

Vision Screening Guidelines & Requirements



2007

Cross Section of the Eye

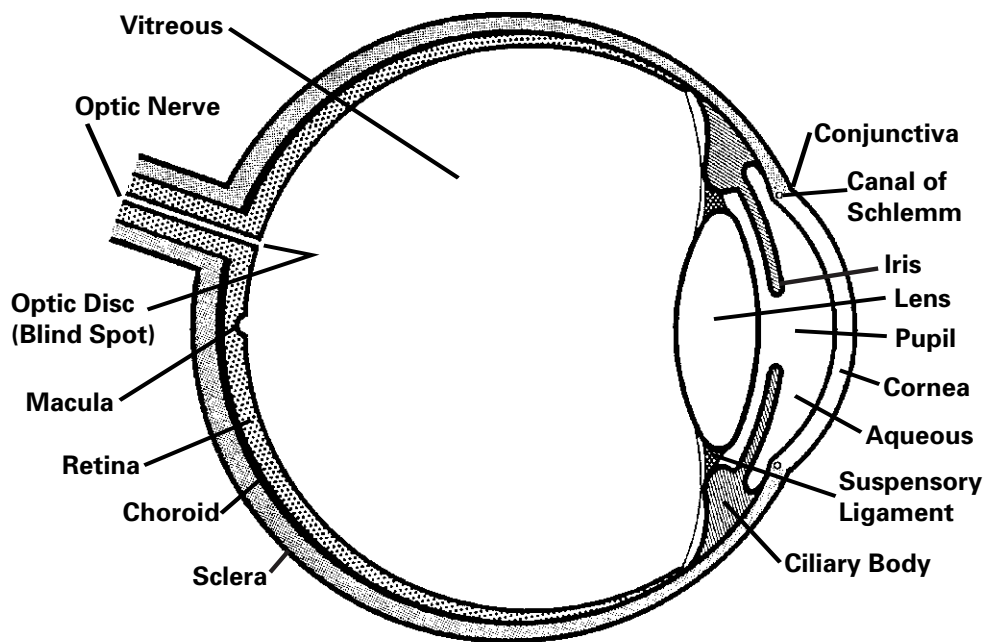


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Ohio Department of Health

Vision Screening
Requirements and
Guidelines for
School-aged Children

This guide serves as a quick reference to review the basic components and standards of a vision screening program. This guide does not serve as a substitute for appropriate training of vision screeners. Contact the Field Services Section of the Ohio Department of Health (ODH), (614) 466-5332, to inquire about training dates.

I. Introduction to Vision Screening Guidelines for Children

Childhood vision disorders are prevalent and are a significant public health problem. Early identification, diagnosis and correction of children's vision disorders are essential parts of all child health programs. The early detection and treatment of vision disorders give the visual system and brain an opportunity to develop normally by preventing permanent vision loss; thus giving children a better opportunity to develop educationally, socially and emotionally.

Vision screening procedures required by ODH are performed in accordance with the Ohio Revised Code (ORC), section 3313.69, which is printed in Appendix A. The standardization of vision screening ensures all school children will receive age-appropriate screenings. ODH recognizes that vision screening, while a valuable public health procedure, is not a substitute for professional eye care. The preferred method for early detection of vision disorders is a complete eye examination by an ophthalmologist or an optometrist.

These policies were prepared following a meeting of the ODH Ad Hoc Vision Advisory Committee in Columbus, Ohio. A complete list of the interdisciplinary committee members is located in Appendix B.

II. Summary of State Laws Pertaining to Vision Screening

- A. If the board of education or the board of health offers services by a physician or a nurse in the school, it must provide vision screenings for students in accordance with the requirements set forth by ODH in section 3313.69 of the ORC (see Appendix A).
- B. By November 1, a student enrolled for the first time in either kindergarten or first grade must be given a vision screening in accordance with the requirements set forth by ODH in section 3313.673 of the ORC (see Appendix A). The board of education may provide any elements of the screening program itself, contract with any person or governmental entity to provide any such elements or request that parents take the child to obtain any such elements from a provider selected by the parents.
- C. Boards of education and boards of health, in providing vision screenings, must use devices and procedures approved by ODH. [The procedures for conducting screening include, but are not limited to, age or grade levels to be screened, tests to be used and criteria for referral in section 3313.69 of the ORC (see Appendix A).]
- D. Boards of education and boards of health that provide vision screening must keep, on forms furnished or approved by ODH, accurate records of the tests and of the measures taken to treat problems identified through the screening in section 3313.50 of the ORC (see Appendix A).
- E. Boards of education and boards of health must make available to official state and local health, education and human service departments and agencies statistical data from the records of the vision screenings in section 3313.50 of the ORC (see Appendix A).

- F. Boards of education and boards of health must make individual records available to the same agencies listed in the paragraph above only in cases where there is evidence that no measures have been taken to treat problems determined by the screenings in section 3313.50 of the ORC (see Appendix A).
- G. Boards of education and boards of health must make individual records available to school authorities in cases where they are deemed essential in establishing special education facilities for the visually impaired in section 3313.50 of the ORC (see Appendix A).
- H. Boards of education and boards of health, if reporting the results of a failed screening in writing, must provide the results in a sealed envelope addressed to the parent or guardian in section 3709.22 of the ORC (see Appendix A).

III. Vision Screening Goals and Objectives

The purpose of vision screening is to aid in the detection of school-age children who have or are at risk for developing vision disorders. Vision screening, though an effective health assessment strategy, will produce both over referrals and under referrals. However, for the benefit of the children being screened, errors toward false positives, (i.e., over referrals,) are preferred. Parents of children screened should be informed of the following limitations: the screening is not an eye examination; the screening does not take the place of an eye examination; and the screening will not detect all potential vision disorders or diseases.

ODH has several goals for a standardized school vision screening program which include the following:

1. Prevention of vision disorders in children.
2. Early detection of vision disorders.
3. Access to professional eye care for all children with suspected vision problems.
4. Provision of information on the development of vision, vision disorders and eye safety in health education programs.

ODH's school vision screening requirements are meant to aid in the detection of school-aged children who have or are at risk for the following general vision disorders:

1. Defects of visual acuity.
2. Significant refractive error.
3. Defects of binocular vision.
4. Color perception deficits.

