



## A Teacher's Guide to Vision

### *What Every Teacher Should Know About Their Students' Vision & Eye Health*

- 80 percent of all learning during a child's first 12 years of life is obtained through vision.
- Per the American Optometric Association (AOA), approximately 60 percent of students identified as "problem learners" have undetected vision problems.
- Children with vision problems may not recognize they have difficulty seeing because they have "always seen this way," or, changes in their vision are so gradual that they go unnoticed.
- A school vision screening or a pediatrician's test is not a substitute for a comprehensive eye examination from an eye doctor.
- According to the AOA, vision screenings are not diagnostic, and therefore, typically identify only a small portion of the vision problems in children.
- Most vision screenings check only to determine how well a person can see at a distance. Vision exams, however, are much more thorough.
- A comprehensive eye exam includes tests to determine nearsightedness, farsightedness, astigmatism, eye coordination and eye muscle function, eye focusing abilities.
- If vision problems are missed during crucial times in development, a child's eye health, development, and learning performance may be negatively affected.
- The Wisconsin Optometric Association (WOA) provides care at no cost to qualifying children who cannot afford exams or glasses. Please see enclosures regarding the VISION USA – The Wisconsin Project program.

#### **Signs that a child may be experiencing vision difficulties:**

- Trouble finishing written assignments
- Often loses place or skips words when reading
- Makes errors when copying from the board
- Holds reading material close to the face
- Rubs eyes
- Does not perform to potential
- Uses finger to hold their place
- Avoids close work
- Complains of frequent headaches
- Adjusts head to use one eye
- Reverses letters or words while reading or writing
- Omits or confuses small words while reading

*If you think a child in your classroom may have a vision problem, please alert parents*

As an educator, you play an important role in the future success of the students you teach. Oftentimes, you are the first one to notice vision/learning problems in the classroom. Vision has a direct effect on how well a child learns. If left untreated, vision problems can result in serious learning difficulties and behavioral issues.

#### **BASIC VISION SKILLS NEEDED FOR SUCCESS IN SCHOOL**

<b>Near Vision</b>	The ability to see clearly and comfortably at 10-13 inches
<b>Distance Vision</b>	The ability to see clearly and comfortably beyond arm's reach
<b>Binocular Coordination</b>	The ability to use both eyes together
<b>Eye Movement Skills</b>	The ability to aim the eyes accurately, move them smoothly over a page, and shift them quickly and accurately from one object to another
<b>Focusing Skills</b>	The ability to keep both eyes accurately focused at the proper distance to see clearly and to change focus quickly
<b>Peripheral Awareness</b>	The ability to be aware of things located to the side while looking straight ahead
<b>Eye/Hand Coordination</b>	The ability to use the eyes and hands together



## A Lesson in Vision and Reading

### Important Terms and Definitions

**Visual Acuity.** Visual acuity is the ability to see objects clearly. It is usually the only skill assessed in a school vision screening. The typical school eye chart is designed to be seen at 20 feet and measures how well or poorly the child sees at that distance. If a problem is discovered in the screening, the child should be referred for a thorough optometric examination.

**Visual Fixation.** Fixation is the skill utilized to aim the eyes accurately. Static fixation is the ability to focus on a stationary object when reading a word or working a math problem. Saccadic fixation is the ability to move the eyes quickly and accurately across a page to read a line of print. Pursuit fixation is the ability to follow a moving object with the eyes. These complex operations require split-second timing for the brain to process the information received and to track the path of the moving object.

**Accommodation.** Accommodation is the ability to adjust the focus of the eyes, as the distance between the individual and the object changes. Children frequently use this vision skill in the classroom as they shift their attention (and focus) between their books, the chalkboard, and computer for sustained periods of time. Being able to maintain focus for sustained periods of time is important for reading, writing, and taking tests.

**Binocular Fusion.** Binocular fusion refers to the brain's ability to gather information received from each eye separately and form a single, unified image. A child's eyes must be precisely aligned or blurred; otherwise, double vision, discomfort, confusion, or avoidance may result. If that occurs, the brain often subconsciously suppresses or inhibits the vision in one eye to avoid confusion. That eye may then develop poorer visual acuity (known as amblyopia, or 'lazy eye').

**Convergence.** Convergence is the ability to turn the two eyes toward each other to look at a close object. School desk work is one instance in which a child depends on this vision skill.

**Field of Vision.** Field of vision is the wide area over which vision is possible. It is important that a child be aware of objects in the periphery (left and right sides, up and down) as well as in the center of the field of vision. Near central or para-central vision is important for reading ability.

**Perception.** Visual perception is the total process responsible for the reception and understanding of what is seen. Good visual perception is necessary for successful school achievement. Form perception is the ability to organize and recognize visual images as specific shapes. The shapes the child encounters are remembered, defined, and recalled when development of reading skills begins. Regular optometric care can help assure that a child will have the visual skills necessary for successful classroom performance.

**Treating Reading-Related Vision Problems.** The optometrist examines these vision skills and determines how well the child is using them together. When a vision problem is diagnosed, the optometrist can prescribe glasses, vision therapy, or both. Vision therapy has proved quite effective in treating reading-related vision problems. It involves an individualized program of training procedures designed to help a child acquire or sharpen vision skills that are necessary for reading.

**Treating Reading Problems.** Because reading problems usually have multiple causes, treatment must often be multidisciplinary. Educators, psychologists, optometrists, and other professionals must confer and work together to meet each child's needs. The optometrist's role is to help the child overcome the vision problems interfering with the ability to read. Once this is accomplished, the child is then more capable of responding to special education efforts aimed at treating the reading problem itself.



**Introduce Your Students to Eye Care.** What could be a better learning tool than having an optometrist visit your classroom for a guest lecture about vision? Or perhaps, a field trip to the local eye doctor's office?

Give your class some firsthand knowledge about proper eye care, safety, and eye exam procedures. An eye doctor can make students aware of the problems that come with poor vision, such as headaches, dizziness, blurred vision, squinting, etc., and tell them how to protect their precious eyesight from injuries related to sports, sun, and everyday life!

The Wisconsin Optometric Association can help you connect with an optometrist in your area. Please call 877-435-2020 for a recommendation.

**The Wisconsin Optometric Association (WOA) and Wisconsin Foundation for Vision Awareness (WFVA) recommend that every child receive a comprehensive eye examination before starting school and afterwards on a schedule recommended by an eye doctor. The WOA and WFVA are dedicated to working with Wisconsin schools to ensure that all children receive regular eye exams. For more information on children's vision and free eye exams for children who cannot afford care, call 1-877-435-2020.**