

Section 3b

FINE

MOTOR

FUNCTION

Contents

	Page
• Correct sitting posture	102
• Possible causes of difficulties identified in Preliminary Checklist	103
• General activities to improve hand function/ hand-eye coordination	104
• Reception pupils programme	105
• Hand function programme: CLEVER HANDS	116

FINE MOTOR SKILLS

Introduction

Fine motor skills include movements made by all the smaller muscles of the body. They include:-

- eye fixation and tracking
- chewing and speaking
- hand / finger strength and coordination

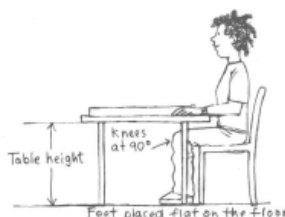
Hand Function

Hand function is particularly relevant for classroom learning. Once gross motor core stability is established, small movements become more precise: children are able to coordinate both hands, using one to lead and the other to support in two-handed activities (although complete dominance may not develop for some time). They also develop the ability to hold objects steady while adjusting fine movements for tasks such as cutting out and handwriting. Most hand activities also require hand / eye coordination.

The possible causes of difficulties highlighted by the Preliminary Checklist are tabled overleaf.

The development of these skills can be helped by the General activities to improve hand function and eye/hand coordination, page 104, the FMS programme, page 105, and the Clever Hands programme, page 116. These activities are also suitable for giving to parents.

Check correct sitting posture



Possible causes of difficulties identified in Preliminary Checklist

Difficulty	Possible Causes
Unable to pick up objects using a pincer grasp	• Poor hand-eye coordination • Poor hand strength • Poor tactile awareness
Difficulty using blocks, beads, puzzle pieces to complete an activity	• Poor hand-eye coordination • Poor manipulation skills • Difficulty using both hands together
Unable to turn pages of a book singly	• Poor tactile awareness • Poor manipulation skills
Difficulty handing out sheets from a stack of paper	• Poor tactile awareness • Poor manipulation skills • Difficulty using both hands together (undecided preferred hand)
Difficulty using tools (scissors, pencils etc)	• Poor tactile awareness • Poor manipulation skills • Limited hand strength • Difficulty using both hands together (undecided preferred hand)
Unable to cut, draw, trace with precision and accuracy	• Difficulty using both hands together (undecided preferred hand) • Poor hand-eye coordination
Difficulty with buttons and zips	• Difficulty using both hands together (undecided preferred hand) • Poor tactile awareness

NB Many of these difficulties may also be associated with visual perception difficulties.

General activities to improve hand function and hand/eye coordination

Typical problems	Activities
Poor hand strength, weak grasp	Activities which require squeezing, pulling, pushing. Construction toys, crumpling paper, wringing out cloths, clothes pegs. <i>For more ideas see activities in 'Clever Hands'</i>
Poor dexterity and manipulation skills	Gather a strip of material into the palm of the hand using fingers. Using one hand collect counters or marbles one at a time into the palm of the hand and then using thumb bring them out to post into container one at a time. <i>For more ideas see activities in 'Clever Hands'</i>
Poor hand-eye coordination	Grade the difficulty of tasks presented e.g. use large pegs and board before moving on to small ones: start with activities where one part of the activity is stable e.g. placing stickers onto circles on paper masking taped to table. Move on to activities where both parts are moving e.g. threading beads, hitting a moving ball with racquet. <i>For more ideas see activities in 'Clever Hands'</i>
Difficulty coordinating use of both hands together (bilateral coordination)	Always encourage the child to use non-dominant hand to support paper, puzzle board etc. Practise threading beads, using large beads and firm lace, gradually working towards small beads and thin lace; wind wool onto cards; tear paper. <i>For more ideas see activities in 'Clever Hands'</i>
Hand preference not decided	Lots of practice at two-handed activities as above. Encourage crossing mid-line of body when painting on easel, using white board, playing trains or drawing on large paper on the floor etc..

Fine Motor Programme for Reception Pupils.

Many children entering school will not yet have fully developed their fine motor skills.