IV. Summary of Requirements

The following lists are a summary of requirements for vision screening:

- A. Required screening procedures
 1. Observation at all screenings.
 2. Monocular Distance Visual Acuity at all screenings.
 3. Ocular Muscle Balance test administered at near, in the first grade or at the child's initial screening.
 4. Stereopsis test using random dot stereograms to be administered at kindergarten and first grade or at the child's initial screening.
 5. Color Deficit test to be administered on males only, in kindergarten or first grade or at the child's initial screening.

Definition of initial screening: Screening that is conducted on a child, second grade or above, who is new to the district and when there is no documentation of previous screenings that are consistent with ODH screening requirements.

Vision Screening Requirements & Guidelines for School-aged Children

B. Preparation of vision screening personnel

All personnel providing vision screening are required to have adequate training. ODH provides many opportunities to attend trainings for the purpose of ensuring high quality, consistent vision screening.

Training of vision screeners must be performed in compliance with the requirements provided in this document. It is preferred that vision screeners be under the supervision of a registered nurse.

C. Children to be screened

1. All children in kindergarten, first, third, fifth, seventh and ninth grades according to the tests and methods in this document.
2. All new and transfer students regardless of grade.
3. All hearing-impaired children, annually.
4. All children referred by a teacher.
5. Preschool-age children enrolled in school-based programs upon entrance to the program and every year before entering school. (ODH provides separate screening guidelines for use with preschool children.)
6. Children who request a vision screening.
7. Children of parents who request a vision screening.

Kindergarteners and first graders enrolled for the first time must be screened by November 1 of the school year; see ORC Sec. 3313.673 in Appendix A.

This is a required minimum; additional grades may be screened as staff time permits.

D. Required tests by grade level

1. Kindergarten or initial screening
 - a. Monocular Distance Visual Acuity, using a light box and an ODH-approved chart.
 - b. Stereopsis screening using the Random Dot E test.
 - c. Color Deficit test using an ODH-approved color vision test, males only.
2. First grade
 - a. Monocular Distance Visual Acuity, using a light box and an approved chart.
 - b. Muscle Balance test administered at near using the Alternate Cover Test.
 - c. Stereopsis screening using the Random Dot E Test.
 - d. Color Deficit test using an approved color vision test, males only, if not done in kindergarten.
3. Third, fifth, seventh and ninth grades
 - a. Monocular Distance Visual Acuity, using a light box and an ODH-approved chart.



V. Required Vision Screening Test Procedures

A. Observation

Though not considered a test, all children should be observed for signs of a problem. Referrals should be made when any of the following signs are noted consistently by an observer.

1. Signs observed
 - a. Ocular asymmetry, including eye size.
 - b. Abnormal color of iris, shape of pupils, etc.
 - c. Red, swollen eyelids.
 - d. Drooping eyelid(s).
 - e. Growth on lid or eye.
 - f. Crusty eyelashes.
 - g. Unequal pupil size.
 - h. Cloudiness or haziness of cornea.
 - i. Red and watering eyes.
 - j. Misaligned eyes (ocular muscle imbalance).
 - k. Eyes in constant motion, i.e., nystagmus.
 - l. Poorly fitting frames or scratched corrective lenses.

Rescreening is not necessary for referral based on observation alone.

Referrals can be made on frequent behaviors observed by a teacher, parent or school nurse.

2. Frequent behaviors observed
 - a. Holding working material excessively close or far from the eyes.
 - b. Squinting.
 - c. Frequent rubbing or blinking of eyes.
 - d. Frowning when reading.
 - e. Thrusting head forward.
 - f. Constant head tilt or face turn; any unusual head position.
 - g. Covering an eye while reading.
 - h. Closing one eye in sunlight.

In addition to appearance and frequent behavior observed, referrals can be made based on complaints from the child.

3. Complaints made by the child
 - a. Eye pain.
 - b. Itching and/or burning sensation.
 - c. Double vision.
 - d. Blurred vision.
 - e. Frequent headaches when reading.
 - f. Persistent visual complaints after reading or any sustained near activity.
 - g. Light sensitivity.
 - h. Spots floating across field of vision.

The following list of questions is appropriate in working with the child to obtain a history of complaints:

- Do you have or wear glasses?
- Do you have difficulty seeing in the distance?
- Do you get frequent headaches when reading or doing close work?
- Do your eyes feel tired when reading or doing close work?
- Do you have blurred vision when going from distance work to near work or near work to distance work?

Children who have persistent headaches should be referred for an evaluation.

B. Monocular Distance Visual Acuity Test

Distance Visual Acuity is conducted to determine how well the child sees small objects at a distance of 10 or 20 feet with each eye. This test aids in the detection of the following:

Refractive error:

- a. Myopia: near sightedness; child is sighted for near; poor distance visual acuity.
- b. Hyperopia: far sightedness; child is sighted for far; poor near visual acuity.
- c. Astigmatism: distorted, wavy vision

Amblyopia: reduced visual acuity in an eye from lack of use in early childhood.

Monocular Distance Visual Acuity test using visual acuity eye charts

1. Children to be screened
 - a. All children in kindergarten, first, third, fifth, seventh and ninth grades, or child's initial screening.
 - b. All new students and students referred by teachers.
 - c. Hearing-impaired students, annually.
2. Approved equipment for Monocular Distance visual acuity test
 - a. Lighted cabinet.
 - b. Translucent visual acuity charts.
 - c. Occluder.
3. Conducting the Monocular Distance Visual Acuity test using translucent visual acuity charts
 - a. Criteria for use of translucent visual acuity charts:
 - 1) Eye charts should be appropriate to the age and skill of the child.
 - 2) Eye charts with proportional, linear and crowding bar spacing are required. Charts with wide spacing of letters or symbols are not acceptable.
 - 3) No part of the chart should be covered.
 - 4) The use of masking or isolating devices is not permitted. For screening purposes, charts must be properly lighted. The correct way of illuminating an eye chart is to use a lighted cabinet. Eye charts should be maintained in good condition and replaced when worn or discolored.
 - b. Preparation for testing:
 - 1) There should be little to no other activity in the room to distract the child. It is not advisable to have children waiting to be screened in the same area as the child being screened.
 - 2) There should be no other testing going on in the screening room; the room should not be noisy.

ODH recommends the usage of a low-pH quaternary ammonium chloride-based cleaner for general cleaning of equipment (e.g., Sani-Cloth). This type of cleaner is a broad-level disinfectant with disinfectant ability against bacteria, fungi and viruses.

