Guidelines For Vision Screening Programs: Kindergarten Through Grade 12

COLORADO
Department of Education

2016 Guidelines

2024 Reaffirmed; links updated

Foreword

Effective vision screening programs must be accurate and time efficient. Accuracy can be instantly improved by the use of adhesive eye patches to prevent peeking during visual acuity testing. Critical line testing can allow for faster screening. Instrument based screening can detect vision threatening risk factors in young children or those who are unable to perform visual acuity testing. Enlist volunteer vision screening programs such as Colorado Kidsight (https://www.kidsightcolorado.org/home) to help reduce the workload of screening without incurring any cost to the school. Listen to teachers/parents as they are often aware of vision problems that should be evaluated by an eye care professional. Compliance with referrals is a problem but parents are more likely to take their child to an eye care professional if they understand why. Communication is key.

Remember…."Patching prevents peeking!"

Thank you for all you do –

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Acknowledgements

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Introduction

Student's ability to see greatly impacts their ability to learn. Screening for vision problems is an appropriate part of school health services, largely carried out by the professional school nurse. There are roles for paraprofessionals and volunteers in vision screening, but only with training and under the supervision of the professional school nurse. Vision screening is mandated in C.R.S 22-1-116.

The 12 components of a strong vision system of care

1. Appropriate educational materials for parents/caregivers
2. Parent/caregiver approval for information sharing
3. Screening with appropriate tools and procedures
4. Policies for children with special needs
5. Rescreening and difficult to screen children
6. Communicating screening results
7. Systematic follow up with parents/caregivers to ensure eye exam
8. Linking parents/caregivers with eye care professionals
9. Ensuring receipt of eye exam results
10. Communicating results with primary care providers
11. Ensuring compliance with the eye care treatment plan
12. Ensuring vision program effectiveness through annual evaluation

School nurses should know screening is sound public health practice and school is an ideal place to monitor the health of children. Screening is intended to facilitate early identification and diagnosis of disease and functional disorders. It is an easy, relatively inexpensive way to identify from a large number of apparently healthy students, those who may be at risk of having a potentially disabling condition.

Only an eye care professional can diagnose and treat a vision problem, but screenings help find children who need a full eye exam. Students with vision concerns should be referred to an eye care professional. The referral is the most important component of the screening program. **Following up on referrals is essential.** Educating parents on the importance of professional follow-up is the most challenging aspect of the screening process, however it is the most critical.

C.R.S. 22-1-116 School Children – sight and hearing tests

The sight and hearing of all children in the kindergarten, first, second, third, fifth, seventh, and ninth grades, of children in comparable age groups referred for testing, shall be tested during the school year by the teacher, principal, or other qualified person authorized by the school district. Each school in the district shall make a record of all sight and hearing tests given during the school year and record the individual results of each test on each child's records. The parents or guardians shall be informed when a deficiency is found. The provisions of this section shall not apply to any child whose parent or guardian objects on religious or personal grounds.

Vision Screening

I. History and External Observations

Purpose: Detect any history or outward obvious ocular pathology or abnormalities

Grades: Ongoing – year around observation of all students, by parents, teachers, and other school personnel.

Equipment: ABC Checklist (Appendix B)

Procedure: Provide the school personnel with a list of symptoms and student complaints that might indicate a vision problem

A. Health History: Medical concerns with higher incidence of vision and eye health problems

- Preterm or low birth weight (<3.5 lbs.)
- Autism
- Hearing Impairments
- Speech/Language delays
- Down Syndrome
- Cerebral Palsy
- Fetal Alcohol Syndrome
- Fragile X
- Intellectual and Developmental Disabilities
- First-degree relatives with strabismus or amblyopia
- Medications (e.g. ADHD medications)

B. Appearance of Eyes

- One eye turns in or out at any time; eyes are crossed
- Pupils/eyes appear different sizes
- Reddened eyes or lids
- Eyes tear excessively
- Drainage encrusted eyelids
- Frequent styes or swollen lids
- Drooping lids
- Discharge from eyes

C. Behavioral signs of visual problems

1. Eye movement abilities (Ocular Motility)
    - Needs finger or marker to keep place
    - Displays short attention span when reading or copying
    - Frequently omits words
    - Writes up or down hill on paper

- Rereads or skips lines unknowingly
- Unusual placement of drawings on paper

2. Binocular vision problems
   - Repeats letters within words
   - Omits letters, numbers or phrases
   - Misaligns digits in number columns
   - Squints, closes or covers one eye
   - Tilts head extremely while working at desk
   - Consistently shows gross postural deviations with close work
   - Only able to read for short periods of time
   - Clumsy, runs into things

3. Near vision and fine motor skill abnormalities
   - Must feel things to assist in any interpretation required
   - Writing is crooked, poorly spaced and child cannot stay on the ruled lines
   - Misaligns both horizontal and vertical series of numbers
   - Uses hand or fingers to keep place on the page
   - Avoids near work, loses interest

4. Visual form perception (visual comparison, visual imagery, visualization) Distance Vision, Near Vision
   - Fails to recognize same word in next sentence
   - Confuses same word in same sentence
   - Repeatedly confuses similar beginnings and endings or words
   - Whispers to self for reinforcement while reading silently

5. Refractive Status (Nearsightedness, Farsightedness, and Focus Problems) Distance Vision, Near Vision
   - Comprehension decreases as reading continues; loses interest quickly
   - Mispronounces similar words while reading
   - Blinks excessively with close work and reading
   - Holds book closely to face or face close to the desk top
   - Avoids all near/close tasks
   - Closes or covers one eye when reading or doing close work
   - Makes errors in copying from reference book to paper
   - Makes errors in copying from the board to paper

- Squints to see the board or overhead screen or asks to move nearer
- Rubs eyes during or after short periods of visual activity
- Fatigues easily
- Blinks excessively to “clear up” when changing focus from near to far

D. Complaints (student statements)

- Headaches in forehead or temples
- Burning or itching eyes after reading or desk work
- Nausea or dizziness
- Unable to see board
- Words move or jump
- Eye discomfort in tasks that demand visual attention
- Complains of seeing double (diplopia)
- Print blurs after reading a short time
- History of head injury

Referral Criteria:

If a student has any of the listed symptoms, even if he or she passes all other vision screening, refer.

Helpful Tips:

- This list should be distributed to the teachers prior to the screening
- This list could be printed in the school newsletter for parents prior to the screening
- Use the “ABC Checklist” before the screening date and throughout the school year, for teacher referrals, for screeners noting a concern at the time of the screening, and prior to re-screen and/or referral

Children at high risk for vision disorders and those with readily recognized eye abnormalities such as strabismus or ptosis should be referred directly, and in a timely manner, to an appropriate eye care professional. This includes children with the following:

- Readily observable ocular abnormalities
- Neurodevelopmental or cognitive disorders
- Systemic conditions that have associated ocular abnormalities
- A history of preterm or low birth weight (<3.5 lbs)
- Parents who believe their child has a vision problem
- Hearing impairments
- Motor abnormalities, such as Cerebral Palsy
- Down Syndrome
- Speech/language delays
- Autism Spectrum disorders

Children who have received an eye examination from an eye care professional within the prior 12 months do not need to be screened, but should be referred back to their eye care professional if follow up is needed.

