

Building the foundations:

Developing Writing Skills

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Presented By:
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I. Introduction

II. Definition of handwriting

III. The components of handwriting

IV. Pre-writing and Writing skills

V. Handwriting difficulties

VI. Assessment and intervention

VII. Linking writing skills with daily functional tasks to promote independence

I. Introduction

➤ Handwriting is an important skill for children to develop in primary years. It is a primary way to communicate with and necessary to complete assignments, seatwork, homework, and many tests

➤ Handwriting is a foundational skill that can influence student's reading, writing language use, and critical thinking

“Saperstaein Associates 2012”

➤ When children practice printing by hand, their neural activity is far more enhanced and “adult-like”

“Bounds 2010”

➤ Learning how to write by hand is a necessary motor exercises

“Saperstein Associates 2012; James and Gauthier 2006; James 2012; Berninger 2012”³

II. Definition

- Handwriting is a complex **perceptual-motor skill** that is dependent upon the maturatation and integration of a number of cognitive, perceptual and motor skills. Which is developed through instruction.

“Hamstra-Bletz and Blote, 1993; Maeland, 1992”.

- It is a complex process of handling language by **pencil grip, letter formation and body posture**.
- It is an academic skill that allows individuals to express their thoughts and feelings and communicate with others.

III. Components of handwriting

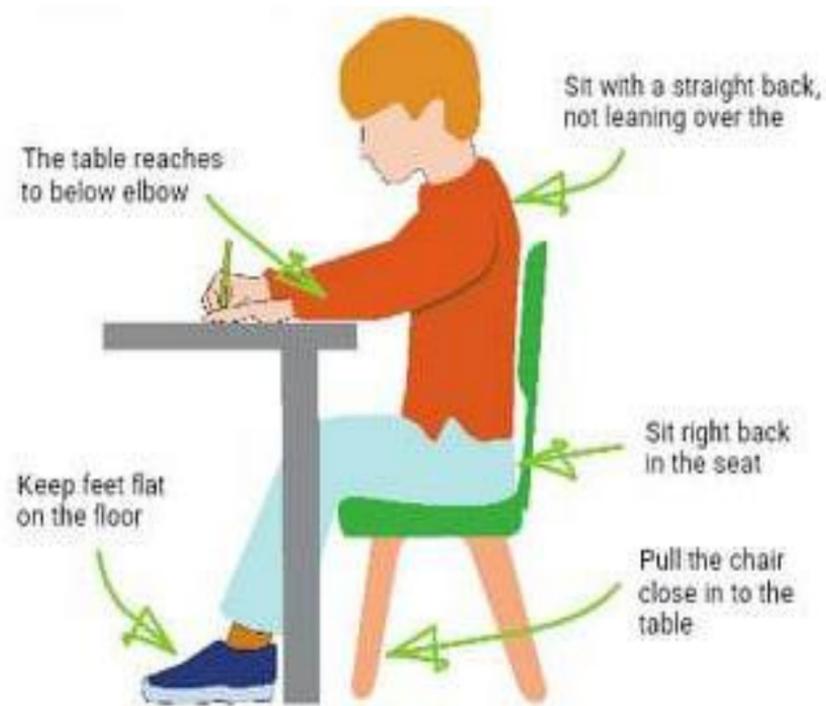
- Memory
- Sensory integration
- Visual perception
- Visual motor
- Motor skills

III. Components of handwriting

Motor skills

- Posture
- Paper's position
- Pencil control

III. Components of handwriting



Posture

trunk control

shoulder stability

In order for us to develop control over the smaller muscles of the hand we must have support or control in our trunk, and in all of the other joints leading up to the hand.

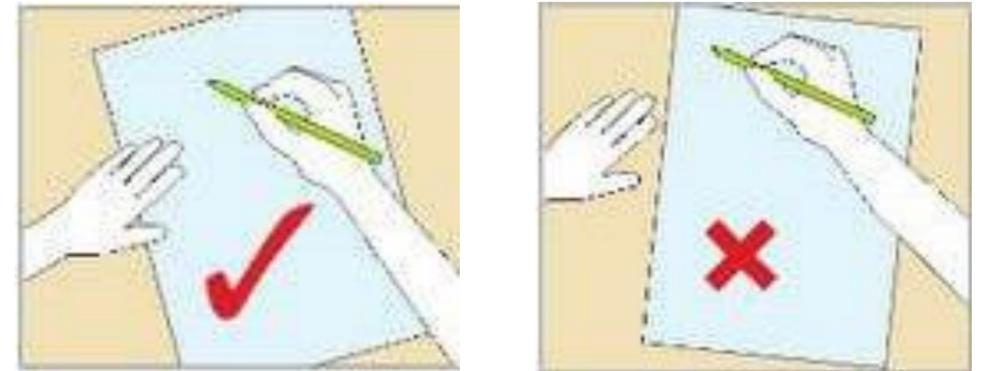
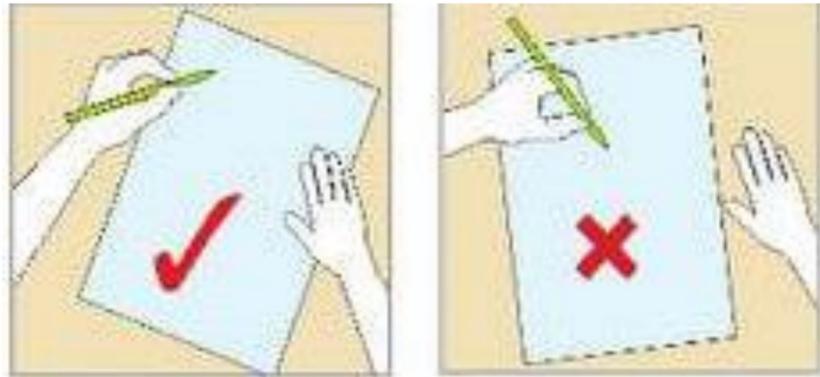
III. Components of handwriting