- 3) The lighting in the screening room should be subdued with no glare on the eye chart.
 - 4) The room should not be dark. If the screener cannot adequately observe the child being screened, the room is too dark.
 - 5) Typical classroom lighting with many overhead fluorescent bulbs may have too much glare.
 - 6) Measure the screening distance to the acuity chart. Be certain the chart being used is at the distance listed on the eye chart.
 - 7) Turn on the lighted cabinet.
 - 8) Position the lighted cabinet to ensure the eye chart is at the child's eye level (seated or standing).
- c. Steps to conduct a Monocular Distance Visual Acuity test using the translucent visual acuity chart:
- 1) A 10 foot or 20 foot distance should be measured out and masking tape placed at both ends. One end is for the lighted cabinet; the other is for the child if seated, or the child's heel if standing.
 - 2) If the child is seated, the back of the chair should be placed on the line, and the back of the child's head should line up with the tape. If the child remains standing, the back of the child's heels should be placed on the tape.
 - 3) Have the child at the appropriate distance (10 feet if using 10-foot charts, 20 feet if using 20-foot charts) from where the eye chart will be presented.
 - 4) If the child wears glasses, test with glasses on. If the child says sight is better with glasses off, test both ways.
 - 5) Familiarize the child with the eye chart.
 - 6) Occlude the left eye and test the right eye first; then, occlude the right eye and test the left eye. Be certain you can observe that the child's eye is totally covered; a spectacle type occluder is helpful to prevent peeking. If you see the child turn their face sideways during the screening, reposition their face so it is squarely opposite the eye chart. At all times, you or your screening assistant must keep your eyes on the child.
 - 7) Point below the letter you want the child to identify. Initially, the child identifies one letter from each line, starting with the 20/100 line, until the child reaches the pass line which is 20/30 depending on the chart being used. On the pass line, the screener can point to each letter. Encourage the child to guess if the child hesitates.
 - 8) Always present the entire chart to the child. Do not isolate lines, letters or symbols.
4. Pass/fail criteria using the translucent visual acuity chart
- a. To pass a line on the translucent visual acuity chart, a child must be able to identify at least 75 percent of the letters presented on that line (e.g., on a line with six letters, only one error is acceptable).
 - b. The recorded visual acuity is the smallest line of letters that can be read with 75 percent accuracy:
 - 1) Allow no misses on lines with 1-3 letters.
 - 2) Allow one miss on lines with 4-7 letters.
 - 3) Allow two misses on lines with 8-11 letters.
 - c. All children must be able to read the 20/30 (pass) line with each eye separately to pass a Distance Visual Acuity screening; refer children whose best visual acuity is 20/40 or worse in either eye.

Refer children whose best visual acuity is 20/40 or worse in either eye.

- d. There is one exception to 20/30 being the pass line. For kindergarteners and first graders only, you may attempt to screen to the 20/20 line. If you do screen to 20/20, refer kindergartners and first graders who have a two-line difference between the eyes, e.g., the child reads 20/20 in one eye and 20/30 in the other eye. This difference may be an indication of amblyopia.
- e. Any child failing the Monocular Distance Visual Acuity test must be rescreened as soon as possible but within six weeks. A prompt referral must be made if the child fails the second time.

Monocular Distance Visual Acuity test using the Lea symbols

To screen using the Lea symbols, the screener should ask the child to identify simple symbols, testing each eye separately.

1. Children to be screened
 - a. Children in preschool, kindergarten and those whose first language is not English.
2. Approved equipment for Monocular Distance Visual Acuity test using Lea chart
 - a. Lighted cabinet.
 - b. Translucent Lea eye chart.
 - c. A lap card that has each of the four symbols on it: apple, house, circle and square.
 - d. Occluder.
 - e. The 5 foot Lea visual acuity eye chart may be used for children ages 3 to 5 only.
3. Conducting the screening using the Lea chart
 - a. Criteria for use of Lea charts:
 - 1) Identify population for whom this chart is appropriate (preschoolers, those unfamiliar with letters, etc.).
 - 2) Eye charts should be appropriate to the age and skill of the child.
 - 3) Eye charts with proportional, linear and crowding bar spacing are required. Charts with wide spacing of letters or symbols are not acceptable. No part of the chart should be covered.
 - 4) The use of masking or isolating devices is not permitted, except for the Lea visual acuity test at 5 feet.
 - 5) For screening purposes, charts must be properly lighted. The correct way of illuminating an eye chart is to use a lighted cabinet.
 - 6) Eye charts should be maintained in good condition and replaced when worn or discolored.
 - b. Preparation for testing:
 - 1) Do a group orientation of the symbols; this will expedite the screening process.
 - 2) Use the Lea lap card that has the four symbols - apple, house, circle and square - when performing the acuity test. This will help expedite the process for those children who are shy or do not know their shapes.
 - c. Steps to conducting a screening using the Lea chart:
 - 1) Have the child seated five or 10 feet from where the eye chart will be presented.
 - 2) Show the child the Lea lap card. The symbols should be right-side up as the child is looking at them.

When documenting the screening results in the vision screening records, write the acuity obtained (20/30, 20/50) instead of pass (p) / fail (f).



C. Ocular Muscle Balance

The Ocular Muscle Balance test is to be administered by licensed personnel or vision screeners who have been trained by ODH personnel.

The Alternate Cover test is the test for detecting eye muscle problems and is performed at a distance of 16 inches.

1. Children to be screened
 - a. Children in first grade, or child's initial screening.
2. Approved equipment for Ocular Muscle Balance
 - a. Interesting fixation target.
 - b. Occluder.
3. Conducting Ocular Muscle Balance test
 - a. Steps for conducting an Ocular Muscle Balance test:
 - 1) Have the child fixate on an object that is 16 inches away from the eyes. This target should be no larger than 12 inches and should be at eye level to the child.
 - 2) Cover the child's eye using an occluder. Watch the opposite eye for movement. Move the occluder across the child's face so the occluder covers the opposite eye. As you move the occluder from one eye to the next, watch for any horizontal or vertical eye movement.
 - 3) Move the occluder back to the other eye and watch for movement in the eye just uncovered. If a significant muscle imbalance is present, the eyes will show obvious movement upon being uncovered. If no imbalance is present, there will be no movement and the eyes will look straight ahead. Continue this process until you have made five to six passes from eye to eye with the occluder. Keep reminding the child to fixate on the object (target).
 - b. Helpful tips for Ocular Muscle Balance:
 - 1) Conduct the test at 16 inches, using a fixation target such as a small toy about 12 inches in length.
 - 2) If the child wears glasses, screen with glasses on.
 - 3) Always watch the eye being uncovered.
 - 4) Do not move the occluder too rapidly or too slowly. Keep the occluder close to the child's face.
 - 5) Direct the child to continue looking at the fixation target.
4. Pass/fail criteria for Ocular Muscle Balance
 - a. A child fails the Ocular Muscle Balance test when the screener detects any obvious motion.
 - b. Any child failing the Ocular Muscle Balance test must be rescreened as soon as possible, but within six weeks. A prompt referral must be made if the child fails the second time.