II. SCREENING PROCEDURES

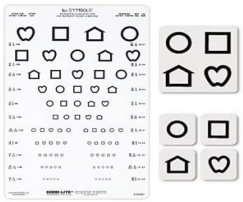
Distance Visual Acuity:
The Gold Standard for detecting a vision problem for ages 6+ years

Purpose: To test clearness of vision when looking in the distance; to detect myopia (nearsightedness), amblyopia, and astigmatism

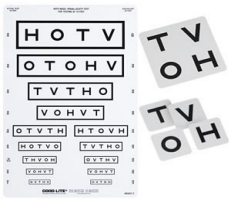
Grades: All students in Kindergarten, 1st, 2nd, 3rd, 5th, 7th, 9th or comparable grade levels (C.R.S. 22-1-116). Consider screening students new to the district and referrals from parents, teachers or staff. Although The Individuals with Disabilities Education Act of 2004 (IDEA) does not require yearly screening, testing vision is encouraged whenever there is a concern or the student is being evaluated for an Individualized Education Program (IEP).

Equipment: Distance Sloan 10 foot chart. It is acceptable to use a 5 foot chart for very young students (under five years). Use an adhesive eye patch, paper tape or special occluder glasses to test one eye at a time especially for students 9 years of age and younger. Using a paper cup or the student's hand allows peeking and reduces test accuracy.

Examples of Evidence Based Charts:



LEA Symbols



HOTV

Sloan Chart

Instrument-based devices use automated technology to estimate refractive error and provides information on abnormality of the eyes. These devices can be classified into two categories. Photoscreeners use optical images of the eye's red reflex to estimate refractive error; some can also provide information on eye alignment and opacities such as cataracts. Handheld, portable autorefractors analyze light reflected from the retina to give an estimate of refractive error. These devices work well for young students and students with special needs that are difficult to screen. Carefully research the different devices so that it meets your screening needs.

NOTE: These devices do not measure visual acuity but objectively informs about the presence of risk factors that could lead to problems with visual acuity such as significant refractive error.

Occluder examples:

Screening personnel should monitor occlusion carefully because children with reduced vision in one eye often attempt to use their better eye by peeking.

Preferred methods of occlusion are to use adhesive eye patches or 2-inch wide hypoallergenic paper tape (e.g., Micropore or Blenderm) for student under 9 years. An acceptable method is the use of specially constructed occluder glasses (e.g., Good-lite® opaque occluder glasses) or an occluder paddle for an older student.

Holding a tissue, hand, or paper cup over a child's eye is **not acceptable** because children can easily peak using these types of occluders.

Procedure:

A. Select a room for testing that preferably has subdued ambient room lighting and maximum natural lighting (sunlight). Glare must be eliminated from the chart surface.

   Note: Self-illuminated charts are preferred over non-illuminated because self-illuminated equipment avoids yellowing, shadows are minimized, and the letters are well-contrasted. However, a clean white wall chart with clear contrast between the letters and the background is acceptable.

B. If a student wears glasses at all times, then the testing should be conducted with the glasses on.
C. Mount the wall chart at the student's eye level. Adjust the chart height for the size of the student being screened. A suggestion is to place Velcro on the wall and move the chart as needed.
D. Recommended formats for preschool children include matching picture optotypes, such as LEA Symbols, or HOTV letters, presenting optotypes as either an entire line of optotypes with a "surround bar" or as single optotypes surrounded by 4 individual "crowding bars."
   Examples of "crowding bars" or "surround bar"

E. As soon as a child is able to verbally identify letter optotypes, the charts using Sloan Letters should be used.
F. Mark off 5 or 10 feet, whichever is appropriate for your chart. The line may be marked with masking tape or laminated paper feet placed on the floor so that the child will be at the required distance from the chart.
G. Have the student **place their heels on the line** or other floor marking. Do not allow the student to lean forward. Monitor for squinting as this may indicate a referral is needed.
H. If student is seated, the back legs of the chair should be placed on the line.
I. Occlude the left eye with an adhesive eye patch (using a card or disposable cup are less accurate) and test the right eye. Then reverse the procedure to test the left eye. Be consistent in testing the right eye first to avoid recording errors.
J. **Remember: patching prevents peeking.**
K. Briefly point under 11optotypes and quickly remove pointer. A paper cut out may be used to isolate the line of optotypes, but not each individual letter or symbol.
L. If the child is already wearing glasses or contact lenses, determine the reason for the correction. Test the student with glasses on if used for distance vision.
M. When testing, start with the critical line testing:
    - 20/32 or 20/30 for students age 5 years (60 months) or older
    - 20/40 for students age 4 years (48-59 months)
    - 20/50 for students age 3 years (36-47 months)

Note: To pass the student must correctly identify the majority of the optotypes in the critical line appropriate for their age. If unable to read critical line, record the line they can correctly identify the majority of optotypes.

N. Record the last line read correctly with each eye.
O. Vision is recorded as a fraction. The top number (numerator) recorded refers to the number of feet from the eye chart, and the lower number (denominator) refers to the line on the chart the student is able to read. The chart will indicate if it is for use at 5 or 10 feet. If a 5 or 10 foot chart is used record the 20 foot equivalencies at each symbol line, usually along the left-hand margin. Other fractions that may appear on the chart with 6 as the numerator indicate the metric equivalent.
P. All students who do not pass the initial screening should be rescreened. See Figure 1: Flowchart

Helpful Tips:

Explain the process to the student:
✓ "These are the symbols/letters. See which symbol/letter you see first in this line."

- ✓ The student may point to a training card to match the optotypes to identify what is seen on the chart.
- ✓ Demonstrate how to use the occluder. If using the "lollipop" occluder, it should be held horizontally.
- ✓ If the student needs help understanding, test from the top of the chart down, if needed. Otherwise, begin with the critical line testing as described above.
- ✓ Remind students not to squint during the test.
- ✓ Present optotypes in reverse or inconsistent order between students.
- ✓ Familiarize younger students with the optotypes prior to the screening

Referral Criteria for Distance Vision Using Critical Line:

According to the American Association for Pediatric Ophthalmology and Strabismus the use of critical line screening is a reasonable and efficient alternative to having a child read the entire visual acuity chart. If they pass at the critical line, further testing with smaller optotypes is not necessary.

Passing the screening requires correctly identifying the majority of optotypes in the critical line with each eye.

Age	Critical Line	RESULTS
3 years (36-47 months)	20/50	Pass
4 years (48-59 months)	**20/40**	**Pass**
5 years and older	**20/30 or 20/32**	**Pass**

Optional or additional tests: The following tests are not required and may be performed on referral or concern by nurse, teacher or parent.

A. NEAR VISION TESTS – Plus Lens and Near Visions Cards – Do not screen preschool or kindergarten students**.**

Plus Lens Test (Preferred method)

Purpose: To detect the refractive error, hyperopia (also known as hypermetropia) in which incoming images converge beyond and not on the retina. The result is a blurred image. This has also been referred to as "farsightedness". The convex plus lens provides a degree of refraction to the hyperopic eye pulling the image forward to converge on the retina. The result is a clear image and results in a referral.

Equipment: Sloan distance chart, occluder and plus 2.50 diopter lens or flipper.

Procedures:

1. Follow the same procedures as the distance visual acuity test.
2. Place or have the child place a +2.50 D lens over the eye being tested and the occluded lens over the other eye or patch. If a flipper is being used, have the student hold it in his or her right hand placing it on the nose as if it were a pair of glasses. When you are ready to test the second eye, instruct the student to "flip" the lenses

so the opposite eye is occluded. If plus lenses are used that are in a regular glasses frame have the child or assistant hold the occluder over the eye not being tested.