Paper's position

Hand dominant

Left hand

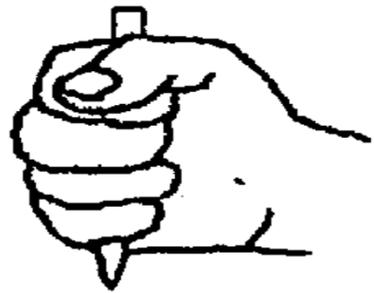
Right hand



III. Components of handwriting

Pencil control

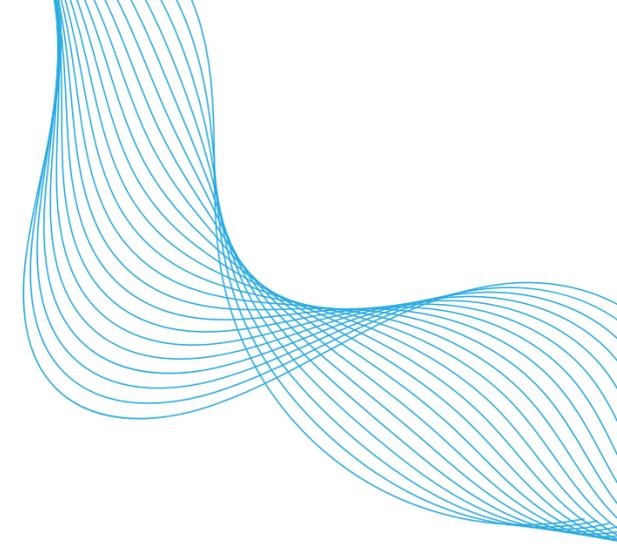
Pencil grasp



Palmar supinate
12-15 months



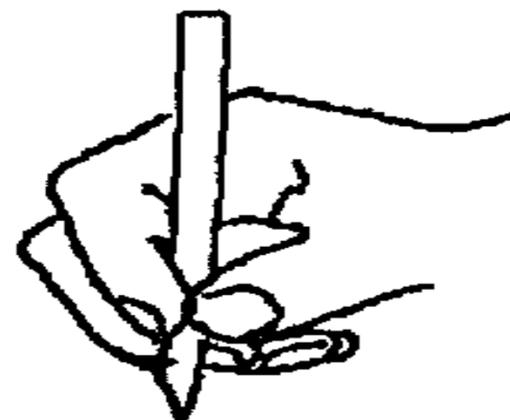
Digital pronate
2-3 years



III. Components of handwriting

Pencil control

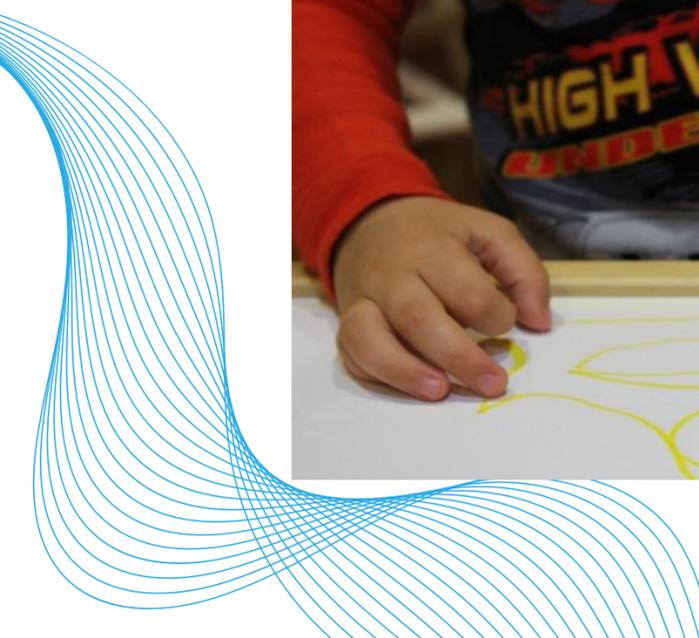
Pencil grasp



Static tripod
3.6-4 years/month



Static quadrupod
3.6-4 years/month



III. Components of handwriting

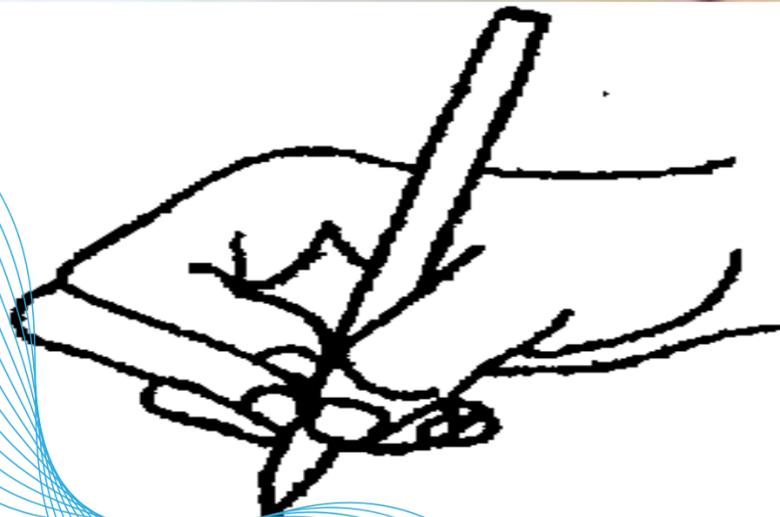
Pencil control

Pencil grasp



Dynamic tripod
4.6-5 years/month

Dynamic quadrupod
4.6-5 years /month

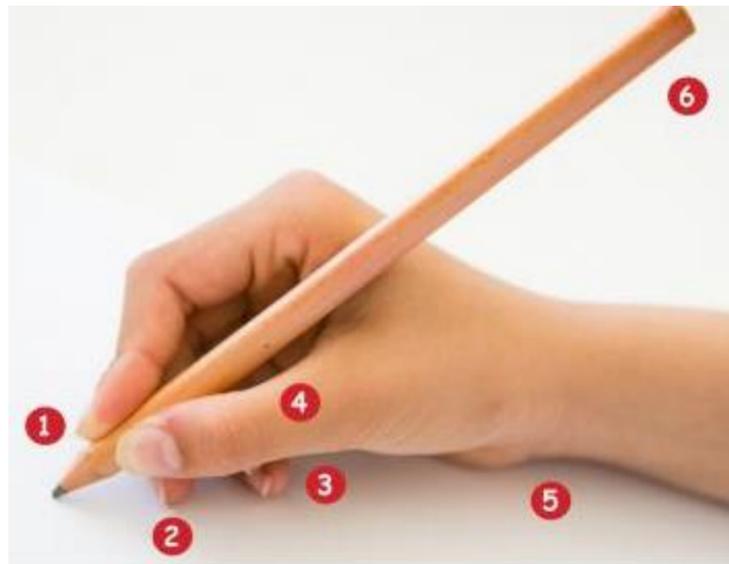


III. Components of handwriting

Pencil control

Pencil grasp

Functional and efficient pencil grasp



Dynamic tripod grip



Dynamic quadrupod grip

III.Components of handwriting

Pencil control

Pencil grasp

Functional and inefficient pencil grasp

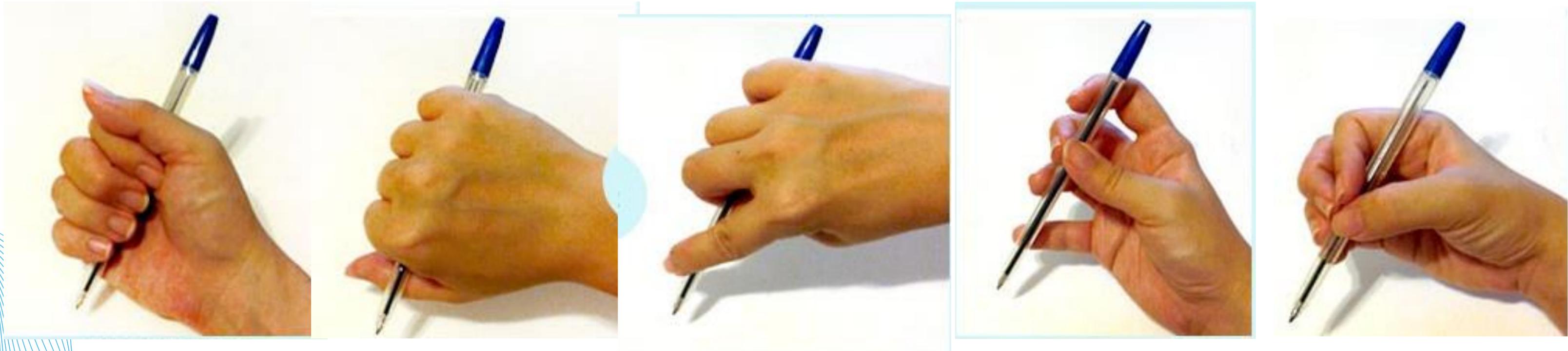


Components of handwriting

Pencil control

Pencil grasp

Dysfunctional and inefficient pencil grasp



III. Components of handwriting

Pencil control

- The hand it self needs adequate **strength** to hold on to a **writing utensil** and **isolate control** in **individual muscles**.
- finger movement
- Wrist movement
- Forearm movement