If the child wears glasses, test them with their glasses on.



D. Stereopsis

Stereopsis screenings help to determine if a child is using both eyes together, which may identify a child who has or is at risk for amblyopia (lazy eye).

1. Children to be screened
 - a. Stereopsis screening must be performed in kindergarten and first grade, or child's initial screening.
2. Approved equipment for Stereopsis
 - a. A test of Stereopsis must meet the following criterion: It must be a test that employs random dot stereograms with targets of disparity of at least 126 seconds of arc.
 - b. The approved test for Stereopsis screening is the Random Dot E (RDE) which consists of a demonstration card, two test cards and polarized glasses.
3. Conducting RDE Stereopsis screening
 - a. Steps for conducting the RDE Stereopsis test:
 - 1) Show the child the raised E figure on the demonstration card. Tell the child the E is "popping" off the card and ask the child to point to it. This allows you to be certain the child can identify the E figure.
 - 2) Put the polarized glasses on the child. If a child wears glasses, place the polarized glasses over the glasses.
 - 3) Allow the child to look at both test cards at 20 inches. Tell the child to point to the card with the "E." Repeat four times.
 - 4) When the child understands the task, move back to the testing distance of 6 ½ feet.
 - 5) Present the two test cards a total of four times. Shuffle the cards behind your back after each presentation.
 - 6) If the child cannot identify the correct card four out of four times, repeat steps 2, 3, 4 and 5.
 - b. Helpful tips for RDE:
 - 1) Do a pre-screen on yourself or another adult to make sure the lighting is adequate; dim or bright lights will hinder a successful test.
 - 2) Hold test cards with a slight tilt, about a 10-15 degree angle, to reduce reflections.
 - 3) Always watch the child's eyes to determine if the child is looking at both cards before identifying the card with the stereogram. It is a good idea to remind the child each time to look at both of the cards before pointing.
4. Pass/fail criteria for Stereopsis
 - a. Using the RDE, a child must identify the E correctly four out of four times at a testing distance of 6 ½ feet. If the child fails to correctly identify the E four times, the child fails the Stereopsis screening.
 - b. Any child failing the Stereopsis test must be rescreened as soon as possible, but within six weeks. A prompt referral must be made if the child fails a second time.

Do not use liquid to clean the polarized glasses. A regular soft, dry cloth is recommended. Store the stereo test in a cool, dry place when not in use. High heat and humidity may cause the test to fade.

E. Color Deficit Screening (males only)

Screening for Color Deficit is required because of the educational implications and vocational limitations of defective color vision. Screening for Color Deficit is done so, if needed, teachers may adjust educational materials and the child and family can make an informed vocational decision.

Only males are screened due to the fact that color deficiency is sex linked; 5 to 8 percent of the male population is color deficient, while in females it is less than 0.4 percent.

Only males are screened due to the fact that color deficiency is sex linked.

1. Children to be screened
 - a. Color Deficit screening should occur for boys either in kindergarten or first grade or at the male's initial screening.
2. Approved equipment for Color Deficit screening
 - a. To screen for the detection of color deficiency in males, the recommended test is a book of pseudoisochromatic plates. These tests resemble books with pages in which persons with normal red-green color vision can discern objects, shapes or numbers. There are many different manufacturers producing pseudoisochromatic plates and they are available from different suppliers. Because pseudoisochromatic plate tests differ, you should follow the manufacturer's instructions as to the administration of the test relative to distance, and the passing or failing scores.
 - b. The three-color testing plates that ODH approves are:
 - 1) Ishihara - 14 plate.
 - 2) Pseudoisochromatic color testing - 16 plate.
 - 3) Color Vision Testing Made Easy.
3. Conducting Color Deficit screening
 - a. Steps for conducting the Color Deficit screening test:
 - 1) Show the testing book to the child. Tell the child to trace the shape, letter or number he sees using a clean cotton swab or similar instrument. The child should not be allowed to use his fingers or hands to touch the pages. Special attention should be given to proper lighting when screening with pseudoisochromatic plates. (See Appendix C for lighting specifications.)
 - 2) Repeat step one throughout the entire test, or as directed by the manufacturer's instructions.
 - b. Helpful tips for Color Deficit screening:
 - 1) Correct lighting is essential to the proper administration of a screening using these plates.
 - 2) Failure to use proper light for color test makes the results invalid.
4. Pass/fail criteria for Color Deficit
 - a. For pass/fail criteria, follow the manufacturer's guidelines.
 - b. No referral is required, but notification of results to parents and teachers is necessary. Results should be noted on the child's school health record. The parents may choose to take the child for an eye examination to confirm the existence of color deficiency and to discuss its implications for their child. No further school follow-up is required.



VI. Procedures for Optional Screening Tests

A. Near Visual Acuity

Near Visual Acuity is not a mandatory test. Most children, even those who may be moderately farsighted, can pass a test of Near Visual Acuity. However, testing near acuity may be appropriate when a child exhibits signs of eyestrain or headaches after near work, loses his or her place when reading, complains of blurriness when reading or after any extended near activity.

1. Children to be screened
 - a. Near Visual Acuity test is conducted when a child has near complaints (e.g., exhibits signs of eyestrain or headaches after near work, loses his place or complains of blurriness when reading or after any extended near activity). However, referral on symptoms alone may be appropriate.
2. Approved equipment for Near Visual Acuity test
 - a. A near acuity card is the recommended method of screening Near Visual Acuity. As with eye charts for Distance Visual Acuity screening, near cards are available with letters, pictures or symbols. Use a chart appropriate to the child's age and skill level.
3. Conducting a Near Visual Acuity test
 - a. The following are steps to conduct a Near Visual Acuity test:
 - 1) When testing near vision, the screener holds the card at the distance specified by the manufacturer, usually 16 to 18 inches.
 - 2) Ask the child to read the 20/30 line with both eyes open.
 - b. Helpful tip for Near Visual Acuity test:
 - 1) Adequate lighting is important because it produces less stress on the eyes.
4. Pass/fail criteria for Near Visual Acuity test
 - a. To pass a near acuity test the child must pass the 20/30 line binocularly, by identifying 75 percent of that line. If the resulting acuity is 20/40 or worse, the child fails the near acuity test.
 - b. If the child subsequently fails the rescreening, he is referred. As on the Distance Visual Acuity test, a child must identify 75 percent of the pictures or letters on a line to pass that line.