3. Direct the child's attention to a letter on the 20/30 line (or 20/32 equivalent) of the vision chart. Ask the child to read or name the letters, symbols, or shapes while looking through the plus lens with one eye. Then move the occluder or flip the lenses and have the child do the same with the other eye.
4. The inability to read the line is a PASS. If the child is able to read a majority of the optotypes on the 20/30 (or 20/32 equivalent) this is a FAIL. The child should be rescreened.

Referral Criteria: If on a retest the child is still able to read a majority of the optotypes on the 20/30 (or 20/32 equivalent) while looking through the plus lens, the child should be referred for a professional eye examination. Failure in one or both eyes constitutes a referral.

Near Vision Cards

Purpose: Near vision cards are used to assess near visual acuity or detect excessive hyperopia or hypermetropia. Note: Students are often able to accommodate their vision during this test and still pass. For this reason the Plus Lens test is preferred for testing near vision.

Equipment: Near Vision Cards with Lea symbols or Sloan letter, occluder.

Procedure: If a child is wearing glasses determine if they are for reading or for distance vision. If the glasses are for reading, test the child with and without the glasses. If they are corrected for distance vision, do not remove the glasses during the near vision screening as there might be an uncorrected astigmatism and they will fail the test needlessly.

1. Hold the card at the appropriate distance from the face at eye level (refer to the manufacturer's directions).
2. Test in a well-lit room. Make sure the card is presented without glare or shadows on the surface.
3. Do not allow the student to lean forward.
4. Occlude the left eye with the occluder and test the right eye. Then reverse the procedure to test the left eye.
5. Ask the student to name the optotypes on each line as directed. If the student is able to read the majority of the optotypes in the 20/30 or 20/32 line, this is a PASS.
   If the student is unsuccessful, they should be rescreened.

Helpful Tips:

✓ Make sure the child does not lean forward and keeps the distance consistent between the card and their face. If a string is attached, it should be straight.
✓ Follow the manufacturer's instructions.

✓ Be aware of some children with hyperopia will be able to accommodate long enough to successfully pass this screening using near charts/cards this is why the plus lens is preferred.
✓ It is recommended that any child who fails the first screen be rescreened before referring.

Referral criteria: Follow manufacturer's instructions. *If the student is unable to read most of the optotypes at 20/30 or 20/32 refer them to an eye care professional.*

B. STEREO/DEPTH PERCEPTION – Do not screen preschool or kindergarten students.

Purpose: The preferred screening methods for binocularity which may indicate amblyopia, poor depth perception, strabismus or other pathologies. Full stereopsis is not fully achieved until age six.

Equipment: Digital vision screener or Vectograph: Use a digital vision screener if available following manufacturer's instructions or stereo fly vectograph (or reindeer, butterfly) and polarized glasses.

Procedure:

1. Seat the student at a table or a desk.
2. Ensure bright lighting.
3. Seat yourself close to the student.
4. Place the two-sided booklet containing the vectograph image flat on the table or desk, or slightly propped up to eliminate glare.
5. Place the polarized glasses on the student's face.
6. Direct the student's attention to the Fly's wings (Reindeer's antlers or Butterfly wings) on the right side of the booklet.
7. Ask the student what he/she sees. The Fly's wings appear as if they are "popping out" from the booklet. Ask the student to "pinch" the wings. The full page image is for instructional purposes only and does not suggest the absence of visual problems. For the actual test, proceed to the three rows of animals on the opposite side of the testing book.
8. A student passes if they see the one three-dimensional animal in each row.

Helpful Tips:

✓ If a student wears glasses, test with glasses on. Put the polarized glasses over them.
✓ The glasses are fragile and excessive handling by children can result in breakage. Longer lasting bendable glasses are now available.

- ✓ Full page image is for instructional purposes only and does not suggest the
- ✓ Absence of visual problems, so be sure to proceed to the more accurate pictures on t the opposite side of the testing book. The test is the three rows of animals.

Referral Criteria: Refer the student if unable to identify the correct three-dimensional animal in each of the three rows**. Student must identify all three to pass.**

C. NEAR POINT OF CONVERGENCE

Purpose: To determine the ability of the eyes to focus on a single object at close range.

Equipment: A small hand-held fixation target that requires visual accommodation. Examples: finger puppet, pencil puppet, or tongue depressor with a picture sticker attached to the end.

Procedure:

1. Sit or stand directly in front of the student.
2. If the student wears glasses for reading, screen with and without glasses. If the glasses are for distance vision, remove the glasses during testing.
3. Hold the fixation target at 18 inches from the student's face.
4. Instruct the student to look at the target as the screener moves it slowly toward the bridge of the student's nose stopping at the student's nose.
5. As the target is moved toward the student's nose, observe the eye movement. Keen observation is needed. Eyes should converge towards nose in a smooth and even manner. Be aware of shaking, uneven or drifting eye movement.
6. Repeat the test several times. Watch the eyes to determine the distance from the nose that the object becomes two objects. Record the number in inches.
7. For all failures, repeat the test to make sure the student did not just look away at that moment.
8. If having difficulty determining a pass or fail, you may repeat the test and ask the student when they see two objects. They should not see two objects.
9. The student should be able to converge to at least 3-4 inches, measured from the bridge of the nose. If not, the student is to be re-screened.
10. If student passes all other tests and no other symptoms such as difficulty reading but doesn't pass the convergence insufficiency, it is **not a cause** for referral. Document in the student's health file and continue to be on alert for teacher concerns.

D. COLOR VISION SCREENING

Purpose: Identify any deficiency in the ability to recognize color. Performed upon parent/teacher referrals.

Equipment: Pseudoisochromatic plates for screening. There are online programs/apps available.

Note: Use normal lighting for valid color testing. If dim lighting is used, color vision testing is likely to be inaccurate.

Procedure:

1. Use normal lighting for valid color testing. If dim lighting is used, color vision testing is likely to be inaccurate.
2. Seat student comfortably at the table.
3. Sit next to the student.
4. Show student how to use a clean soft paint brush or clean cotton tipped swab to trace symbols on the color plate. Do not use fingers or pencil to trace. Oil on the skin can cause color change to the plates.
5. Follow manufacturer's directions for scoring.

Note: Student should be referred to an eye care professional for confirmation if it is determined that the student is color deficient.

Inform the teachers and counselors of the student's color vision difficulties so that they may:

- Adjust educational materials to situations where color discrimination is required.
- Help the student to develop skills to compensate.

III. Vision Screening of Young Children and Children with Special Needs

Young children and children with special needs require particular screening attention. They may have short attention spans, limited verbal expression and language skill, processing delays or difficulties, and possible fear of new situations and unfamiliar adults.

A. Preschool-Aged Students

According to the American Association for Pediatric Ophthalmology and Strabismus (AAPOS), instrument based (auto refractor) screening is preferred for children 0-3 years of age due to the potential inability of young children to cooperate with 16optotypes-based screening. Instrument based screening is also acceptable up to the age of 5 years; however, there is a high degree of success and reliability in using 16optotypes-based screening for children ages 3-5 years. For comprehensive vision screening for children birth through five years, please refer to the *Vision Screening Guidelines: Children Birth through Five Years* from the Colorado Department of Education. These guidelines were developed for Child Find.