We recommend that all Year R children complete Fine Motor Skills Programme (FMS) in addition to the Achieving Body Control (ABC) Programme. This will develop the postural control and then develop fine motor control needed for school activities. The programme can be readily incorporated into lessons (over an approximate six week period).

Children with identified difficulties should also be given opportunities to practice the activities individually or in a small group.

Implementing the FMS

Training which supports implementing the FMS in school can be requested from the Children's Therapy Service (see Training Section)

Equipment

Weeks 1/2	-	Chalk board or large pieces of paper on the wall Chalk, markers
Weeks 3/4	-	Play-dough, newspaper, card, pegs, tweezers, cottonwool,
Weeks 5/6	-	Play-dough, beads, paper clips, rubberbands

Review

Children's responses are monitored through observation and the FMS Individual Progress Sheets can be completed after each Block

NOTE: children with identified physical / learning difficulties who are known to children's therapists should not be included prior to consultation with relevant therapist.

FINE MOTOR SKILLS PROGRAMME

This is a fine motor skills programme to compliment the reception class curriculum and is designed to be used with this age group.

This programme can be used with the whole class or with those who are experiencing difficulties with fine motor skills.

Each session will last up to 15 minutes including preparation time and it is recommended that this programme be carried out at least three times a week.

Weeks 1 & 2

These activities concentrate on shoulder stability and bilateral integration.

Shoulder stability

Strengthening the muscles around the shoulder is essential for developing controlled arm and hand movements. This is necessary for all fine motor skills and handwriting.

Bilateral integration

Bilateral integration is an important function for the development of coordination between right and left sides of the body, mature hand dominance and effective two-handed coordination. It also contributes to the communication between right and left sides of the brain for the development of specialisation of perceptual and cognitive functions for learning.

Activities need to be carried out at least 3 times a week in order to be effective.

Week 1

Animal walks

Bear
Monkey
Bunny



Encourage each child to go down the length of the room completing 2 repetitions of each walk.

Marching

Hand touches knee on same side. If the child is able to manage this easily, progress to marching touching opposite hand to knee.

Drawing circles in the air

Move both arms together in the same direction going to the right for 5 repetitions and then to the left for 5.

Week 2

Four-point kneeling

Rolling a ball to each other, alternating hands - 5 times each arm.

Place 5 beanbags on right of child so they reach with their left hand to pick up and throw into target placed one metre away.

Place 5 beanbags on left side and child reaches with their right hand to pick up and throw into a target placed one metre away.

Repeat whole activity.

Wall drawing

Using either a chalk board, white board or paper on wall, child draws with both hands together, using whole hand movements, in the following directions.

Move hands up together, then down together (repeat 5 times).

Move hands left together, then right together (repeat 5 times).

Draw circles with each hand moving in opposite directions, up and out and then down and out. (repeat 5 times).



Weeks 3 & 4

These activities concentrate on hand strengthening and finger isolation.

Hand strength

Strengthening the hand muscles is essential for the child to develop the skills necessary for fine motor activities including self care, e.g. buttons, zips and the manipulation of tools, e.g. scissors, pencil.

Finger isolation

This relates to the ability to move fingers independently, which is necessary for development of refined dexterity and in-hand manipulation.

Table top activities require child to be seated at a table with back and thighs supported, feet flat on the floor or a block and table at elbow height.

**Weeks 3 & 4****Activity 1 - Play-Doh**

- ~ Squeezing in each hand / transferring between hands.
- ~ Roll out Play-Doh using both hands to make a long sausage.
- ~ Using both hands together, pinch along length of 'sausage' using thumb and index fingers only. Turn 'sausage' onto its side and repeat.

In Week 4 when using both hands together, use thumb with index, middle, ring and little fingers in turn.

Activity 2 - Sitting on floor.

Tearing A4 paper into multiple strips, scrunch each strip individually and then lying on stomach, prop up on forearms and flick paper across the room using each finger in turn against the thumb. Encourage children to crawl around classroom collecting paper.

Activity 3 - Sitting at table in Week 3 and Standing in Week 4.

- ~ Using only skill fingers (thumb, index and middle), peg up cards with numbers or alphabet written on them, onto a piece of suspended string or cord. If the child struggles to isolate the skill fingers, encourage him/her to hold something, i.e. link brick, large marble, in the palm using ring and little finger.
- ~ Pick up cotton wool with pegs or tweezers, again using skill fingers only and release them into a container.