Referral may be made on symptoms alone, even if the child passes the near vision screening.

B. Modified Clinical Technique

Only persons qualified and licensed, such as optometrists and ophthalmologists, may administer this screening.

1. Children to be screened
 - a. The Modified Clinical Technique (MCT) test may be used in any grade.
2. Approved equipment for the MCT test
 - a. The equipment used may vary but routinely includes the following: a visual acuity projector, occluder, fixation targets, prisms, retinoscope, +1.50 lenses, lens bar, ophthalmoscope and internal inspection for ocular health disorders.

3. Referral criteria for MCT test
 - a. ODH referral criteria for the MCT test are as follows:
 - 1) Visual acuity - 20/40 or less, either eye.
 - 2) Refractive Error.
 - a. Hyperopia +2.00 Diopter Sphere or more.
 - b. Myopia -1.00 Diopter Sphere or more.
 - c. Astigmatism + or -1.00 Diopter Cylinder or more.
 - d. Anisometropia + or -1.00 Diopter or more.
 - 3) Cover test any tropia or significant phoria at distance (20 feet) or near (16 inches).
 - 4) Ocular health disorders e.g., any disease or medical anomaly of the eye and/or adnexa.

C. Test for Refractive Errors

Reduced visual acuity (clearness of vision) can result from refractive errors (such as nearsightedness, farsightedness and astigmatism). Errors in the focusing system of the eye (refractive errors) can be measured with autorefractors. Acuity is usually measured on a scale that compares a person's vision at 20 feet with that of someone who has perfect vision. Thus, a person who has 20/20 vision sees objects that are 20 feet away with the same clarity as a person with normal vision, but a person who has 20/200 vision sees at 20 feet what a person with perfect vision sees at 200 feet.

1. Children to be screened
 - a. All children in kindergarten, first, third, fifth, seventh and ninth grades.
 - b. All new students and students referred by teachers.
2. Approved screening device for the test for Refractive Errors
 - a. An autorefractor: This watches the way a child's eyes react to light and measures the time the light takes to bounce back from inside the child's eyes. Test identifies when a child has a refractive error when one eye focuses at a different distance than the other eye.
3. Conducting the test for Refractive Errors
 - a. Steps to be taken
 - 1) Child sits in front of the autorefractor, a beam of light is emitted from the device and the eye's response is measured. The machine uses the information to calculate the probability of refractive error.
4. Pass/fail criteria for Refractive Errors
 - a. The reading from the measurement is used with the referral criteria to determine if a child should be referred to an eye care professional.
 - b. Refer the child according to the manufacturer's age-appropriate referral guidelines.

The SureSight screener is not a stand-alone test. The SureSight screener should be used in conjunction with the other age-appropriate mandatory tests.



VII. Follow-up and Referral Procedures

Vision screening is a public health strategy used in a mass screening setting to efficiently identify children with or at risk for vision disorders. Screening will produce both over referrals and under referrals; however, for the benefit of the children being screened, errors toward false positives (i.e., over referrals) are preferred.

Failure on any one test, required or optional, will result in a referral (many children will pass a second screening, reducing the over referral rate). This is a required minimum; additional grades may be screened as staff time permits. All children who are not testable must be referred to an eye professional.

As an aid in ensuring appropriate referrals, children who fail the initial vision screening must be rescreened prior to referral (as soon as possible, but within six weeks). This will lower the number of over referrals. Screeners should monitor the accuracy of their referrals. One way this may be done is to compare the school screening results with the findings of the eye specialist examination. Not all appropriate referrals will result in treatment, but if there are frequent discrepancies between the screening and exam results, screening methods should be reviewed.

Vision screening without a follow-up plan is considered an ineffective health assessment program. Recording of screening test results and implementation of follow-up measures taken to correct defects are required by sections 3313.50 and 3709.22 of the O.R.C. The following steps are required:

1. A written notification of the screening results shall be reported in a sealed envelope addressed to the parent or guardian of the child screened. This notification will inform the parents their child has failed a vision screening and a professional vision examination is recommended. The notice to parents shall not include any diagnostic statement about the child's suspected vision problem.
2. Along with this notification, parents must receive a copy of the Eye Specialist Report (see Forms section), which is to be completed by the examining doctor and returned to the referring agency.
3. Results of the child's vision screening should be entered on the Vision Screening Record (see Forms section) and must be entered on the child's permanent School Health Record.
4. The names of children who have failed a vision screening must be entered on the Vision Follow-up Record.

Forms used for vision screening and follow-up may be downloaded from the ODH Web site (<http://www.odh.ohio.gov>) or photocopied from the examples in Forms section of this document. Forms used in vision screening must be those supplied by ODH or approved by the director of health in ORC section 3313.50 (see Appendix A). If you have a form that you would like to use instead of an ODH form, you may request to do so by writing to ODH and enclosing a copy of your form.

ODH has instituted a system of data collection mandated by section 3313.50 of the ORC (see Appendix A) which periodically requires randomly selected schools to report vision screening data by school building. Use and retention of the correct screening and follow-up forms simplify a school's ability to respond accurately to this survey.

VIII. Screening by Eye Care Professionals

School or public health vision screenings for children may be conducted by ophthalmologists or optometrists according to the guidelines within this document. Parents must be informed that this is a screening and not a comprehensive eye examination. An opinion rendered by ODH's legal counsel concluded that professionals who provide vision screening services to schools, whether as volunteers or contract personnel, must follow the testing requirements and methodologies approved by ODH.

Recruiting patients for a private practice is inappropriate in screening programs and is regulated by state professional boards. The Vision Advisory Committee stresses that eye care professionals conducting screenings in schools shall not make direct referrals to their own practices. Unacceptable methods related to referral include the sending of screening results on provider letterhead as well as the use of any provider identifying material on the screening and referral forms.

