

FOUNDATION SKILLS FOR LEARNING

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EDUCATIONAL HANDOUTS



VERSIONS INCLUDED:

- VISUAL PERCEPTUAL SKILLS
- EYE HAND COORDINATION SKILLS
- FINE MOTOR COORDINATION & VISUAL MOTOR INTEGRATION SKILLS
- SENSORY MOTOR SKILLS
- EXECUTIVE FUNCTION SKILLS
- GROSS MOTOR COORDINATION & ENDURANCE SKILLS



WHAT ARE

VISUAL PERCEPTUAL SKILLS?

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VISUAL PERCEPTION: The visual skills needed to understand, evaluate, and interpret what is seen.

- »» **VISUAL MEMORY:** allows a student to remember the order or sequence of numbers, items, pictures, and/or words after viewing them (sequential memory). Allows a student to recall characteristics of what was seen.
 - **ACADEMIC IMPACT:** Necessary for recalling a series of letters and digits for reading, spelling, and math. Allows for quicker and accurate copying of information from books and the board; less omissions and alterations.

- »» **VISUAL DISCRIMINATION:** is the ability to identify differences/similarities so as to distinguish between objects in the environment amongst other things such as color, form, shape, pattern, size, and position.
 - **ACADEMIC IMPACT:** Impairments in this area of visual perception may interfere with detecting the difference between symbols, pictures, letters, numbers, and/or words. This is necessary for letter and digit recognition, as well as higher level reading, spelling, and math skills. Helps with discriminating between words with similar spelling.

- »» **FORM CONSTANCY:** is the ability to identify or sort objects, shapes, symbols, letters, and/or words, despite differences in size or position (slightly rotated or partially hidden).
 - **ACADEMIC IMPACT:** Allows student to recognize letters and words printed in different font, color, or size.

- »» **VISUAL CLOSURE:** is the identification of forms or objects from incomplete presentations.
 - **ACADEMIC IMPACT:** Impairments in this area of visual perception may interfere with the child's ability to perceive the entire presentation of what is to be viewed and/or read. Intact visual closure allows for improved letter recognition and increased reading speed; the eyes do not have to slowly process every letter.

- »» **FIGURE GROUND:** is the ability to perceive the foreground from the background in a visual array.
 - **ACADEMIC IMPACT:** Impairments in this area of visual perception may interfere with finding specific pictures, symbols, letters, numbers, or words in a book, on a board, or on other visual material. Intact figure ground allows for quickly localizing specified words or other information on a printed page.

- »» **VISUAL SCANNING:** is the ability to use vision to search in a systematic manner, such as top to bottom and left to right. A child needs to use visual scanning to avoid obstacles while navigating their environment. Smooth visual scanning is required for reading.
 - **ACADEMIC IMPACT:** Optimal reading speed requires systematic and efficient movement of eyes from top to bottom and left to right without undue fatigue and poor re-localization.

- »» **SPATIAL RELATIONS:** is the ability to perceive two or more object's position in space relative to oneself and in relation to each other. Spatial Relations involves the ability to understand directions, reversals, and identify left and right on one's own body.
 - **ACADEMIC IMPACT:** Necessary for reading (proper order of letters and words), math skills (properly reading and aligning digits and symbols), and construction of 2 and 3 dimensional objects. Also necessary for creating a mental record of the school setting and how to navigate it. Necessary for smoothly using one's body for active endeavors during gym class (sports, dance).

- »» **POSITION IN SPACE:** is the ability to perceive an object's position in space relative to oneself and the direction in which it is turned (for example; up, down, in front, behind, between, left, and right).
 - **ACADEMIC IMPACT:** Allows for understanding of the parts of a page (top, bottom, right left) and parts of a book (front cover, back cover). Necessary for distinguishing between similar letters and digits that are frequently reversed (b/d, p/q, 6/9, w/m).



WHAT ARE

EYE HAND COORDINATION SKILLS?

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EYE HAND COORDINATION SKILLS: Refers to the integration or combination of visual perceptual information with the purposeful movements of the hands and arms. It is the ability of the vision system to coordinate the information received through the eyes to control, guide, and direct the hands in the accomplishment of a given task, such as handwriting or catching a ball.