B. Students with Special Needs

Refer to page 8 for information on **c**hildren at high risk for vision disorders

Purpose: Adjunctive to assessment provided by eye care professional.

Equipment: Refer to traditional screening procedures.

Procedure: Refer to traditional screening procedures.

1. Use of traditional screening techniques

a. Sloan letter, HOTV, or Lea symbol vision screening chart for students that can identify letters/symbols.
b. Use instrument based screening if the student does not have the cognitive ability to respond, or are unable to react to a choice option.

2. Observation and assessment
    a. Health history
    b. "ABC Checklist" vision screening tool to assess

Referral Criteria: It is recommended that students with special needs be routinely followed by an eye care professional. Refer in the same manner as the regular vision screening procedures outlined in these Colorado guidelines. See Figure 1: Flowchart.

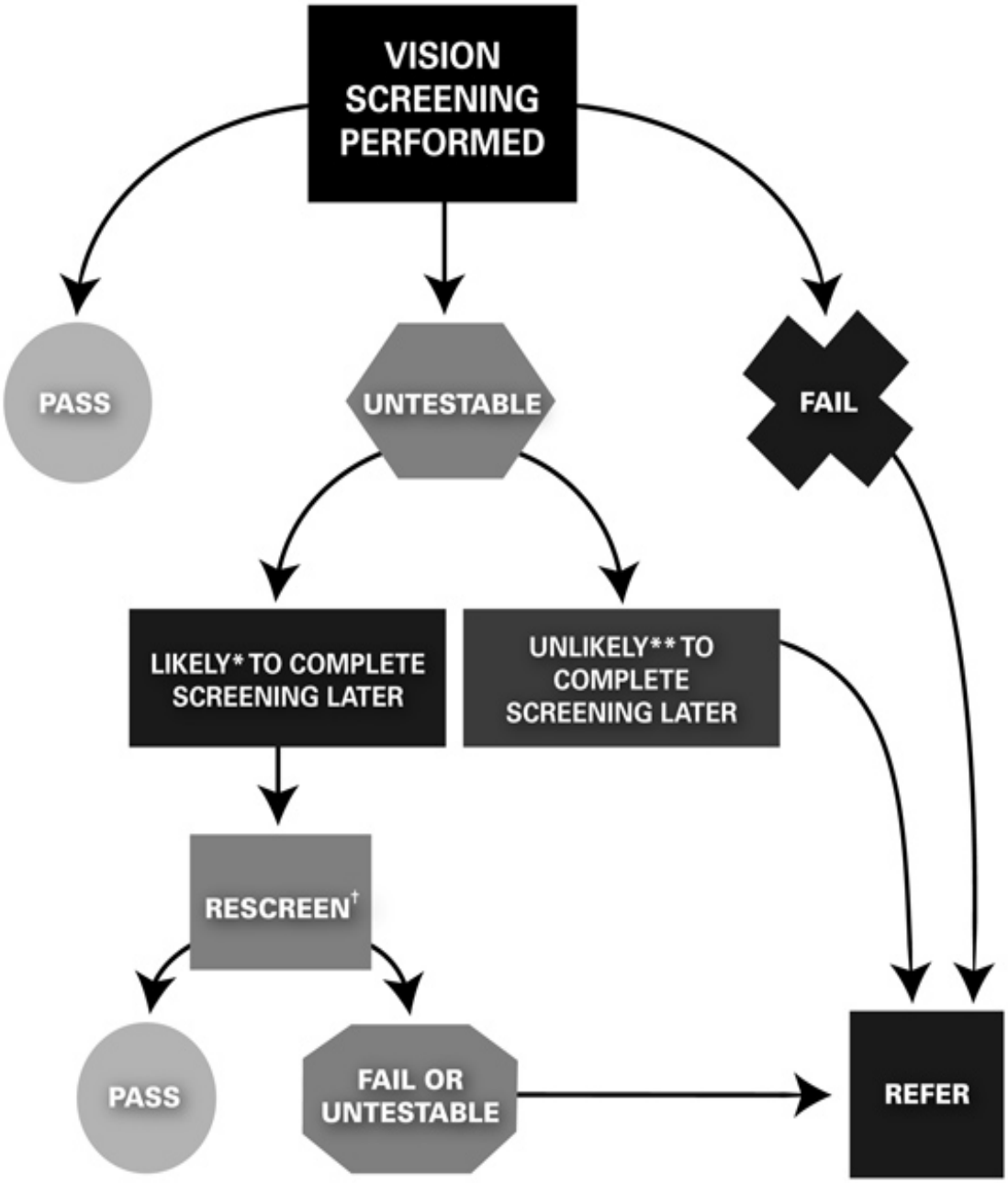
Helpful Tips:

✓ Encourage the classroom teacher to review the Lea Symbols or letters prior to screening day
✓ Work with one student at a time
✓ Try not to rush
✓ Assistance from staff member familiar with student
✓ Expect them to take more time
✓ Allow student to respond in own way

Documentation for the Individual Education Program (IEP)

- Record the vision tests in lay terms, e.g. distance, near, color, etc.
- Record actual numerical results when referred, e.g. Right 20/50, Left 20/80, otherwise, record as "pass" in the vision section of the IEP
- Describe any barriers to testing or delays in acquiring a professional examination
- Include any special vision recommendations for visual accommodations in the classroom setting
- Include significant medical information and health conditions that could impact vision (e.g. medication, diagnoses, birth history)

Figure 1: Flowchart for Children Who Receive a Vision Screening



*"Likely" includes children who are inattentive, uncooperative, will not allow occlusion, or do not understand the task.

** "Unlikely" includes children with cognitive, physical, or behavioral issues that preclude rescreening, and those unable to be rescreened in a timely manner because of administrative or other issues. These children should be referred directly for a comprehensive eye examination.

† "Rescreen" applies to untestable children who are likely to be able to complete a screening should be rescreened the same day. When a same-day rescreening is not possible they should be rescreened as soon as possible, but in no case later than 6 months.

National Center for Children's Vision and Eye Health at Prevent Blindness https://preventblindness.org/

IV. Vision Screening Referral Process

Initial Referral

Background

The school nurse is responsible for coordinating and supervising the school vision screening program from beginning to end. Identifying students who may be at risk for vision impairments is just the first step in the school vision screening program. Symptoms related to vision problems can greatly affect a student's ability to learn. In addition, low-income minority youth are more likely to experience a disproportionately high prevalence of educationally relevant vision problems. Unfortunately, studies show that a large number of students who need glasses do not have them (see Appendix F for resources). For a screening program to be effective, school nurses must place an emphasis on the referral and follow-up process.