IX. Students with Disabilities

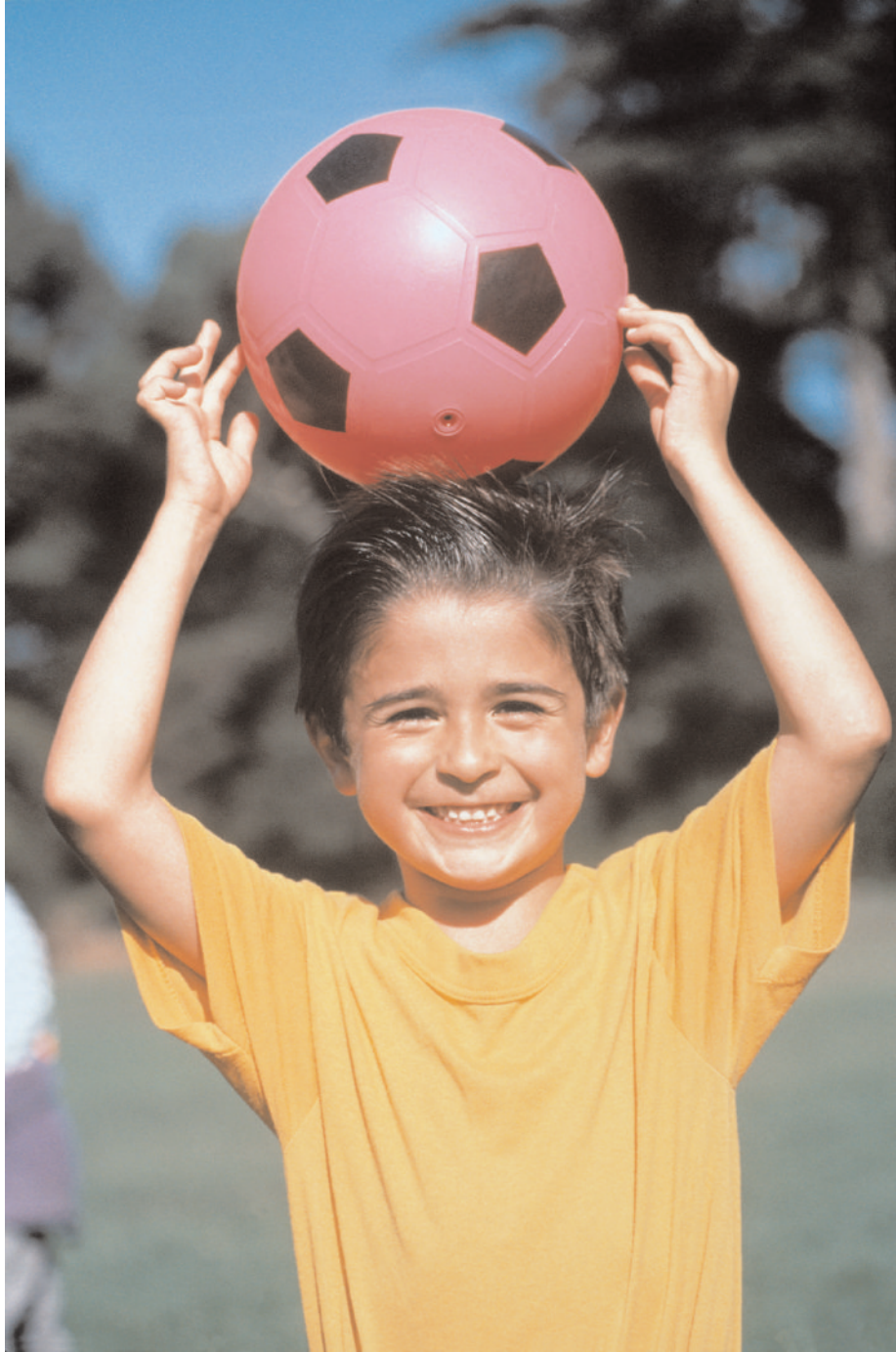
The Advisory Committee on Vision Services for Handicapped Children met September 19 and 20, 1983, and made the following recommendations which were endorsed at the full Vision Advisory Committee meeting on June 4, 2004. The recommendations were later placed in ORC Section 3323.19 (see Appendix A).

Children in special education classes will be screened at the ages that correspond to the grade levels required for all students (preschool, kindergarten, first, third, fifth and ninth grades). These children should remain in the screening program due to a higher risk of undetected vision loss.

It is mandated by ORC section 3323.19 (see Appendix A) that a student identified with disabilities and who is receiving services for the first time under an individualized education program (IEP) have at least one comprehensive eye examination, conducted by either an ophthalmologist or an optometrist, upon entrance to any educational program meeting standards set by the State of Ohio. The eye examination must occur within three months of the student being identified with disabilities. A student who has not undergone a complete eye examination within this time frame will not be denied from continuing the prescribed services in the student's IEP.

ODH stresses the importance of completion and return of the Eye Specialist Report to the referral school to ensure adequate follow-up.







Appendices

Appendix A

Ohio Revised Code 3313.50. Record of tests; statistical data; individual records.

Boards of education and boards of health making tests for determining defects in hearing and vision in school children shall keep an accurate record of such tests and of measures taken to correct such hearing and visual defects. This record shall be kept on a form to be prescribed and furnished or approved by the director of health. Statistical data from such records shall be made available to official state and local health, education, and human services departments and agencies. Individual records shall be made available to such departments and agencies only in cases where there is evidence that no measures have been taken to correct defects determined by such tests, provided that such records shall be made available to school authorities where they are deemed essential in establishing special education facilities for children with hearing and visual defects.

HISTORY: GC § 4838-8a; 122 v 261; Bureau of Code Revision, 10-1-53; 141 v H 428.
Eff 12-23-86

Ohio Revised Code 3313.673. Screenings of beginning pupils for special learning needs.

A) Except as provided in division (B) of this section, prior to the first day of November of the school year in which a pupil is enrolled for the first time in either kindergarten or first grade, the pupil shall be screened for hearing, vision, speech and communications, and health or medical problems and for any developmental disorders. If the results of any screening reveal the possibility of special learning needs, the board of education of the school district shall conduct further assessment in accordance with Chapter 3323. of the Revised Code. The board may provide any of the elements of the screening program itself, contract with any person or governmental entity to provide any such elements, or request the parent to obtain any such elements from a provider selected by the parent. If the board conducts hearing and vision screening itself or contracts for hearing and vision screening, such screening shall be conducted pursuant to sections 3313.50, 3313.69, and 3313.73 of the Revised Code.