»» **BILATERAL COORDINATION:** Bilateral Coordination is the ability to use both sides of the body at the same time. This includes using both sides at the same time for the same action, such as using a rolling pin. It also includes using the same action at alternate times, such as walking. Finally, it includes the ability to use different sides of the body for dissimilar movements such as holding the paper down when writing.

- **ACADEMIC IMPACT:** A typical school day requires repeated use of classroom tools that rely on smooth use of both hands together. This includes scissors, ruler, and a pencil sharpener. Students also need intact bilateral coordination to perform functional daily tasks such as buttoning, zipping, lacing, and tying.

»» **VISUAL MOTOR INTEGRATION:** Visual Motor Integration is the coordination of hand movements based upon the perception of visual information. It is the execution of hand movements guided by what the child is seeing. This term is often used to indicate the ability to copy geometric forms.

- **ACADEMIC IMPACT:** Shape reproduction is an important milestone that signifies that a child is developing pencil control and spatial relation skills. Learning to draw shapes is the first step in learning how to draw more complicated objects. A student's ability to draw will affect their written communication, as well as their performance in many subject areas such as math and art.
- There is a developmental sequence associated with the ability to draw shapes. Children first learn by imitating another person drawing the stroke or shape. Next, the child learns by looking at a picture of the stroke or shape and then copying it. Finally, the child simply uses their memory to draw the shape upon request.
- Children typically learn to copy shapes in the following order:

COPY SHAPES
progression



3 YEARS	CIRCLE	○
4 YEARS, 1 MONTH	CROSS	+
4 YEARS, 6 MONTHS	SQUARE	□
4 YEARS, 11 MONTHS	X	X
5 YEARS, 3 MONTHS	TRIANGLE	△
8 YEARS, 1 MONTH	DIAMOND	◇



WHAT ARE

FINE MOTOR COORDINATION & VISUAL MOTOR INTEGRATION SKILLS?

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FINE MOTOR SKILLS: Involve the use of precise and coordinated movements of the fingers and hands.

VISUAL MOTOR INTEGRATION: Is the coordination of hand movements based upon the perception of visual information. It is the execution of hand movements guided by what the child is seeing.

»» **TOOL USE:** This is an age appropriate ability to grasp, hold, and release classroom tools (pencils, scissors, rulers, erasers) and manipulate school objects (paper, books). A student needs adequate strength, control, dexterity, and visual monitoring for success in this area.

- **ACADEMIC IMPACT:** A typical school day requires nearly ongoing use of a student's hands for performing school related activities. Intact fine motor skills will have a significant positive impact on a child's academic and functional success at school.

»» **DRAWING/PRE WRITING:** Drawing Skills involve the use of a tool (pencil, crayon, marker, pen, or chalk) to create a two dimensional picture, design, or image on a surface. The drawing may represent a person, animal, place, or object. Through drawings a child can share information from their mind. This is unique to humans.

- Pre-Writing skills involve a child tracing and forming proper strokes in the correct sequence and orientation for future printing.
- **ACADEMIC IMPACT:** The ability to form vertical, horizontal, and diagonal, lines is an essential foundation skill for the future development of printing. The ability to draw is one measure of child's cognitive status; drawing is an important part of the academic curriculum.

»» **HANDWRITING:** is a complex process of recording language by hand, often by using paper and a pen or pencil. The production of legible and efficient handwriting requires intact skills in the areas of postural control, eye hand coordination, visual perception, fine motor control, ocular control, and pencil grasp.

- **ACADEMIC IMPACT:** A child's handwriting abilities have significant influence on their academic performance.



WHAT ARE SENSORY MOTOR SKILLS?

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SENSORY PROCESSING: Refers to the way a person's nervous system receives sensory messages and turns them into responses. These senses include sight (vision), sound (auditory), touch (tactile), taste (gustatory), body position (proprioception) and movement (vestibular). Most people receive and organize these messages effortlessly into adaptive physiological and behavioral responses.

>>> MOTOR PLANNING: is the ability to conceive, organize, sequence and execute an unfamiliar and complex body movement in a coordinated manner.