1. It is recommended that screenings be completed by the end of the first semester. In cases where this is not possible, it is recommended that the same grades be screened at the same time each year.
2. Re-screening should be completed by the school nurse, or other well-trained personnel within 30 working days following the initial school vision screening.
3. All students who fail the re-screening should be referred to the school nurse for review. The school nurse must use professional judgment while considering each student's circumstances to determine the appropriate actions to be taken. The following circumstances call for a vision referral:
    - Evidence that student has not passed the screening
    - Screening findings are inconclusive
    - Legitimate concerns of a parent, teacher or student
    - Observations or behaviors suggesting vision problems, despite passing the school screenings
4. The initial parent/guardian notification regarding the student's failed vision screening/vision concerns should occur within 10 days following the 2nd vision screening (re-screen). The referral form should include the following (Sample Form- Appendix C):
    - Student's school screening results
    - Observations or comments related to vision concerns if available
    - School nurse signature and contact information
    - Space for the eye care professional to provide results, recommendations for school and lens prescription information
    - Clear statement on the document requesting that the referral form be returned to the school nurse
5. The school nurse should be prepared to answer parents' questions and concerns related to the vision referral and familiarize themselves with the following:
    - Explanation of the school vision screening process
    - Understanding how vision impacts academic progress
    - Available community resources
    - Family and cultural influences

Referral Follow-up Process

Background

Following the initial referral, the responsibilities of the school nurse does not end. Ensuring that students receive care from an eye care professional is the most essential step of the screening program. Unfortunately, there are many barriers that interfere with successful vision referral follow-up. Considering these barriers can help the school nurse individualize their approach to each student's unique situation.

Vision referral follow up steps:

1. The completed vision referral forms should be returned to the school nurse. Information provided by the eye care professional should be reviewed, shared with teachers if appropriate, and documented in the student's school health care record.
2. If there is no response from the parent regarding the initial referral within 30 days, a second contact should be made with the student and/or parent regarding the status of the referral.
3. After the second contact, if the referral is not returned within 10 days showing that the student received care from an eye care professional, a third parent contact should be made.

Common barriers to vision referral follow up:

1. Financial
    a. No vision health insurance
    b. Limited funds
2. Logistics
    a. Limited access to transportation
    b. Phone access
    c. Navigating through complex systems
    d. Unable to use a calendar to track appointments
    e. Unable to miss work
    f. Parent overwhelmed
3. Family/Social/Cultural
    a. Not a priority
    b. Living on a day-to-day basis
    c. Multiple family issues
    d. Unpredictable schedules and living circumstances
4. Perceptual
    a. Mistrust in the systems
    b. Does not believe student needs follow-up
    c. Does not consider the screening process valid
    d. Unfamiliar with the connection of vision and learning

Tips for facilitating successful follow-up (refer to Appendix F for Resources):

1. Gain teacher support in all steps of the process
    a. Include in the screening planning process
    b. Educate teachers on the significance of vision and the screening process
    c. Provide vision education resources to teachers
    d. Continued communication regarding individual student's vision needs
2. Educate parents:
    a. Newsletters
    b. School community event presentations
    c. Bulletin board displays
    d. Informational brochure
3. Educate students
    a. Class presentations
    b. Bulletin board displays
    c. Vision education games and activities
4. Home visits
    a. Meeting families in the home setting improves trust
    b. Home visit efforts help to emphasize importance of concerns
5. Ensure that materials are understandable
    a. Consider language needs
    b. Consider cultural interpretations
    c. Make sure that reading level is appropriate

V. Personnel and Training

Suggestions for Training Vision Screening Personnel/Volunteers

The school nurse should determine how to set up the screening training. Below are suggestions that may be helpful.

- Determine how many vision screening personnel you will need.
- Contact the vision screening personnel and organize the appropriate training.
- The school nurse should conduct the training within two weeks prior to the screening date. Procedures and skills may be forgotten if the training takes place too far in advance.
- Address distance acuity vision screening test as listed in the Vision Screening Guidelines Manual. Allow participants to practice by conducting the screening test on each other until they are comfortable.
- Use step-by-step skills checklist to guide practice and verify competency.
- Review and explain the forms that will be used during the screening.
- Discuss the expectations of documentation and emphasize confidentiality policies.
- Clarify how students, parents and school staff will receive information regarding screening results. Explain that only the school nurse is qualified to provide information and respond to questions related to the screening results.

- Discuss individual assignments, review responsibilities and provide an account of what to expect through the course of the screening day.
- Allow adequate time for questions and clarifications.
- Refer to *Visual Screening Guidelines: Children Birth through Five Years* to gain further information to facilitate screening of young children.

Steps for Organizing Vision Screening Training

	Planning Screening Training for Unlicensed Personnel
❑	Determine the number of screening personnel needed. Consider the following: • Number of students • Age of students – younger students are more challenging • Number of students with disabilities • Number of days allowed for screening • Screening personnel experience
❑	Contact screening personnel/volunteers • Confirm availability • Confirm preferred contact information (e-mail, phone, text) • Collect information regarding screening experience • Follow district protocol for using volunteers
❑	Schedule and organize screening training • Schedule within two weeks of school screening event • Schedule location • Secure training equipment
	Conducting Screening Training for Unlicensed Personnel
❑	Show "AAPOS Vision Tutorial" video http://www.aapos.org/ahp/nurse_video_tutorials/
❑	Address vision screening tests listed in the "Vision Screening Guidelines" manual
❑	Allow participants to practice by conducting the screening tests on each other until they are comfortable.
❑	Use step-by-step skills checklist to guide practice and verify competency. (Appendix D)
❑	Review and explain the forms that will be used during the screening.
❑	Discuss the expectations of documentation and emphasize confidentiality policies
❑	Clarify how students, parents and school staff will receive information regarding screening results.
❑	Explain that only the school nurse is equipped to provide information and respond to questions related to the screening results.
❑	Discuss individual assignments.
❑	Review responsibilities of each screening personnel member.
❑	Provide an account of what to expect through the course of the screening day.
❑	Allow adequate time for questions and clarifications.
❑	Use Distance Vision Screening Process test to verify competency (Appendix E)

VI. Vision Equipment

According to the National Association of School Nurses (NASN), "Significant advancements in vision screening research are leading to improved design, functionality, and reliability of screening tools. Presently, two vision screening approaches are available to school nurses for children ages 3 years and older: *23optotypes-based screening* and *instrument-based screening*. *Optotype-based screening* pertains to tests of visual acuity using optotypes (e.g., pictures, letters, and numbers), which children identify to determine visual acuity. *Instrument-based screening* pertains to automated devices that measure amblyogenic risk factors, such as refractive error, media opacities, and eye misalignment." (NASN School Nurse, May 2015)

For further information refer to the NASN publication, *To See or Not to See: Screening the Vision of Children in School,* and the NASN School Nurse article: *Vision and Eye Health: Moving Into the Digital Age with Instrument-Based Vision Screening*, Volume 30 Number 3, May 2015.

