

## What Is Visual Processing ?

Visual processing involves the ability to detect and gain meaning from visual stimuli. The important concept to understand is the sequence in which visual-perceptual skills are developed and acquired through early developmental stages. These developmental stages affect different skills areas.

### Key Characteristics for Visual Processing Difficulties:

- Poor visual discrimination of forms
- Inadequate figure-ground perception
- Difficulty judging spatially
- Poor visual memory for sequence form and directionality
- Difficulty forming visual images such as puzzles or geometric forms
- Difficulty perceiving and breaking down whole words into parts of words
- Difficulty perceiving and integrating parts of words into whole words
- Confusion with words that can be dynamically reversed (saw/was)
- Limited sight vocabulary
- Losing one's place while reading or calculating
- Limited memory for irregular words
- Difficulty spelling phonetically
- Ability to spell difficult phonemic words but not simple irregular words
- Labored or poor handwriting
- Confusion of sequences of letters and/or words such as reversals, inversions and transpositions during reading, writing and/or spelling
- Difficulty copying designs, geometric forms, and human figure drawing
- Poor balance and reaction time
- Poor fine motor control
- Poor movement in space (dancing, physical education classes)
- Confusion in right-left responses
- Difficulty imagining digits presented sequentially (phone numbers, addresses)

- Difficulty with visual-auditory integration
- Difficulty imagining the sequence of words
- Difficulty in problem solving; cannot visualize scenarios or endings of tasks
- Difficulty recognizing, recalling and manipulating visually presented material (addition, subtraction, multiplication, division, fractions, ratios)
- Difficulty recognizing and remembering geometric forms (geometry)
- Difficulty recognizing symbolic signs (+, -, x, ÷)
- Difficulty sequencing steps in all forms of calculations
- Difficulty successfully lining up numbers either vertically or horizontally
- Difficulty staying within columns and rows in order to answer the problem
- Difficulty judging adequate space to complete a math problem
- Delays in learning how to write sentences, paragraphs, etc.
- Messy or incomplete worksheets
- Uneven spacing in writing
- Omitting letters from words and word from sentences
- Difficulty identifying errors in written work
- Difficulty copying from the board
- Saying words out loud while writing
- Writing ability neither commensurate with, nor reflective of understanding of information

**Area of Visual Processing: Visual Discrimination**

| Visual Discrimination   | Visual Discrimination Tier 1   |
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| <p><b>Visual Discrimination</b>—involves the ability to perceive similarities and differences in geometric forms; reading of letter symbols and math symbols; words and pictures. Examples of academic problems within this area:</p> <ul style="list-style-type: none"> <li>• Problems in all types of math</li> <li>• Difficulty understanding geometry</li> <li>• Problems recognizing math symbols</li> <li>• Problems recognizing, matching or comparing different shapes, sizes, colors, letters, words, objects and pictures</li> <li>• Reversals or inversions when writing numbers and letters</li> <li>• Poor or odd punctuation; misuse of capital letters</li> <li>• Problems in phonology</li> <li>• Problems in all levels of reading/writing</li> <li>• Difficulty with puzzles, maps</li> </ul> <p><b>Accommodations and Modifications:</b></p> <ul style="list-style-type: none"> <li>• Sit close to the board</li> <li>• Enlarge print; use print instead of script</li> <li>• Use of visual focusing aids on paper</li> <li>• Note taker for notes</li> <li>• Highlight notes</li> <li>• Oral directions with visual instructions</li> <li>• Use buddy reader</li> <li>• Color coding for words and directional markers</li> <li>• Use of books on tape</li> <li>• Write in text and worksheets</li> </ul> | <p><b>Suggested Interventionist: General Education Teacher with consultation from the Occupational Therapist; COTA; Special Education Teacher</b></p> <p><b>Suggested Session: Small group, explicit instruction within the CORE program 2x a week within the classroom.</b></p> <p><b>Strategies/Activities for Visual Discrimination:</b></p> <ul style="list-style-type: none"> <li>• Student will be examined by the school nurse for near and far visual acuity.</li> <li>• Student will be provided with enlarged images and reading materials.</li> <li>• Student will have modified worksheets which simplify and reduce non-essential visual stimuli.</li> <li>• Student will be seated close to the blackboard and/or in front of the room to reduce distractions of other students.</li> <li>• Area around/near the blackboard will be uncluttered.</li> <li>• Student will try blue overlays on printed/reading material to reduce glare from fluorescent lighting.</li> <li>• Student will be provided with index card, ruler or highlighted tracking strip for reading.</li> <li>• Teacher will write larger on blackboard or overhead projector.</li> <li>• Teacher will over-exaggerate spacing between words on all copy samples.</li> <li>• Student will utilize a slant board to decrease distance between eyes and writing/reading material.</li> <li>• Teacher will increase contrast—use black on white/white on black.</li> </ul> |

