping

Gallop forward with hands held simulating grasp on reins. Change and lead off with opposite food.

Horses Prancing

Stand straight, with hands held simulating grasp on reins. Lift knee high with toes pointed. Just as the foot touches the ground again, lift the other knee vigorously. Repeat in a rhythmical motion with forward momentum.

Elephant

Bending forward at the hips, allow the arms to hang limp. Big lumbering steps should sway you from side to side as you walk, imitating an elephant and his trunk.

Inchworm

Support the body by hands and toes, keeping body in a straight line. With hands remaining stationary, walk the feet towards the hands, taking tiny steps. Keep the legs straight. Next, keeping the feet stationary, walk the hands forward in tiny steps until the first position is reached.

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