Table 2: Child Ages for Optotypes and Instruments

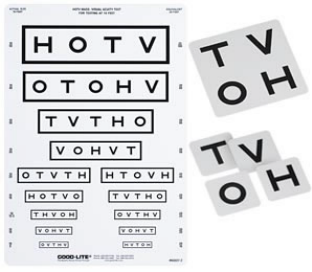
AGE	OPTOTYPE	INSTRUMENT
Students with Special Needs	√	√
6 months to 3 years		√
3 to 5 years	√	√
>5 years	√	

Equipment Examples:

Optotype screening equipment examples:

1. Charts for critical line screening:
    - LEA symbols or HOTV letters with surround bar or 4 individual crowding bars Sloan letters wall chart
        - 10 foot testing distance is recommended
        - Students that are English Language Learners can use the Sloan number chart or charts with training cards
        - Wall chart should be on a white background that is not faded or discolored
        - Charts should have full lines for threshold screening
        - Snellen chart is **NO longer** recommended
        - Light boxes are optimal to ensure adequate lighting
            - Use only the following charts: Sloan, LEA or HOTV
            - Boxes may have a blue backlight

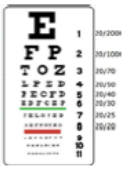
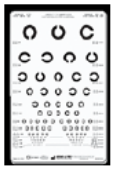
LEA symbols



HOTV

Sloan Chart

THE FOLLOWING CHARTS ARE NOT ACCEPTABLE:

					
Snellen	Allen Pictures	Tumbling E	Landolt C	Lighthouse (House, Apple, Umbrella)	Kindergarten "Sailboat"

2. Flipbook charts with full lines of optotypes for threshold and critical line screening

   - AAPOS Basic Kit
     https://aapos.org/education/educational-resources/screening-kits-education

3. Software for matching optotypes with single, surrounded optotypes
   - i.e. EyeSpy 20/20

     https://visionquest2020.org/secure/flow/eyespy2020.html

4. Apps with threshold and critical line formats
   - AAPOS Screening App https://aapos.org/education/educational-resources/screening-vision-app-education

Occluder Examples:

- Adhesive occlusion patches (preferred)
- 2-inch wide hypoallergenic paper tape
- Specially constructed occluder glasses
- Occluder paddle – older students only (>9 years)

Instrument Examples:

Automated devices measure amblyogenic factors such as refractive error, opacities, and eye misalignment. They do not measure visual acuity.

There are two types of devices:

Photoscreening devices use optical images of the red reflex to provide an estimate of refractive error, ocular alignment and other conditions degrading or blocking line of sight such as cataracts or strabismus.

Autorefractors analyze light reflected from the retina to provide an estimate of refractive error. It can estimate the prescription of the eye.

Technology is constantly evolving; research instrumentation as needed to find the one that meets your needs. The examples below are not a comprehensive list of available instruments. CDE does not endorse or promote products.

Retinomax

SureSight

Plusoptix

Spot Vision Screener

- Retinomax
  https://www.visionix.com/product/retinomax-k-plus-5/
- Welch Allyn SureSight Vision screener
  https://www.hillrom.ca/en/products/suresight-vision-screener/
- Plusoptix
  https://www.plusoptix.com/en-us/home
- Welch Allyn Spot Vision Screener
  https://www.hillrom.com/en/products/spot-vision-screener/

Refer to your device's instruction manual for specific instructions.

The National Center for Children's Vision Health (NCCVEH) website provides updated information on instrument recommendations for screening ages 3 – 5 years
https://nationalcenter.preventblindness.org/vision-screening-guidelines-by-age/

APPENDIX A: GLOSSARY

ABC Checklist – inquiry tool that teachers and/or parents can fill out to aide in the school nurses decision making in regards to vision screening needs for each student.

Acuity – Clarity or sharpness of vision that is measured and recorded using an internationally recognized two figure indicator such as 20/20.

Amblyopia – "lazy eye" The most common cause of visual impairment in children. Occurs when the eye fails to work properly with the brain, causing favoritism to use the other eye by the brain. Caused by strabismus, refractive error or cataract

Astigmatism – when the cornea is abnormally curved, causing a refractive error making the vision blurred or out of focus

Auto refractor – an instrument that analyzes light reflected from the retina to provide an estimate of refractive error. It can estimate the prescription of the eye.

Binocular Vision – The ability to use both eyes at the same time to focus on an object and to combine the individual images in each eye into a single three dimensional image.

Cataracts – Clouding of the lens of the eye

Color Deficiency – Partial or complete inability to discriminate colors.

Color Vision Screening – Screening for a red/green deficiency using pseudoisochromatic plates.

Critical Line – The line on the distance vision chart that a student must correctly identify the majority optotypes in order to pass distance visual acuity screening. The appropriate line is based on age.

Age	Critical Line	RESULTS
3 years (36-47 months)	20/50	Pass
4 years (48-59 months)	20/40	Pass
5 years and older	20/30 or 20/32	Pass

Crowding – The increase in difficulty in identifying an 26optotypes when grouped with other optotypes or crowding bars.

Denominator – Bottom number that refers to the line on the chart the student is able to correctly identify the majority of optotypes.

Distance Visual Acuity – The ability to see objects or words at a 20ft distance. 20/20 means the student is able to see the optotypes on the chart 20ft away. 20/50 means the student can only see objects 20ft away that the average person with intact distance vision can see 50ft away**.**

Eye Care Professional – Individual whom provides a service related to the eyes such as an optometrist or ophthalmologist.

Follow up – To maintain contact with a person who requires services beyond screening in order to learn whether additional evaluation services were obtained.

HOTV – Acceptable distance vision screening chart that uses only four letters (HOTV).

Hyperopia (AKA Hypermetropia) – Refractive error in which the eyeball is too short to focus the light rays entering the eye on the retina. Result is difficulty seeing objects at close range or farsightedness.

Individual Education Program (IEP) – A federal law called the Individuals with Disabilities Education Act (IDEA) requires that public schools create an IEP for every child receiving special education services.

Instrument Based Screening – The use of a photo refractor or screener to aide in the determination of possible refractive error in younger students, or students unable to perform the distance vision screening.

LEA Symbol Vision Chart – This is an evidence based vision chart with optotypes shaped in symbols to aid in the distance vision screening of students who are unable to identify letters of the alphabet.

Light Box – Tool used to display a back-light to vision charts while distance vision testing.

Myopia – Refractive error in which the eyeball is too long to focus the light rays entering the eyes on the retina. The result is difficulty seeing objects that are far away or nearsightedness.

Near Point of Convergence – Turning the direction of the gaze of the two eyes inward.

Near Vision Screening – To detect excessive hyperopia /hypermetropia (farsightedness)

Numerator – The top number refers to the number of feet from the vision chart. When screening at a 10 foot distance, record the 20 foot equivalent for consistency.

Nystagmus – Rapid involuntary movement back and forth of the eyes

Occluder – Any device used to block the vision in one eye. Recommended: eye patch, tape or special occluder glasses.

Ophthalmologist –MD or DO Healthcare Professional who specializes in eye and vision care and provides treatment of ocular disease and performs eye surgery

Optician – Technician trained to design, verify and fit eyeglass lenses, frames, contact lenses and other corrective eyesight

Optometrist – OD Healthcare Professional who specializes in primary eye and vision care and treatment of ocular disease. Optometrists do not perform surgery but refer to medical specialists when necessary

Optotypes – Individual letters or symbols on the vision charts.

Patching – Covering one eye completely to not allow peeking while testing the vision of the opposite eye.

Photoscreener/Photorefractor – An instrument that uses optical images of the red reflex to provide an estimate of refractive error, ocular alignment and other conditions degrading or blocking line of sight such as cataracts or strabismus.

Plus Lens – A convex lens used to screen for hyperopia (farsightedness).

Pseudoisochromatic plates – Tool used to screen for color vision deficiency.

Referral – Notification of parent/guardian regarding results of vision screening and the recommendation for follow up with an eye care professional.

Refractive Error – A defect in the eye that prevents light rays from being brought to a single focus exactly on the retina.

Sloan Letter Chart – An acceptable distance vision chart that uses multiple letters and is evidence based.

Snellen Letter Chart – A letter vision chart that is NO longer recommended due.

Strabismus – A condition which interferes with binocular (use of both eyes together) vision; a misalignment of the eyes, either inward or outward.