- **ACADEMIC IMPACT:** Intact motor planning is necessary for managing and manipulating school tools and materials such as books (opening & turning pages), organizing supplies (keeping writing tools handy), completing projects (cutting, folding, glue use).

>>> BODY AWARENESS: is the internal sense that tells you where your body parts are without needing to look at them.

- **ACADEMIC IMPACT:** Without proper body awareness a child might slide off a classroom chair, press too light or too hard with a pencil, stumble on the stairs, and frequently fall when running.

>>> TACTILE DISCRIMINATION: is what affords a child the ability to perform all types of routine fine motor tasks without the need to watch what their fingers are doing. Without the use of ongoing visual monitoring, as a child matures he should be able to accomplish everyday tasks such as shoe tying, buckling a belt, snapping, zipping, and finding coins in their pocket.

- **ACADEMIC IMPACT:** Even with the use of vision, children with poor tactile discrimination often have difficulty with tasks such as using writing tools, turning pages, and manipulating erasers.

>>> AUDITORY DISCRIMINATION: is the ability to recognize differences between sounds and words.

- **ACADEMIC IMPACT:** Auditory discrimination is very important for both language and reading skill development.



WHAT ARE EXECUTIVE FUNCTION SKILLS?

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EXECUTIVE FUNCTIONING: This term is used to describe the many tasks one's brain performs that are necessary to think, act, and solve problems. Executive functioning includes tasks that help us learn new information, remember and retrieve information we've learned in the past, and use this information to solve problems of everyday life. A child's executive functioning skills make it possible for him or her to function in a manner consistent for the child's age.

»» **WORKING MEMORY:** skills that help a child keep information in mind while using that information to complete a task. Working memory allows a child to pay attention, plan ahead, solve problems, and organize.

- **ACADEMIC IMPACT:** Intact working memory is important for classroom lessons such as keeping instructions in mind while executing them and recalling the sequence of a story.
- Intact working memory allows a student to complete the task or project without forgetting.

»» **EMOTIONAL CONTROL:** The ability to modulate and manage an emotional response; school age children need to compromise, share, and accept losing.

Self-regulation is the ability to control one's impulses. Well-developed regulation allows children to sit and stand when needed, talk quietly when required, and sleep when it is time.

- **ACADEMIC IMPACT:** A young child should be able to take turns, an older child should be able to manage the disappointment of losing. Intact emotional control keeps a student from melting down when others modify expectations or routines. A student with well-developed emotional and self-control has greater access to the educational opportunities at school.

»» **SUSTAINED ATTENTION:** This refers to the child's ability to continuously pay attention to a task or activity. Young children should be able to place books on a shelf and toys in a basket for about 5 minutes. An older child can complete one hour of homework with brief breaks.

- **ACADEMIC IMPACT:** Allows a child to start and continue school work without the need for ongoing prompting. A student with poor attention may not achieve optimal arousal; may appear restless and fidget. Such behavior is disruptive to the learning process. Even young children can use strategies to achieve or maintain self-regulation and better focus.



WHAT ARE

GROSS MOTOR COORDINATION & ENDURANCE SKILLS?

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GROSS MOTOR SKILLS: Refers to the use of large muscles groups for the performance of functions such as walking, running, jumping, navigating the school, using stairs, and playing sports.

>>> ENDURANCE & STRENGTH: Muscle strength refers to the amount of force a muscle can produce. Endurance is the continuation of motor activity despite fatigue, stress, or other adverse conditions.

- **ACADEMIC IMPACT:** Today's students spend much more time indoors engaged in sedentary activities. Poor muscle tone, ideal body weight, and decreased endurance has a significant negative impact on a student's stamina for fully participating in a full day of learning.

>>> POSTURE: Optimal postural alignment of a student's body when sitting, standing, and walking provides a stable base for moving in a smooth and accurate manner.

- **ACADEMIC IMPACT:** A student with poor posture requires extra energy to freely use their eyes and hands for printing and reading. The student may need to use their hands for propping themselves upright, rather than using their hands for desk work.
- Students with poor posture fatigue quickly and often concentrate on remaining upright rather than the teacher's lessons.