



Depth Perception/Tips

The term **depth perception** refers to our ability to determine distances between objects and see the world in three dimensions. To do this accurately, one must have binocular stereoscopic vision, or stereopsis. It takes both eyes working in sync to look at an object and develop an informed idea about an object, like its size or how far away it is. Your two eyes look at the object from different angles and that information is processed in your brain to form a single image.

Depth perception is important to our everyday life in so many ways. In the classroom this ability allows students to, for example: move through the school environment without bumping into things, judge distances, catch a ball in a physical education activity, know how far away a wall is, and copy accurately from the board.

You may find that a student with monocular vision (over a long period of time), may have an acceptable level of depth perception. It functions well enough for them to participate in and complete day to day tasks in a safe manner. The brain has made adjustments to compensate for the switch from binocular to monocular vision.

If a student lacks stereopsis, they are forced to rely on other visual cues as we need two eyes to triangulate to perceive depth or distance from objects.

With a lack of depth perception, the student will need other strategies to compensate for this deficit.

Depth Perception Implications and Suggestions

Some **implications** that may be associated with depth perception are as follows: (Highlight all that apply) **Note:** this is a document that can be included in the student's file and updated each year as the implications may change with grade level demands.

- Being bothered more easily by glare and/or shadows and encountering difficulties in accommodating to changes between bright and dim lights.
- Encountering eye fatigue more readily.
- Losing one's place more readily when reading.

- Keeping the pencil on the line and monitoring the spacing of letters and words and learning how to write in script.
- Keeping track of his/her place in copying from the blackboard or overhead projector. You may notice that your student skips letters, words, or sentences when required to copy.
- Your student may have difficulties in situations that involve: measuring and pouring at a close distance, working with and drawing 3-dimensional objects, using maps and graphs.
- Mobility may be difficult in areas where there is little contrast such as on stairs or outside in snowy conditions.
- Tasks that involve spatial relationships such as matching or word search can be challenging.
- Some activities in Physical Education such as ball sports and gymnastics may be difficult and you may notice that the student appears to over or under reach when catching a ball or he may appear clumsy in some gross motor activities. He/she may have difficulty in sporting activities which involve judgment of distances (ball sports, gymnastic type activities such as balance beams, track and field events such as high jumping, tag, dodge ball etc.)
- Your student may be at a disadvantage during tasks that require reading speed.
- Duplicated worksheets, especially those with little contrast may be difficult to read.

Consider the following **suggestions** (if any of the above mentioned difficulties exist highlight all that apply)

- Dark lined paper may assist your student in finding the lines. If the student did not appear to have any difficulty printing his/her name on the lines when regular lined paper was provided, it may be more of an issue if visual fatigue is evident. As your student may experience more visual fatigue in the PM. you may want to provide darkened lines for printing and larger print.
- Having well-contrasted materials will be of benefit. A black mat or a non-glare matte finish piece of construction paper under materials will provide a good contrasting background for most tasks.
- Encourage your student to use his/her hand or finger to assist with activities that involve pouring or sorting to assure accuracy.
- If a railing is available encourage your student to use it. A railing provides information on the presence of steps or stairs as well as the general location of the first up or down step. A railing can also be used to determine if the steps are going up or down, based on the direction of the railing slant. In addition, the steepness of the staircase can be estimated by the degree of the railing slant.
- Contrasting coloured strips will provide a contrast cue on or before the edge of the top step and, if required, on the edge of the remaining steps to alert your student to the presence of steps.
- Use well contrasted balls/pinnies in Physical Education.
- Extra time may be required on tasks that involve spatial relationships. Allow your student time to focus on and respond to what he/she has seen. A great deal of energy is needed to process information visually.

- Your student may tire easily when called upon to use his/her visual sense for a sustained, continuous period, allow for intermittent break times and latent responses.
- Provide your student with a 14pt. (minimum size) copy of material off the board that is of good quality, well-spaced, and contrasted. It is easier to copy when the material is closer. Provide a copy of material at near as there may be challenges with changing focus from near to far and back. Copying becomes increasingly more difficult when depth perception and fine motor problems are also present.
- If your student still requires cues to stay on track pointing to letters, graphics and words presented at near or at a distance assists in helping to focus and track the information visually. When this support is not in place you may notice that your student has a tendency to miss letters.
- If your student is having difficulty copying from the board, consider verbalizing while writing.
- Teach your student to memorize more than one word when copying so that he/she does not have to continually change his/her focal distance.
- Use different coloured chalk/felt markers for words, numbers, and sentences that you wish your student to copy. This will provide him/her with additional cues when he/she is required to continually accommodate visually at different distances.
- Numbering sentences that your student is required to copy will assist with finding his/her place.
- Highlighting the vertical margin on writing materials will assist your student with a defined place to start each line from.
- A slanted work surface will continue to be of benefit for both posture and fine motor skills. It will also bring material closer which again helps with visual fatigue.
- Placing objects on 3 stairs and giving directions (e.g., move the pencil in front of the plate, move the teddy bear behind the scissors) will assist in building up depth perception skills in younger students.
- Building an obstacle course with certain objects to avoid running into during a gym activity will assist in developing spatial skills.

* Adapted from Irene Kovats tip sheet