- Shoulder movement/ Full arm movement

poor grasp pattern, fatigue

III. Components of handwriting

Pen pressure : Proprioception

I write with heavy pressure

I write with medium pressure

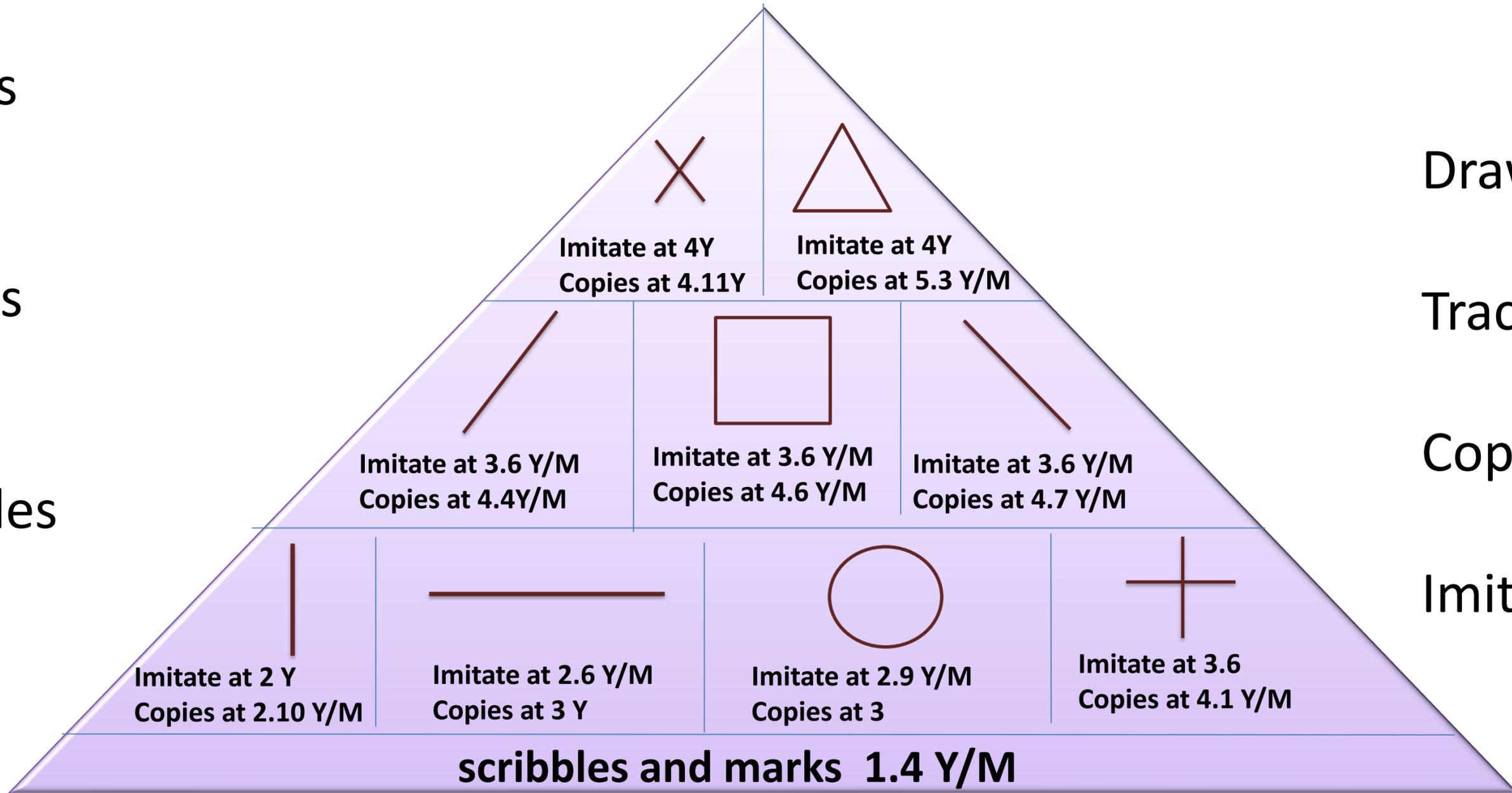
I write with light pressure

1. Prewriting skills

Shapes

Strokes

scribbles



Drawing

Tracing

Copying

Imitating

V.Pre-writing and Writing skills

2.Writing skills

➤ Alphabet

- English

Uppercase-Capital letters

Lowercase-small letters

Print

Cursive

- Arabic

Beginning

Middle

End

IV. Pre-writing skills and handwriting skills

2. Writing skills

➤ Alphabet : -English

Uppercase (capital) Print

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

Lowercase (small) Print

a b c d e f g h i j k l m
n o p q r s t u v w x y z

Print letters

Uppercase (capital) Cursive

A B C D E F G H I J K L M
N O P Q R S T U V W X Y Z

Lowercase (small) Cursive

a b c d e f g h i j k l m
n o p q r s t u v w x y z

Cursive letters

IV. Pre-writing skills and handwriting skills

2. Writing skills

➤ Alphabet : -Arabic

| | | | |
|-------|-------|-------|-------|
| أ أ أ | ب ب ب | ت ت ت | ث ث ث |
| ج ج ج | ح ح ح | خ خ خ | د د د |
| ذ ذ ذ | ر ر ر | ز ز ز | س س س |
| ش ش ش | ص ص ص | ض ض ض | ط ط ط |
| ظ ظ ظ | ع ع ع | غ غ غ | ف ف ف |
| ق ق ق | ك ك ك | ل ل ل | م م م |
| ن ن ن | ه ه ه | و و و | ي ي ي |