You can use this game as a race or timed activity if appropriate.

Weeks 5 & 6

These activities concentrate on in-hand manipulation and dexterity, whilst building on stability and hand strength.

In-hand manipulation and dexterity encourages the use of the small muscles within the hands to develop advanced fine motor coordination. This skill is essential for refining pencil control and other fine motor activities.

Incorporate activities 1, 2, & 3 in both weeks 5 & 6.

These activities will need to be closely monitored and specific demonstration needed to ensure that the children are performing the tasks accurately.

Weeks 5 & 6**Activity 1 - Weeks 5 & 6 - Play-Doh.**

- ~ Hold ball of Play-Doh in one hand, pinch off small pieces and roll into pea sized balls using skill fingers only. Make 10 balls with each hand.
- ~ Pinch off small pieces and roll into small sausage shapes using skill fingers only. Make 10 sausages with each hand.
- ~ Using one hand only, see how many of the balls and sausages the child can pick up, one at a time, whilst retaining them within the hand.

Repeat with the other hand.

Activity 2 - Beads.

(See separate cards for grading of activity for weeks 5 & 6).

Pick up 2 beads, using dominant hand, one at a time and hold them within the hand. Encourage the child to move one of the beads to their skill fingers and then thread this. Repeat with the second bead. (Child may need some physical support to ensure that they are only using one hand to hold and manipulate beads).

This activity can be graded as necessary, using stiffened lace/pipe cleaners progressing to string and with the size of beads used, i.e. big to small. Additionally, increase the number of beads to a maximum of 4.

Activity 3 - Week 5 - Paper clips/cards.

- Paper clips  pick up and rotate into position using one hand only and fasten 2 pieces of paper together. Repeat 10 times.
- Cards  deal out cards, holding pack in one hand while dealing with the other. Can play simple games such as snap, happy families, etc.

Session 3 - Week 6 - Rubber bands/cards.

- Rubber band escape  place rubber band over skill fingers just below the knuckles; child moves fingers in order to 'escape' from the band. Ensure other hand is not used and that child works their fingers away from the body, table, etc. Repeat 5 times.
- Cards  deal out cards, holding pack in one hand while dealing with the other. Can play simple games such as snap, happy families, etc.

week ONE

NHS

Solent Healthcare

FINE MOTOR SKILLS worksheets

These activities concentrate on shoulder stability and bilateral integration.

Shoulder stability

Strengthening the muscles around the shoulders is essential for developing controlled arm and hand movements. This is necessary for all fine motor skills and handwriting.

Bilateral Integration

Bilateral integration is an important function for the development of coordination between the right and left sides of the body, mature hand dominance and effective two-handed coordination. It also contributes to the communication between the right and left sides of the brain for the development of specialisation of perceptual and cognitive functions for learning.

Activities need to be carried out at least 3 times a week in order to be effective.

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week ONE

week ONE

NHS

Solent Healthcare

FINE MOTOR SKILLS worksheets**Animal walks**

Monkey bent knees and long arms or can bend arms to 'scratch' sides of body.

Bear walking with both hands on the floor, knees straight.

Bunny bend knees with arms outstretched and hands flat on floor.

Push off at feet to bring feet up to hands and then move hands forward to repeat action.

Encourage each child to go down the length of the room completing two repetitions of each walk.

Marching

Hand touches knee on same side. If the child is able to manage this easily, progress to marching, touching opposite hand to knee.

Drawing circles in the air

Move both arms together in the same direction going to the right for 5 repetitions and then to the left for 5. Make sure that the children keep their bodies still whilst moving their arms.



week ONE

week TWO

NHS

Solent Healthcare

FINE MOTOR SKILLS worksheets

These activities concentrate on shoulder stability and bilateral integration.

Shoulder stability

Strengthening the muscles around the shoulders is essential for developing controlled arm and hand movements. This is necessary for all fine motor skills and handwriting.