(B) Prior to the first day of August of the school year in which a pupil is required to be screened under this section, the board shall provide parents with information about the district's screening program. If the board chooses to request parents to obtain any screening services, it shall provide lists of providers to parents together with information about such screening services available in the community to parents who cannot afford them. Any parent requested to obtain any screening services under this division may sign a written statement to the effect that he does not wish to have his child receive such screening.

HISTORY: 143 v S 140 (Eff 10-2-89); 143 v H 777. Eff 4-26-90.



Ohio Revised Code 3313.69. Hearing and visual tests of school children; exemptions.

The board of education or board of health providing a system of medical and dental inspection of school children, as authorized by section 3313.68 of the Revised Code, shall include in such inspection tests to determine the existence of hearing and visual defects in school children. The methods of making such tests and the testing devices to be used shall be such as are approved by the department of health.

Any child shall be exempted from a dental inspection if he has been examined for dental defects by a regularly licensed dentist, from a hearing test if he has been examined by a regularly licensed physician, and from a visual test if he has been examined by a regularly licensed physician or optometrist upon presentation to the school authorities of a certificate to the effect that he has been so examined during the twelve months immediately preceding the date of such inspections.

HISTORY: GC § 4838-6a; 122 v 261; Bureau of Code Revision. Eff 10-1-53.

Ohio Revised Code 3323.19. Eye examinations for students with disabilities.

(A) Within three months after a student identified with disabilities begins receiving services for the first time under an individualized education program, the school district in which that student is enrolled shall require the student to undergo a comprehensive eye examination performed either by an optometrist licensed under Chapter 4725. of the Revised Code or by a physician authorized under Chapter 4731. of the Revised Code to practice medicine and surgery or osteopathic medicine and surgery who is comprehensively trained and educated in the treatment of the human eye, eye disease, or comprehensive vision services, unless the student underwent such an examination within the nine month period immediately prior to being identified with disabilities.

However, no student who has not undergone the eye examination required under this section shall be prohibited from initiating, receiving, or continuing to receive services prescribed in the student's individualized education program.

(B) The superintendent of each school district or the superintendent's designee may determine fulfillment of the requirement prescribed in division (A) of this section based on any special circumstances of the student, the student's parent, guardian, or family that may prevent the student from undergoing the eye examination prior to beginning special education services.

(C) Except for a student who may be entitled to a comprehensive eye examination in the identification of the student's disabilities, in the development of the student's individualized education program, or as a related service under the student's individualized education program, neither the state nor any school district shall be responsible for paying for the eye examination required by this section.

HISTORY: 151 v H 66, § 101.01, eff. 6-30-05.

Appendix B

Ad Hoc Vision Advisory Committee

Ohio Department of Health Vision Advisory Committee Members*

State Program Representatives Ohio Department of Health

David Schor, M.D., Chief
Division of Family and Community Health Services

Karen Hughes, M.P.H., Chief
Bureau of Child and Family Health Services

Jo Bouchard, M.P.H., Assistant Chief
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Sherrye Holloway, M.A., Save Our Sight Coordinator
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Lynval Williams, M.S., M.P.H., Hearing and Vision Coordinator
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*Committee Members' titles and affiliations as of meeting on 6/2004.

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Appendix C

Correct Lighting for Testing with Pseudoisochromatic Color Plates

At its 1997 meeting, the Ad Hoc Vision Advisory Committee discussed the need to conduct color vision screening under correct illumination. It was agreed that consistent results could be attained only by the use of standard sources of illumination. Incorrect illumination produces invalid test results. Following are several names of standard illuminants that may be used for color vision screening.

Chroma 70 Florescent (F15T8/C7G)
General Electric
Cleveland, Ohio 44112

Criticolor Florescent (F15T8/CC)
Verd-A-Ray Corporation
Toledo, Ohio 43605

Macbeth Easel Lamp
Macbeth Corporation
Newburgh, New York 12550

True Daylight Illuminator
Richmond Products
Boca Raton, Florida

Ultralume (F96T12/5000) [CRI (91)]
Westinghouse Electric Corporation
Bloomfield, New Jersey 07003

All of the above illuminants come as tubes with the exception of the Macbeth and the True Daylight. The True Daylight is contained in a light fixture.



Appendix D

Glossary of Terms Relating to the Eye and Vision

Accommodation	Focusing of the lens of the eye to see at different distances.
Alternate cover	Method of determining the presence, direction and magnitude of either strabismus or heterophoria.
Amblyopia	Dimness of vision in an eye due to non-use; known as “lazy eye.”
Anisometropia	A significant difference in refractive error between the eyes; a common cause of amblyopia.
Astigmatism	An optical defect which prevents all parts of an image from being focused by the eye at one time. In this case, no matter how the eye is focused, some part of the image will be blurred and often distorted. Astigmatism is corrected with lenses that alter the light entering the eye to provide a sharp focus.
Autorefractometer	Automatic measurement of the refractive state of the eye.
Binocular Vision	Vision in which both eyes contribute simultaneously to the single perception of the object viewed. Binocular vision is required for accurate depth perception.
Color Deficit	Inability to perceive differences in color, usually for red or green, less frequently for blue or yellow. Condition exists in varying degrees from minor loss to complete color blindness.
Contrast sensitivity	The ability of the visual system to distinguish between an object and its background. Sine wave gratings are used to measure functional visual acuity at five testing spatial frequencies.
Diopter	A unit of measurement denoting the amount a lens or prism can bend light. A term used to describe the strength of a lens or prism.
Esophoria	A tendency of the eye to turn inward.
Esotropia	A manifest turning inward of the eye.
Exophoria	A tendency of the eye to turn outward.
Exotropia	A manifest turning outward of the eye.
Fovea	The part of the macula (located on the retina) adapted for most acute vision, or central visual acuity.
Fusion	The ability of the brain to coordinate the images received by the two eyes into a single mental image.
Hirschberg's Test	A gross test for the presence of, or approximate magnitude of, strabismus. It is done by simultaneously comparing the position of reflected light of a single source from the corneas of the two eyes. This test is not very sensitive and is generally used when the cover test cannot be used.
Hyperopia	A refractive error in which the eyeball is too short from front to back (farsightedness) or the refractive power of the eye too weak, so parallel rays of light are brought to a focus behind the retina. Correction of the condition requires a convex (plus) lens. The eye has a natural ability to compensate for low amounts of hyperopia. People vary in their ability to make this adjustment without discomfort or loss of visual performance; this ability declines with age. The adverse effects of hyperopia depend upon the magnitude of the condition.
Hyperphoria	A tendency for the eye to turn upward.
Hypophoria	A tendency for the eye to turn down.
Minus (-) sign	A symbol designating a lens as divergent in power; a concave lens; the type of lens used to correct myopia or nearsightedness.