رسم الحرف في الكلمة

| منفردا | أول الكلمة | وسط الكلمة | آخر الكلمة | منفردا | أول الكلمة | وسط الكلمة | آخر الكلمة |
|--------|------------|------------|------------|--------|------------|------------|------------|
| ا | ا | ا | ا | ب | ب | ب | ب |
| ت | ت | ت | ت | ث | ث | ث | ث |
| ج | ج | ج | ج | ح | ح | ح | ح |
| خ | خ | خ | خ | د | د | د | د |
| ذ | ذ | ذ | ذ | ر | ر | ر | ر |
| ز | ز | ز | ز | س | س | س | س |
| ش | ش | ش | ش | ص | ص | ص | ص |
| ض | ض | ض | ض | ط | ط | ط | ط |
| ظ | ظ | ظ | ظ | ع | ع | ع | ع |
| غ | غ | غ | غ | ف | ف | ف | ف |
| ق | ق | ق | ق | ك | ك | ك | ك |
| ل | ل | ل | ل | م | م | م | م |
| ن | ن | ن | ن | و | و | و | و |
| ه | ه | ه | ه | ي | ي | ي | ي |
| ء | ء | ء | ء | أ | أ | أ | أ |

IV. Pre-writing skills and handwriting skills

2. Writing skills

➤ Numbers

Arabic numerals

Arabic-Indic numerals/Eastern Arabic numerals

Western Arabic numerals

Roman numerals

| | | | | | | | | |
|-----|------|-------|------|-----|----|-----|------|----|
| I | II | III | IV | V | VI | VII | VIII | IX |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| X | XI | XII | XIII | XIV | XV | | | |
| 10 | 11 | 12 | 13 | 14 | 15 | | | |
| XVI | XVII | XVIII | XIX | XX | | | | |
| 16 | 17 | 18 | 19 | 20 | | | | |
| L | C | D | M | | | | | |
| 50 | 100 | 500 | 1000 | | | | | |

Roman numerals

| | | | | | | | | | | | |
|----------------------|---|---|---|---|---|---|---|---|---|---|----|
| Western Arabic | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| Eastern Arabic | • | ١ | ٢ | ٣ | ٤ | ٥ | ٦ | ٧ | ٨ | ٩ | ١٠ |
| Perso-Arabic variant | • | ۱ | ۲ | ۳ | ۴ | ۵ | ۶ | ۷ | ۸ | ۹ | ۱۰ |
| Urdu variant | • | ۱ | ۲ | ۳ | ۴ | ۵ | ۶ | ۷ | ۸ | ۹ | ۱۰ |

V. Handwriting difficulties

- Poor letter formation
- Awkward pencil grasp
- Poor letter size, filling a given writing space with very large letters
- Poor spacing between letters and words, writing over letters what has been written.
- Poor use of middle and top writing lines
- Slow writing speed
- Inaccurate margin use

V. Handwriting difficulties

- Difficulty copying written work from a near point or a far point (such as the chalkboard or Smart board), skipping certain letters within words
- Trouble writing across the page left-to-right pattern
- Number/ letters reversals
- Writing in the wrong order (Left to right) Messy writing

V. Handwriting difficulties

- Inconsistency with upper case/lower case letter use
- Trouble erasing completely
- Difficulty paying attention when writing
- Lack of awareness of pencil pressure
- Illegible handwriting

Dysgraphia

V. Handwriting difficulties

a b a s a e l a e l
M O T F A P L A T
in the p i v a g a
b l a k o o d

after that I came home,
because his ship crashed
and he needed help,
then he went back to
the ship and waited
because he had to be there at 12:00

Dear Mum & Dad, Monday, June 26
I'm having a wonderful time at
2.A. I loved going to get ice cream
which was on the first day we
came here. My favorite part was going
to the movies. We watched Captain Underpants
which was really funny. Probably the
worst part I was sleeping with her
she kept kicking me off the bed and
hogging all the blankets. I was all right
because we eventually went to sleep.

I am afraid of things
not being right, of being wrong
or not knowing how to do it
to make it right or wrong
what would happen if
I would do it, what
would they say. I can't find
them. So I am kind of
I am lost. Around
searching. So I am
I know the way. I know
how to come back.

1. Assessment

When evaluating the actual task of children's handwriting, following 4 areas are considered:

Domain of handwriting



Copying, writing and dictation

Legibility components



letter formation, letter alignment, spacing and size

Writing speed



the number of letters written per minute

Ergonomic factors



writing posture, upper-extremity, stability, mobility
and pencil grasp pattern

VI. Assessment and intervention

1. Assessment

Standardized testing typically starts with :

➤ the Developmental Test of Visual Motor Integration (AKA the Beery VMI)

-Visual motor integration

-Visual perception

-Motor Coordination

➤ Minnesota Handwriting Assessment (MHA)

➤ Evaluation Tool of Children's Handwriting (ETCH)

➤ Test of Handwriting skills THS

VI. Assessment and intervention

2. Intervention

Hands-on activities to strengthen children's academic abilities: writing

- Strength and stability
- core muscles
- Proprioception input
- Motor planification

Crab walk



Bear walk



Zipline activity



Scooter board activity



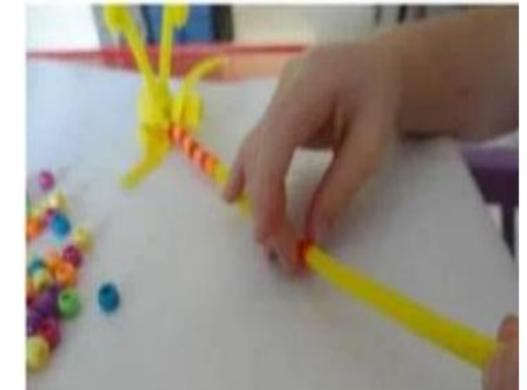
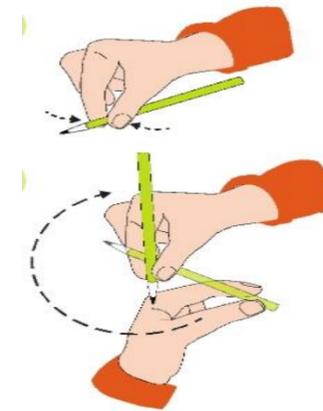
2. Intervention