Bilateral Integration

Bilateral integration is an important function for the development of coordination between right and left sides of the body, mature hand dominance and effective two-handed coordination. It also contributes to the communication between right and left sides of the brain for the development of specialisation of perceptual and cognitive functions for learning.

Activities need to be carried out at least 3 times a week in order to be effective.

week TWO

week TWO

NHS

Solent Healthcare

FINE MOTOR SKILLS worksheets**Four-point kneeling - (on hands and knees)**

> Rolling a ball to each other, alternating hands - 5 times each arm.

> Place 5 beanbags on right side of child so they reach with their left hand to pick up and throw into target placed one metre away.

> Place 5 beanbags on left side and child reaches with their right hand to pick up and throw into a target placed one metre away.

Repeat whole activity.

NB The children should be encouraged to pick up the bean bag without turning their whole body, just reaching across with their hand and arm.

Wall drawing

Using either a chalk board, white board or paper on the wall, child draws with both hands at the same time using whole arm movements, in the following directions.



Up and down hands, moving in same direction. (5 repetitions)



Move left and right, moving in the same direction. (5 repetitions)



Move arms in opposite directions to complete 2 circles. Up and then out (repeat 5 times). Down and out (repeat 5 times).

week TWO

week THREE

FINE MOTOR SKILLS *worksheets*

Incorporate all 3 activities into each session

Activity 1 - Play-Doh

- > Squeezing in each hand/transferring between hands.
- > Roll out Play-Doh using both hands to make a long sausage.
- > Using both hands together, pinch along length of 'sausage' using thumb and index fingers only. Turn 'sausage' onto its side and repeat two more times.



Activity 2 - Sitting on floor

- > Tearing A4 paper into multiple strips, scrunch each strip individually with one hand and then lying on stomach, prop up on forearms and flick paper across the room using each finger in turn against the thumb.
- > Encourage children to crawl around classroom collecting paper.

Activity 3 - Sitting at a table or on the floor

- > Using only skill fingers (thumb, index and middle), using pegs, place cards with numbers or letters written on them onto a piece of suspended string or cord. If the child struggles to isolate the skill fingers, encourage him/her to hold something, i.e. link brick, large marble, in the palm using ring and little finger.
- > Pick up cotton wool with pegs or tweezers, using skill fingers only and release them into a container. You can use this game as a race or timed activity if appropriate.

week THREE

week THREE

FINE MOTOR SKILLS *worksheets*

These activities concentrate on hand strengthening and finger isolation.

Hand strength

Strengthening the hand muscles is essential for the child to develop the skills necessary for fine motor activities including self care e.g. buttons, zips; and the manipulation of tools e.g. scissors, pencil.

Finger isolation

This relates to the ability to move fingers independently, which is necessary for the development of refined dexterity and in-hand manipulation.

Table top activities require the child to be seated at a table with back and thighs supported, feet firmly on the floor or block and desk at elbow height.



week THREE

FINE MOTOR SKILLS *worksheets*

These activities concentrate on hand strengthening and finger isolation.



Hand strength

Strengthening the hand muscles is essential for the child to develop the skills necessary for fine motor activities including self care e.g. buttons, zips; and the manipulation of tools e.g. scissors, pencil.

Finger isolation

This relates to the ability to move fingers independently, which is necessary for development of refined dexterity and in-hand manipulation.

Table top activities require the child to be seated at a table with thighs and back supported, feet firmly on the floor or block and table at elbow height.

week FOUR

week FOUR

FINE MOTOR SKILLS *worksheets*

Incorporate all 3 activities into each session

Activity 1 - Play-Doh

- > Squeezing in each hand/transferring between hands.
- > Roll out Play-Doh using both hands to make a long sausage.
- > Using both hands together, pinch along length of 'sausage' using thumb and index fingers initially then turn 'sausage' onto its side and repeat using the thumb against the middle, ring and little fingers in turn.

Activity 2 - Sitting on floor

- > Tearing A4 paper into multiple strips, scrunch each strip individually and then lying on stomach, prop up on forearms and flick paper across the room using each finger in turn against the thumb.
- > Encourage children to crawl around classroom collecting paper.