| Visual Discrimination Tier 1  | Visual Discrimination Tier 1   |
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| <ul style="list-style-type: none"><li>• Teacher will show pictures with different objects, people, etc. with missing parts. Student will point out the parts that are missing and name the object.</li><li>• Teacher will present a series of designs, numbers or letters with one design, number or letter that is different in the series. Student will pick out the different one.</li><li>• Teacher will present a series of designs, numbers or letters with one design, number or letter that is bigger or smaller than all the others. Student will identify the different one.</li><li>• Teacher will present a series of symbols that are identical except for one of the symbols which is rotated. Student will pick out the different symbol and explain why.</li><li>• Teacher will provide enlarged graph paper or turn composition notebook to provide vertical columns for math.</li><li>• Teacher will reduce visual distractions in the room such as pictures on walls, mobiles or hanging objects.</li><li>• Teacher will present a large colored picture with many objects in it. Student will point out the objects as the teacher names them.</li><li>• Teacher will teach visual discrimination using different cards and filmstrips.</li></ul> | <ul style="list-style-type: none"><li>• Teacher will provide letter number strips on desks.</li><li>• Teacher will utilize enlarged and exaggerated math symbols with titles (add, subtract, divide).</li><li>• Teacher will utilize a different color to distinguish capital letters.</li><li>• Teacher will provide instruction to confirm letter, number, and shape identification skills.</li><li>• Teacher will group objects together and ask student to select the object which is different.</li><li>• Teacher will give student an assortment of objects such as buttons, beads, and screws. Student will be asked to sort them into different egg carton sections according to size, color, shape or object.</li><li>• Teacher will give student an assortment of letters and numbers. Student will be asked to sort them into different egg carton sections according to letter or number.</li><li>• Teacher will make cards of geometric forms. Student will match the similar forms.</li><li>• Teacher will teach size discrimination by showing pictures of different sizes. Student will discuss the difference in size between two cards placed in front of him.</li></ul> |

| Visual Discrimination Tier 2   | Visual Discrimination Tier 2  |
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| <p data-bbox="170 232 1045 305"><b>Suggested Interventionist: Occupational Therapist, Occupational Therapy Assistant(COTA), Special Education Teacher</b></p> <p data-bbox="170 367 1045 440"><b>Suggested Session: 30 minutes 2 to 3x a week in a small group or individual basis inside the classroom</b></p> <p data-bbox="170 501 1045 537"><b>Strategies/Activities for Visual Discrimination:</b></p> <ul data-bbox="233 553 1045 1365" style="list-style-type: none"><li>• Teacher will prepare a sheet consisting of a set of words. One word in each set will be different. Student will circle the word that is different.</li><li>• Student will move in and out of different shapes on the floor.</li><li>• Student will play matching games such as dominos.</li><li>• Student will be given squares of various sizes and colors. Student will sort the squares according to size or color.</li><li>• Teacher will group objects together. Student will select the object which is different.</li><li>• Teacher will give student an assortment of objects such as buttons, beads, and screws. Student will sort them into different egg carton sections according to size, color, shape or object.</li><li>• Teacher will give student an assortment of letters and numbers. Student will sort them into different egg carton sections according to letter or number.</li><li>• Teacher will present a range of bead patterns. Student will copy the patterns.</li><li>• Teacher will play the snap card game with the student. Student will visually discriminate a different card from other cards played.</li></ul> | <ul data-bbox="1117 232 1925 1284" style="list-style-type: none"><li>• Teacher will present a series of identical letters written either print or cursive with one different letter. Student will pick out the odd letter and explain why.</li><li>• Teacher will present a series of four words in which three words are the same and one is different. Student will pick the one that is different and explain why.</li><li>• Teacher will present a series of words of varying complexity such as inversions, reversals, substitutions and transpositions. Student will pick out the word that is different from a series of four words and explain why (saw-was, saw-sam).</li><li>• Teacher will present a series of symbols that are identical except for one of the symbols which is rotated. Student will pick out the different symbol and explain why.</li><li>• Teacher will arrange a series of identical and similar pictures for the student to describe.</li><li>• Teacher will make cards of geometric forms. Student will match the similar forms.</li><li>• Teacher will teach size discrimination by using animal and form pictures of different sizes. Student will discuss the differences of size between the cards placed in front of him.</li><li>• Teacher will teach picture discrimination by presenting a large colored picture with many objects in it. Teacher will ask the student to point out the objects as named by the teacher.</li><li>• Teacher will teach visual discrimination through presenting different cards and filmstrips.</li></ul> |

| Visual Discrimination Tier 2   | Visual Discrimination Tier 3   |
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| <ul style="list-style-type: none"> <li>• Teacher will show pictures with different objects, people, etc., that are missing parts. Student will point out the different parts that are missing and name the object.</li> <li>• Teacher will present a series of designs, numbers or letters with one design, number or letter that is different in the series. Student will pick out the different design, number or letter.</li> <li>• Teacher will present a series of identical designs, numbers or letters with one design number or letter that is bigger or smaller than all the others.</li> <li>• Teacher will present a series of symbols that are identical except for one of the symbols, which has been rotated. Student will pick out the different symbol and explain why.</li> </ul> | <p><b>Suggested Interventionist: Occupational Therapist, Occupational Therapy Assistant(COTA), Special Education Teacher</b></p> <p><b>Suggested Session: 60 minutes 5x a week in a small group or individual basis outside of the classroom.</b></p> <p><b>Strategies/Activities for Visual Discrimination:</b></p> <ul style="list-style-type: none"> <li>• Teacher will prepare three-dimensional matching tasks with three objects, two of which are the same. Objects are presented in a linear array with explanation.</li> <li>• Teacher will prepare three-dimensional matching tasks with three objects, two of which are the same. Objects are presented in a scattered array with explanation.</li> <li>• Teacher will prepare two-dimensional matching tasks with three objects, two of which are the same. Objects are presented in a linear array with explanation.</li> <li>• Teacher will prepare two-dimensional matching tasks with three objects, two of which are the same. Objects are presented in a scattered array with explanation.</li> <li>• Teacher will designate a letter or number for the student is to find in the magazine. Student will be asked to circle as many different sizes or styles as possible.</li> <li>• Student will be asked to recognize objects, letters, numbers and shapes by touch alone.</li> <li>• Student will be given part of a newspaper. Student will be asked to circle certain letters, certain words, the first word in every sentence, the last word in every sentence or all the double letters in various words.</li> </ul> |