Hands-on activities to strengthen children's academic abilities: writing

➤ Posture

➤ Fine motor skills

➤ Functional pencil grip



Slant board



VI. Assessment and intervention

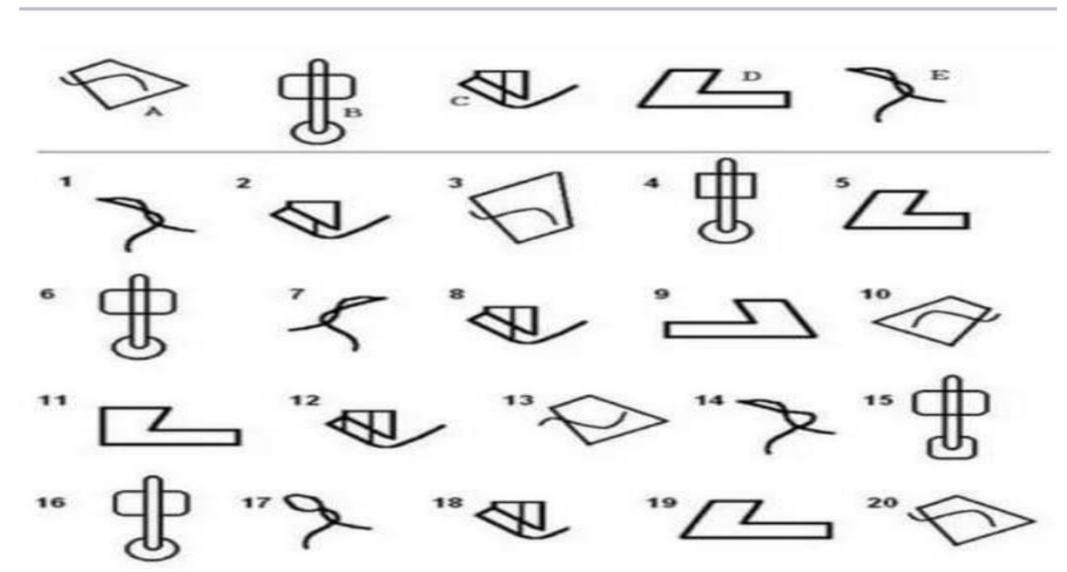
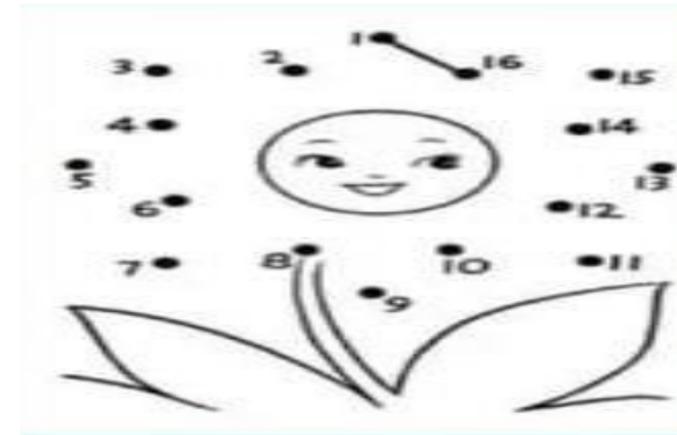
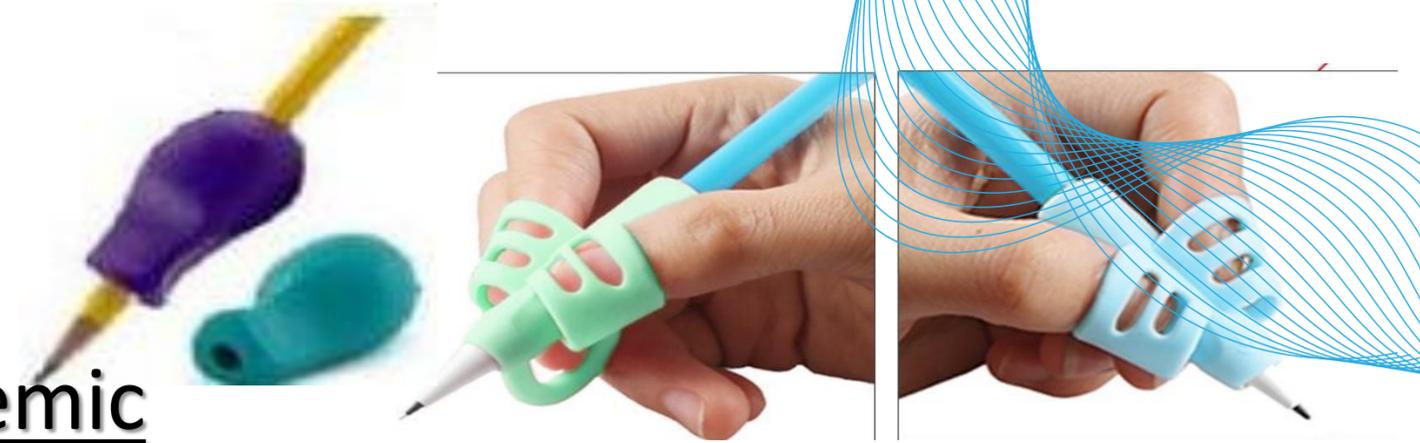
2. Intervention

Hands-on activities to strengthen children's academic abilities: writing

➤ Functional pencil grasp

➤ Visual-motor skills

➤ Visual perceptual skills



2. Intervention

Practical strategies to teach and develop writing skills

➤ Legibility

Letter formation

Sizing

Orientation

Sequence

Spacing

Alignment

Start/ Accurate margin use

VI. Assessment and intervention

2. Intervention

Formation
and letter
concept

Uppercase/
capital letters

L F E H T I

U C O Q G S J D P B R

K A M N V W X Y Z

Lowercase/
small letters

c a d

g q o

b h n

m p r

f i j

k t x

y v w

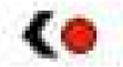
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VI. Assessment and intervention