Myopia	A refractive error in which the eyeball is too long (nearsightedness) or the refractive power too strong, so parallel rays of light are focused in front of the retina. Correction of myopia requires a concave (minus) lens.
Oculus dexter	Latin term for right eye (OD).
Oculus sinister	Latin term for left eye (OS).
Oculus uterque	Latin term for both eyes (OU).
Ophthalmologist	A physician, M.D. or D.O., who specializes in the diagnosis and treatment of defects and diseases of the eye. Performs surgery, prescribes lenses and medication.
Optician	Person licensed to interpret the prescription written by the physician or optometrist and to make, adapt and fit eyeglasses and/or other optical aids.
Optometrist	A doctor of optometry, O.D., who is trained and licensed to examine eyes and related structures to determine the presence of vision problems, eye diseases or other ocular abnormalities. Prescribes lenses or other optical aids and some medications.
Ophthalmoscopy	The examination of the interior of the eyes with an ophthalmoscope for the purpose of detection of eye disease or ocular signs of systemic disease.
Phoria	A latent deviation in which the eyes have a constant tendency to turn from the normal position; used with a prefix, i.e., eso- (in), exo- (out), hyper-(up) and hypo- (down), it indicates the direction of such deviation.
Photorefracton	Recording of the refractive state of the eye by adapted photography.
Plus (+) sign	A symbol indicating a convergent lens; type of lens used to treat hyperopia (farsightedness).
Preferential looking	Method of approximating visual acuity in preverbal and nonverbal children by presenting high contrast gratings and a gray field and noting the child's preference by observation.
Refractive error	A defect in the eye that prevents light rays from being brought to a single focus on the retina. Myopia, hyperopia and astigmatism are refractive errors.
Retinoscopy	The objective measurement of the refractive state of the eye with a retinoscope.
Stereopsis	Binocular visual perception of three-dimensional space based on retinal disparity. Stereopsis requires the simultaneous use of both eyes and therefore requires binocular vision.
Strabismus	Failure of the two eyes to fixate simultaneously on a single object potentially visible to both eyes—crossed eyes, wall-eyes, heterotropia. Strabismus is the most frequent cause of amblyopia.
Tropia	An obvious deviation or turning of the eye; used with prefixes to denote direction of the turn.
Visual acuity	A measurement of the ability to discriminate a specific detail at a specified distance. Ordinarily, the specific detail is one-fifth the overall size of a letter or geometric form and the designated distance is usually 20 feet (6 meters) at far, or 16 inches (40 centimeters) at near.

Forms



School Vision Screening Information

To: Parents

From: _____, School Nurse

Vision screenings will be administered on _____ to all preschool and students in grades _____.

Why is it important to have your child's vision screened?

To identify if your child has vision problems or might be at risk for vision problems.

Vision screening will consist of any of the following tests:

1. Observation (all grades).
2. Monocular Distance Visual Acuity (all grades).
3. Ocular Muscle Balance test (first grade).
4. Stereopsis test (kindergarten and first grade).
5. Color Deficit test (males only, in kindergarten or first grade).

If your child passes the vision screening, you may not be contacted by the school nurse. A vision screening provides only a snapshot of how your child performs on the day the test was administered and is not a substitute for a complete eye exam by an optometrist or ophthalmologist.

If your child fails the screening, you will be informed of test results. Please direct any questions to the school nurse at _____.

Vision Screening Referral Letter

Date
Address
City, State, Zip

Dear Parent:

Our school district routinely performs vision screenings to identify students who have vision problems or might be at risk for vision problems. The vision of students is vital, especially for classroom learning, so it is important to identify any barrier to learning that can be corrected.

Your child's school vision screening results suggest that he/she should have a complete professional eye exam. It is important to your child's school success to have a professional evaluation. If a problem is found and corrected, it may help your student do better in his/her school work.

Just because there are no complaints about vision, you should not assume that your child has perfect vision. Often children do not know they should be able to see better than they do.

If you need help finding a local eye doctor, please contact me at _____. Services may be available for those unable to pay. Call me to discuss if you need help with the cost of the professional eye exam.

Enclosed is a referral form to take to your eye doctor. It is important for us to know the outcome of the professional examination, so please return the form to us with the results of the exam.

Sincerely,

School Nurse

Vision Screening Referral Report

Date: _____

To the Parents of _____ D.O.B _____

School _____ Grade _____

Vision screening was recently conducted at your child's school. The results of the vision screening indicate your child may have a vision problem. Vision problems can place your child at risk for learning difficulties. It is recommended that you take your child to his/her optometrist or ophthalmologist for further evaluation. If you have any questions concerning the screening results, please contact the school nurse. Please let the school nurse know if your child is already under a doctor's care for vision problems or if you need assistance in finding a medical provider. **Please return the completed Eye Specialist Report form to the school.**

Consent and Release of Information

I, _____ (*parent/guardian*) of the above named child, hereby authorize the provider completing this report to return this completed form to:

for the specific purpose of notifying the school of any specific vision problems, recommendations and instructions for teachers related to the child's vision problems. This authorization expires upon submission of the completed form to the above named school.

I understand that I may refuse to sign this authorization and that my refusal will not affect my ability to obtain treatment, payment for services or eligibility for benefits for my child; however, if this form is not submitted to the school, I understand that the school may not have sufficient information to address special vision needs for my child.

(*Signature of parent/guardian*)

(*Date*)

Color Vision Screening Notification

Date _____

Dear Parent:

The results of your child's color vision screening indicate _____ may have difficulty discerning certain colors. Color vision problems are not usually treated, but you may want to confirm these screening results with an eye specialist. There are some professions that require good color vision, and in planning for your child's education and future jobs, it is helpful to know whether there is any defect of color vision.

HEA 4716 (Rev 06/07)

Color Vision Screening Notification

Date _____

Dear Parent:

The results of your child's color vision screening indicate _____ may have difficulty discerning certain colors. Color vision problems are not usually treated, but you may want to confirm these screening results with an eye specialist. There are some professions that require good color vision, and in planning for your child's education and future jobs, it is helpful to know whether there is any defect of color vision.

HEA 4716 (Rev 06/07)

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HEA 4716 (Rev 06/07)

Ohio Department of Health
246 N. High St.
Columbus, Ohio 43215

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