Activity 3 - Standing

- > Using only skill fingers (thumb, index and middle), using pegs, place cards with numbers or letters written on them onto a piece of suspended string or cord. If the child struggles to isolate the skill fingers, encourage him/her to hold something, i.e. link brick, large marble, in the palm using ring and little finger.
- > Pick up cotton wool with pegs or tweezers, using skill fingers only and release them into a container. You can use this game as a race or timed activity if appropriate.

week FOUR

week FIVE

FINE MOTOR SKILLS *worksheets*

These activities concentrate on in-hand manipulation and dexterity, whilst building on stability and hand strength.

- > In-hand manipulation and dexterity encourages the use of the small muscles within the hands to develop advanced fine motor coordination. This skill is essential for refining pencil control and other fine motor activities.

Incorporate activities 1, 2, & 3 in Week 5

These activities will need to be closely monitored and specific demonstration is needed to ensure that the children are performing the tasks accurately. Where the activities refer to skill fingers this means the use of the thumb, index and middle fingers only.

Table top activities require the child to be seated at a table with back and thighs supported, feet firmly on the floor or a block and table at elbow height.

week FIVE

week FIVE

FINE MOTOR SKILLS *worksheets*

Activity 1 - Play-Doh

- > Hold ball of Play-Doh in one hand, pinch off small pieces and roll into pea sized balls using skill fingers only. Make 10 balls with each hand.
- > Pinch off small pieces and roll into small sausage shapes using skill fingers only. Make 10 sausages with each hand.
- > Using one hand only, see how many of the balls and sausages the child can pick up, one at a time, whilst retaining them within the hand. Repeat with the other hand.



Activity 2 - Large beads

- > Pick up 2 large beads, using dominant hand, one at a time and hold them within the hand. Encourage the child to move one of the beads to their skill fingers and then thread this onto stiffened lace/pipe cleaners. Repeat with the second bead. (Child may need some physical support to ensure that they are only using one hand to hold the beads).
- > This can be upgraded by increasing the numbers of beads to a maximum of 4.

Activity 3 - Paper clips/cards

- > Paper clips - pick up and rotate into position using one hand only and fasten 2 pieces of paper together. Repeat 10 times.
- > Cards - deal out cards, holding pack in one hand while dealing with the other. Can play simple games such as snap, happy families, etc.

week FIVE

week SIX

These activities concentrate on in-hand manipulation and dexterity, whilst building on stability and hand strength.

- > In-hand manipulation and dexterity encourages the use of the small muscles within the hands to develop advanced fine motor coordination. This skill is essential for refining pencil control and other fine motor activities.

Incorporate activities 1, 2, & 3 in Week 5

These activities will need to be closely monitored and specific demonstration is needed to ensure that the children are performing the tasks accurately. Where the activities refer to skill fingers this means the use of the thumb, index and middle fingers only.

Table top activities require the child to be seated at a table with back and thighs supported, feet firmly on the floor or a block and table at elbow height.

week SIX

week SIX

FINE MOTOR SKILLS *worksheets*

Activity 1 - Play-Doh

- > Hold ball of Play-Doh in one hand, pinch off small pieces and roll into pea sized balls using skill fingers only. Make 10 balls with each hand.
- > Pinch off small pieces and roll into small sausage shapes using skill fingers only. Make 10 sausages with each hand.
- > Using one hand only, see how many of the balls and sausages the child can pick up, one at a time, whilst retaining them within the hand. Repeat with the other hand.

Activity 2 - Small beads

- > Pick up 2 small beads, using dominant hand, one at a time and hold them within the hand. Encourage the child to move one of the beads to their skill fingers and then thread this onto a shoe lace. Repeat with the second bead. (Child may need some physical support to ensure that they are only using one hand to hold beads).
- > This can be upgraded by increasing the numbers of beads to a maximum of 4.

Activity 3 - Rubber bands/cards

- > Rubber band escape - place rubber band over skill fingers just below the knuckles; child moves fingers in order to 'escape' from the band. Ensure other hand is not used and that child works their fingers away from the body, table, etc. Repeat 5 times with each hand.
- > Cards - deal out cards, holding pack in one hand while dealing with the other. Can play simple games such as snap, happy families, etc.

week SIX