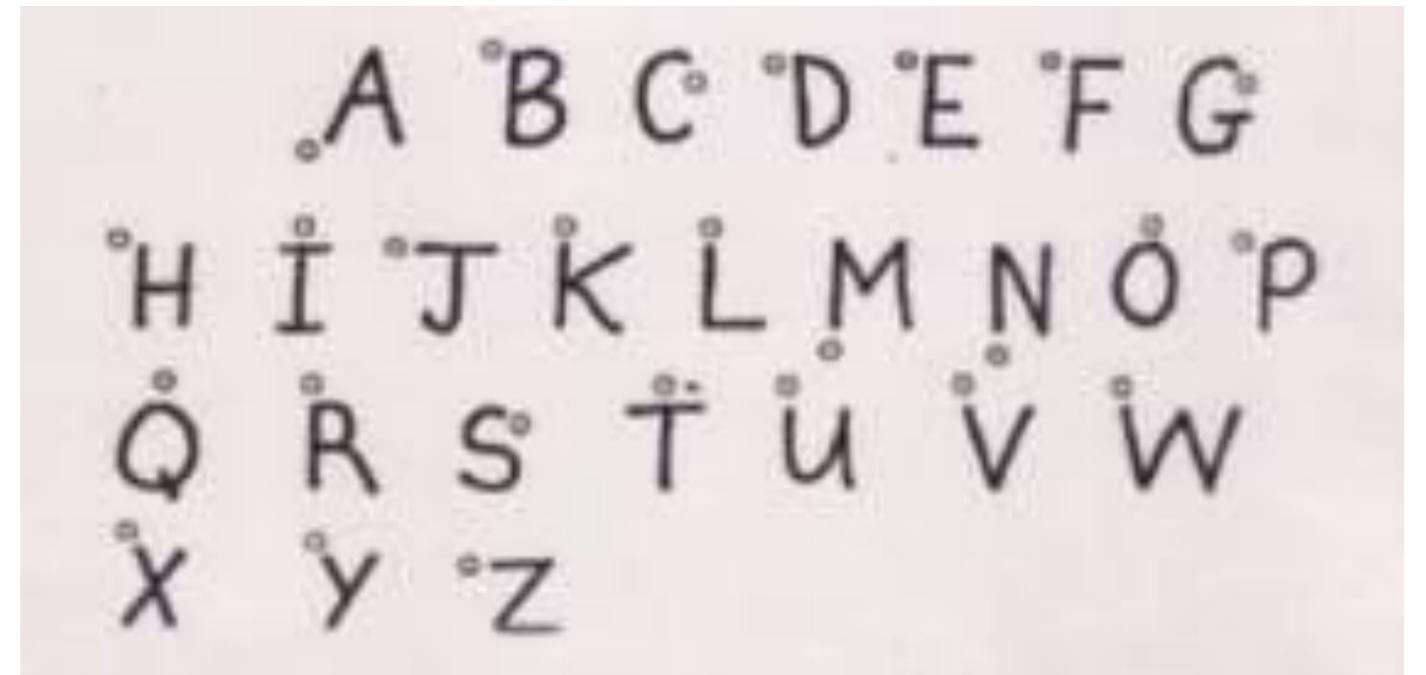
2. Intervention

Letter formation



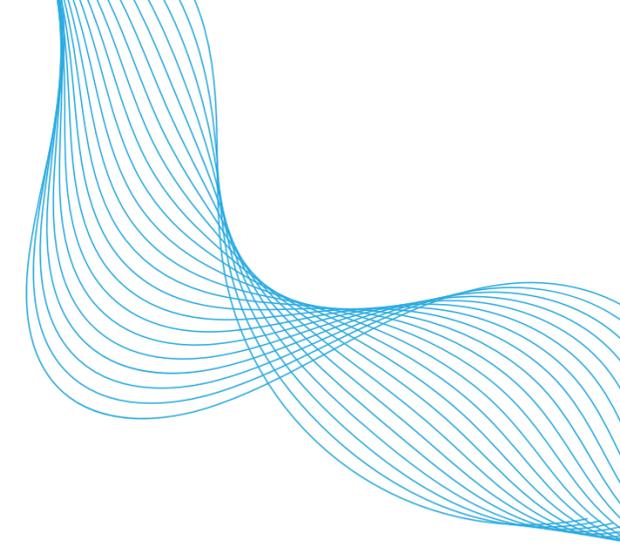
Start/ Accurate margin use