Stereo/Depth Perception – The ability to distinguish the relative distance of objects in visual space as seen in three dimension.

Vectograph – Tool used to screen stereo/depth perception.

Visual Acuity – The sharpness or clearness of a person's vision, measured using an internationally recognized indicator such as 20/20, 20/30, 20/40, etc.

ABC Checklist: Vision Observation and History

Student Name:_____Grade:_____Date:_____

School:_____Teacher:_____

If answer is "yes" to any areas below, please give details in the comment section(s).

Name/title of person completing this form (e.g parent, teacher, RN):

_____/_____

Please return completed form to District RN, and eye care professional (if applicable).

Appearance (do the eyes look normal?)	**Yes**	**No**	**Comments**
Eyes turn in or out or eyes are crossed			
Crusty or red eyelids (excessive tearing of eyes)			
Different size pupils or eyes			
Swelling of eyelids (includes frequent styes)			
Drooping lids			
Eyes appear hazy or clouded			
Drooping eyelids			
Reddened eyes or lids			

Behavioral Observations	**Yes**	**No**	**Comments**
Needs finger or marker to keep place when reading			
Frequently omits words, letters, numbers, or phrases			
Writes up or down hill on paper			
Holds printed material in unusual position			
Re-reads or skips lines when reading			
Unusual placement of drawings on paper (e.g. corner, top)			
Repeats letters within words			
Misaligns digits in number columns			
Thrusts head forward, squints, closes or covers one eye			Circle: Distance Close
Rubs eyes during or after short periods of visual activity			
Attempts to brush away "blur"			
Difficulty in identifying colors			
Tilts head extremely while working at desk			
Excessive stumbling, awkwardness, runs into objects			
Only able to read for short periods of time, or displays short attention span when reading or writing, loses interest quickly			

Behavioral Observations	**Yes**	**No**	**Comments**
Writing is crooked, poorly spaced and child cannot stay on the ruled lines			
Must feel things to assist in interpretation			
Mistakes words with same or similar beginning or ending			
Fails to recognize or mispronounces similar words			
Confuses same word in same sentence			
Reverses words or syllables			
Whispers to self while reading silently			
Blinks excessively while reading			Circle: Distance Close
Holds book close to face			
Avoids near vision tasks			
Makes errors when copying from board, paper, and/or book			Circle: Board Paper Book

Complaints (Student statements)	**Yes**	**No**	**Comments**
Eyes hurt or blur while reading after reading a short time			
Circle those that apply (when reading): **Headaches Dizziness Nausea**			Circle: Distance Close
Words move or jump around when reading			
Unable to see the board			
Double vision			
Circle those that apply: Eyes are **Itching Burning "Scratchy"**			
Difficulty seeing objects			Circle: Distance Close
History of head injury with vision complaints			

ABC Checklist additional comments:

_____

_____

_____

_____

_____

VISION REFERRAL

To The Parent/Guardian of _____ Date_____

School:_____

Your child did not pass his/her recent school vision screening. The screening results revealed the following:

Distance Vision:

Without/With lenses
R. 20/___ L.20/___

Near Vision:

Without/With lenses
Pass____ Refer____

Additional health concerns that may affect vision:_____
_____
_____

Your child's teacher has also noticed that he/she is having difficulty with the following:

❑ Squinting ❑ Rubbing Eyes Frequently ❑ Difficulty following words on the page while reading ❑ Glasses not at school—unable to pass screening without his/her glasses	❑ Needing to move items closer to see them clearly ❑ Avoiding work that requires close vision ❑ Complaining of eyes being tired while reading	❑ Complaining of blurred vision and/or difficulty seeing clearly OTHER:_____ _____

Because of these results, it is highly recommended that your child receives a professional eye exam. Please take your child to an eye care professional as soon as possible.

Please call the school nurse at _____ if you would like help with:

- finding affordable eye care
- finding eye care for children with special needs
- assistance with making appointments
- financial assistance with eye care
- finding transportation

Please have the eye care professional complete the portion below and return this form to your school's nurse.

Report of Eye Care Professional to the School

Distance Vision:

Without lenses
R. 20/ L.20/

With lenses
R.20/ L.20/

Near Vision:

Without lenses
R.20/ L.20/

With lenses
R.20/ L.20/

Glasses: [____] Not prescribed [____] Prescribed
[____] To be worn at all times [____] To be worn for close work only [____] To be worn for distance only
Preferential seating recommended: _____
Date patient should return for next examination: _____
Signature: _____ Date: _____

Appendix D: Vision Screening Training Documents

Distance Vision Screening Skills Training Checklist

Screener Name: _____ Date:_____/_____/_____

Skills Check Off	✓Meets Expectations		Comments
	Yes	No	
Setting Up For Screening			
Able to Operate Screening Tool			
Measures 10 Feet			
Placement of Screening Tool at Student Eye Level			
Lighting Appropriate: low glare, adequate lighting, low peripheral light			
Lists: Student Lists, Exempt List			
Quiet, Minimal Distractions, Privacy			
Procedure			
Identify Student on List			
Check if Exempt, STOP – Do not test			
Inspect for unusual appearance: drainage, drooping eye lids, mis-aligned eyes			
Ask student about glasses/contacts			
Remove glasses if used for near vision only			
Position student: Student faces screening tool			
Position student: If standing student heels are on 10 Foot Line			
Position student: If sitting, back legs of chair are on 10 Foot Line			
Give student age appropriate directions			
Technique – Pre-K and Kindergarten			
Technique – 1st through 12th grades			
Don't Allow Student to Squint, Peek, Lean Forward			
Documentation			
Pass			
Needs rescreen			
Unusual Appearance			
Unable to test			
Confidentiality			
Protects and maintains student privacy			
Shares results only with school nurse			
Care of Equipment			
Equipment Maintenance			
General Handling			
Storage			

RN Trainer:_____Date:_____/_____/____

Appendix E

Distance Vision Screening Process Test

Name:_____Date:_____/_____/_____

Please circle the letter next to the best answer.

1. Which of the following statements are true?
    a. School vision screenings are used to diagnose vision problems
    b. School vision screenings are complicated and expensive
    c. Results of school vision screenings can help identify students who are at risk for vision problems
    d. All of the above

2. When collecting data during a health screening event, it is critical that:
    a. All information is kept confidential
    b. The screening technicians give out information only to the teacher and school nurse
    c. The screening technicians give out information only to the teacher, parent and school nurse
    d. The screening technician whispers when giving the results to the students

3. When checking the environment for vision screening compatibility, which of the following is NOT needed:
    a. The vision screening tool should be close to the child's eye level
    b. The area supports confidentiality
    c. The area should allow for a 10 foot distance between the student and the screening tool
    d. There should be a bathroom nearby for students to rinse their eyes if drainage is noted

4. When presenting optotypes to be read by student:
    a. Briefly point to 33protypes
    b. Start with right eye
    c. Do not isolate individual 33protypes
    d. All of the above

5. When setting up for vision screening:
    a. The screening tool must be 10 feet from the front legs of the Screening Technician's chair
    b. The screening tool must be 10 feet from the back legs of the student's chair
    c. The screening tool must be in a shaded area
    d. The screening tool must be placed at least 3 feet from any doorway

6. When setting up for vision screening, it is best to have the student sitting because:
    a. It keeps the other students out of the way
    b. It takes up less space
    c. It helps stabilize the student
    d. None of the above