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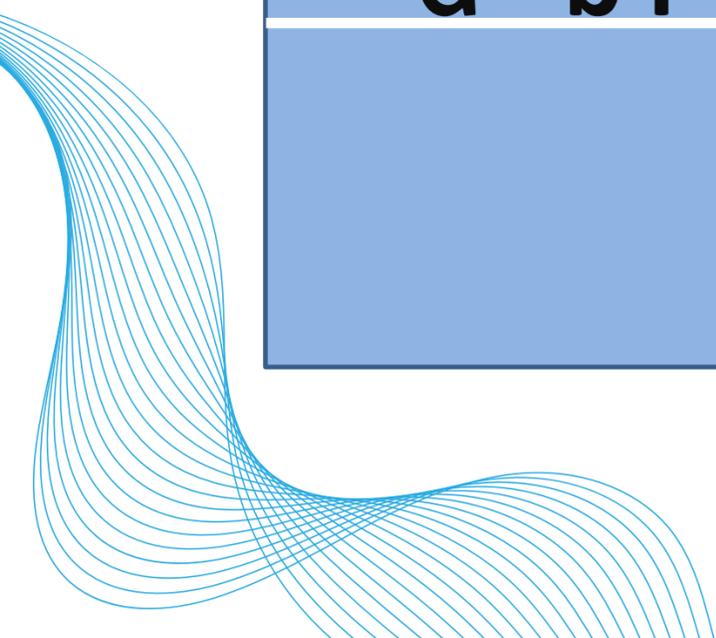
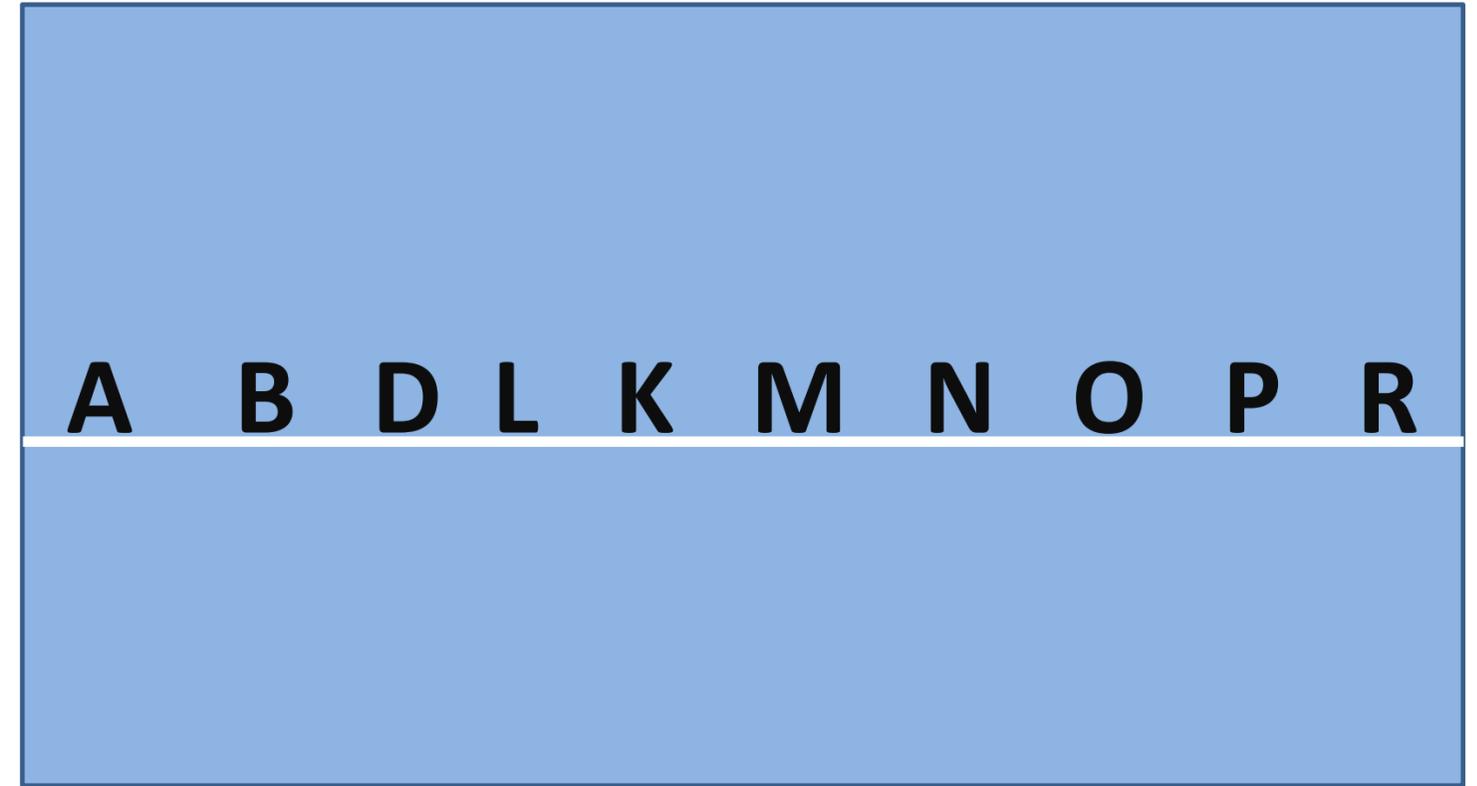
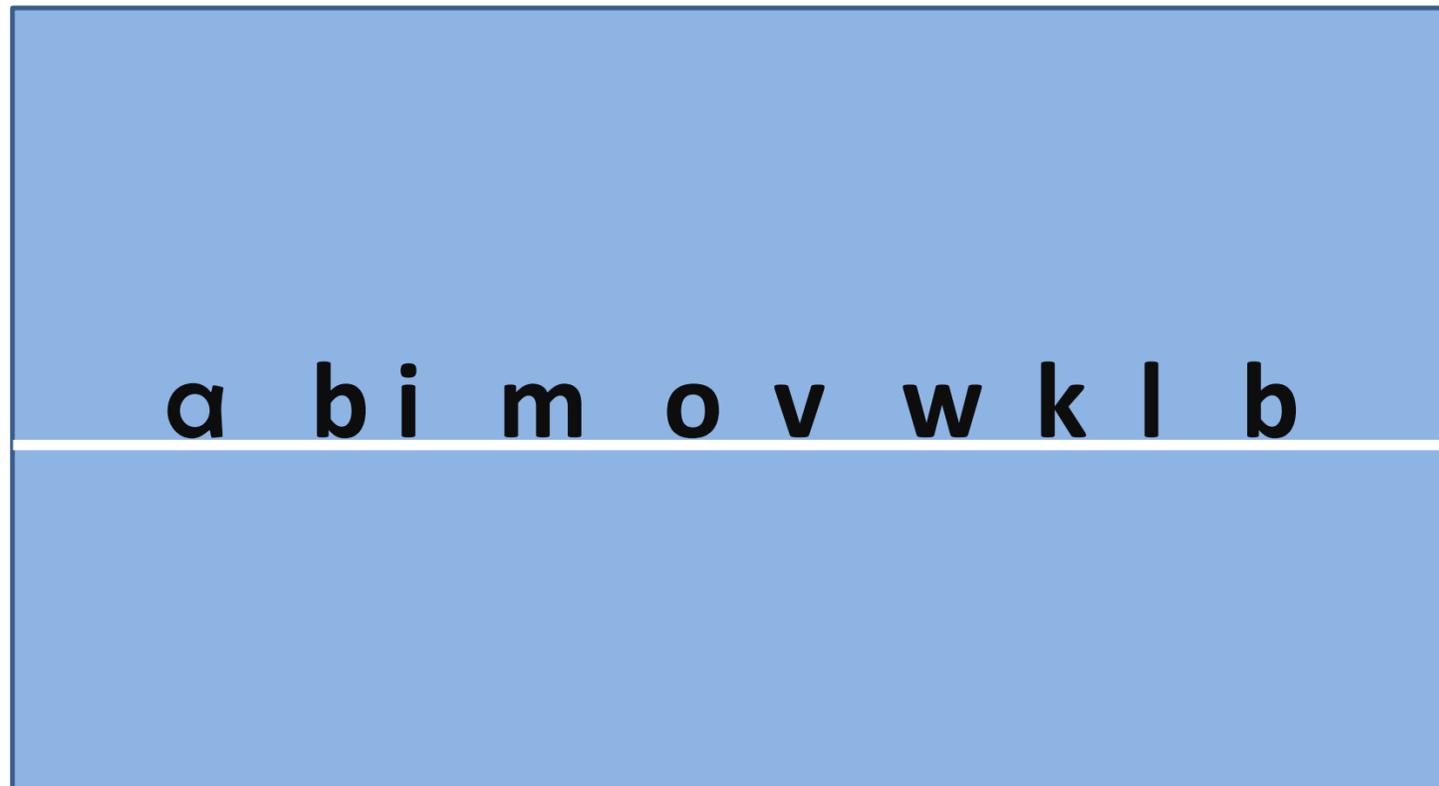


VI. Assessment and intervention

2. Intervention



Alignment



VI. Assessment and intervention

2. Intervention

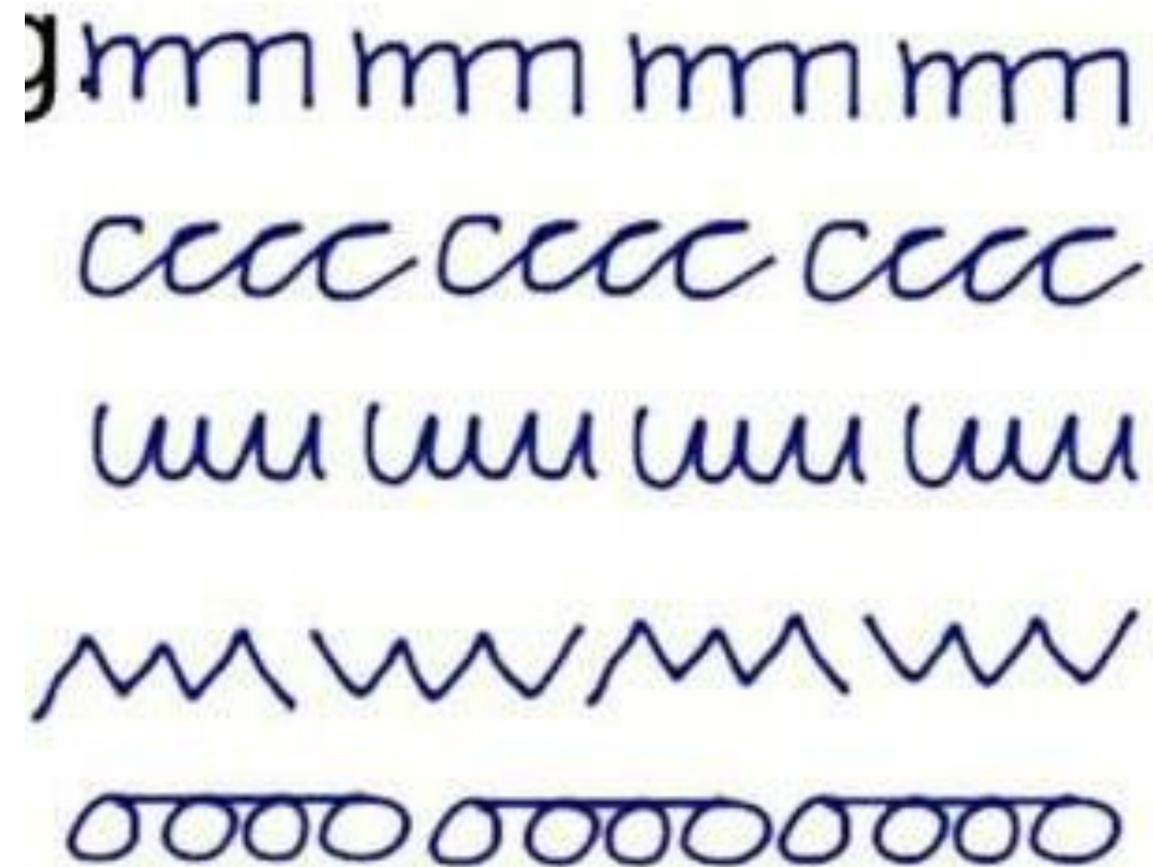
Sizing



VI. Assessment and intervention

2. Intervention

Spacing



VII. Linking writing skills with daily functional tasks to promote independence

Writing skills should not be trained in isolation, they must be integrated to into meaningful everyday tasks

We often think of handwriting as a school skill, but in adulthood it shows up in so many places: your grocery list, appointment reminders, notes in a meeting. If someone struggles with writing, it limits their ability to manage everyday life. That's why as OT, we need to build the foundations and then embed the skill into real tasks.

Which one is the functional and efficient pencil grasp ?



A



B



C



D



E



F



G



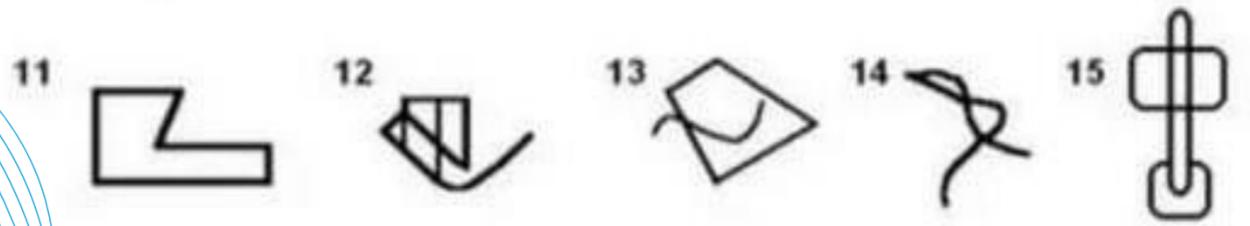
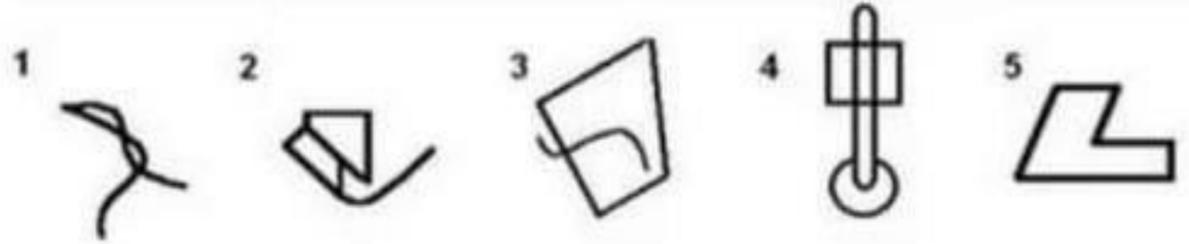
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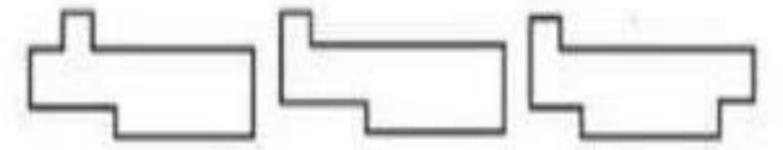
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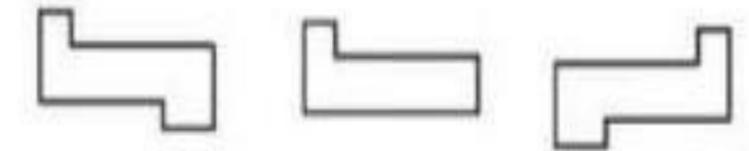
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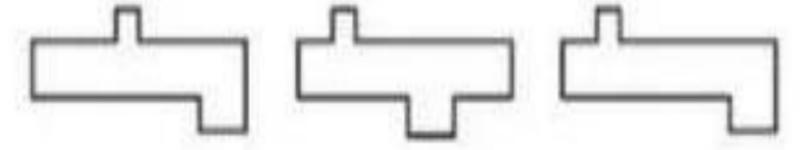
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References and resources

A complete guide to Handwriting- components and breakdowns of handwriting skills
<https://www.theottoolbox.com/a-complete-guide-to-handwriting/>

Student Handouts- Free handwriting worksheets
<https://www.studenthandouts.com/handwriting-worksheets/>

Printable Handwriting
<https://printablehandwriting.com/en>



Thank you!

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