7. If a student is wearing glasses
    a. Always have the student wear the glasses for screening
    b. Ask the student where they got the glasses
    c. Ask the student if he or she has glare guards or you may not be able to screen them
    d. Ask the student if he or she uses them to help with close up vision or distant vision

8. "Critical Line" for students who are 3 years old
    a. 20/50
    b. 20/40
    c. 20/32
    d. line where they report that they can see the best

9. "Critical Line" for students who are 4 years old
    a. 20/50
    b. 20/40
    c. 20/32
    d. line where they report that they can see the best

10. "Critical Line" for students who are 5 years old or older
    a. 20/50
    b. 20/40
    c. 20/32
    d. line where they report that they can see the best

11. Students who are in Preschool through Kindergarten may be more difficult to screen because:
    a. This process may be new for most of them
    b. This age group needs more time to practice a skill with many steps
    c. This age group can be more shy and reluctant when working with strangers
    d. All of the above

12. Which of the following eye charts are no longer recommended to use for vision screening:
    a. Snellen
    b. Tumbling E
    c. Lighthouse Symbols (House, Apple, Umbrella)
    d. All of the above

13. Using the referral Criteria for 4 year olds, select the results that indicate the student did not pass:
    a. 20/50
    b. 20/40
    c. 20/32
    d. All of the above

14. Select the results that indicate when a 7 year old student needs an RN to follow up:
    a. 20/50
    b. 20/40
    c. Eyes appear crossed
    d. All of the above

15. If a student is not on the exemption list, but refuses to participate in the screening process, the following steps would be appropriate:
    a. Try to help the student become more comfortable by making a game out of the process
    b. Allow the student to observe other less reluctant students
    c. Ask the teacher to support the student in understanding the process
    d. All of the above

16. When screening a student, if they pass the critical line but are observed to have crossed eyes:
    a. They do not need a referral since they passed the critical line
    b. The results should be recorded and student should be referred to school nurse for follow up
    c. Ask the student if this condition is new
    d. Ask the teacher if the student has ever worn glasses

17. To pass the critical line, students must be able to identify
    a. All of the optotypes on the age appropriate critical line
    b. Half of the optotypes on the age appropriate critical line
    c. The majority of the optotypes on the age appropriate critical line
    d. At least 2 of the optotypes on the age appropriate critical line

18. To pass the critical line, students wearing glasses must be able to
    a. Identify all of the optotypes on the age appropriate critical line
    b. Identify half of the optotypes on the age appropriate critical line
    c. Identify the majority of the optotypes on the age appropriate critical line with glasses
    d. Pass without wearing glasses

19. The best tool for occluding a Kindergartener's "non-screening" eye is
    a. A paper cup
    b. Their own hand
    c. A plastic screening eye occluder paddle
    d. Adhesive eye patch designed specifically for vision screening for young children

20. The following observation should be documented and referred to the school nurse
    a. Drooping eye lid
    b. Discharge from the eye
    c. Pupils that appear to be different in size
    d. All of the above

Distance Vision Screening Process Test (KEY)

Name:_____

Date:_____/_____/_____

Please circle the letter next to the best answer.

1. Which of the following statements are true?
    a. School vision screenings are used to diagnose vision problems
    b. School vision screenings are complicated and expensive
    c. Results of school vision screenings can help identify students who are at risk for vision problems
    d. All of the above

2. When collecting data during a health screening event, it is critical that:
    a. All information is kept confidential
    b. The screening technicians give out information only to the teacher and school nurse
    c. The screening technicians give out information only to the teacher, parent and school nurse
    d. The screening technician whispers when giving the results to the students

3. When checking the environment for vision screening compatibility, which of the following is NOT needed:
    a. The vision screening tool should be close to the child's eye level
    b. The area supports confidentiality
    c. The area should allow for a 10 foot distance between the student and the screening tool
    d. There should be a bathroom nearby for students to rinse their eyes if drainage is noted

4. When presenting optotypes to be read by student:
    a. Briefly point to optotype
    b. Start with right eye
    c. Do not isolate individual optotype
    d. All of the above

5. When setting up for vision screening:
    a. The screening tool must be 10 feet from the front legs of the Screening Technician's chair
    b. The screening tool must be 10 feet from the back legs of the student's chair
    c. The screening tool must be in a shaded area
    d. The screening tool must be placed at least 3 feet from any doorway

6. When setting up for vision screening, it is best to have the student sitting because:
    a. It keeps the other students out of the way
    b. It takes up less space
    c. It helps stabilize the student
    d. None of the above

7. If a student is wearing glasses
    a. Always have the student wear the glasses for screening
    b. Ask the student where they got the glasses
    c. Ask the student if he or she has glare guards or you may not be able to screen them
    d. Ask the student if he or she uses them to help with close up vision or distant vision

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    a. 20/50
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    c. 20/32
    d. line where they report that they can see the best

9. "Critical Line" for students who are 4 years old
    a. 20/50
    b. 20/40
    c. 20/32
    d. line where they report that they can see the best

10. "Critical Line" for students who are 5 years old or older
    a. 20/50
    b. 20/40
    c. 20/32
    d. line where they report that they can see the best

11. Students who are in Preschool through Kindergarten may be more difficult to screen because:
    a. This process may be new for most of them
    b. This age group needs more time to practice a skill with many steps
    c. This age group can be more shy and reluctant when working with strangers
    d. All of the above

12. Which of the following eye charts are no longer recommended to use for vision screening:
    a. Snellen
    b. Tumbling E
    c. Lighthouse Symbols (House, Apple, Umbrella)
    d. All of the above

13. Using the referral Criteria for 4 year olds, select the results that indicate the student did not pass:
    a. 20/50
    b. 20/40
    c. 20/32
    d. All of the above

14. Select the results that indicate when a 7 year old student needs an RN to follow up:
    a. 20/50
    b. 20/40
    c. Eyes appear crossed
    d. All of the above

15. If a student is not on the exemption list, but refuses to participate in the screening process, the following steps would be appropriate:
    a. Try to help the student become more comfortable by making a game out of the process
    b. Allow the student to observe other less reluctant students
    c. Ask the teacher to support the student in understanding the process
    d. All of the above

16. When screening a student, if they pass the critical line but are observed to have crossed eyes:
    a. They do not need a referral since they passed the critical line
    b. The results should be recorded and student should be referred to school nurse for follow up
    c. Ask the student if this condition is new
    d. Ask the teacher if the student has ever worn glasses

17. To pass the critical line, students must be able to identify
    a. All of the optotypes on the age appropriate critical line
    b. Half of the optotypes on the age appropriate critical line
    c. The majority of the optotypes on the age appropriate critical line
    d. At least 2 of the optotypes on the age appropriate critical line

18. To pass the critical line, students wearing glasses must be able to
    a. Identify all of the optotypes on the age appropriate critical line
    b. Identify half of the optotypes on the age appropriate critical line
    c. Identify the majority of the optotypes on the age appropriate critical line with glasses
    d. Pass without wearing glasses

19. The best tool for occluding a Kindergartener's "non-screening" eye is

    a. A paper cup
    b. Their own hand
    c. A plastic screening eye occluder paddle
    d. Adhesive eye patch designed specifically for vision screening for young children

20. The following observation should be documented and referred to the school nurse
    a. Drooping eye lid
    b. Discharge from the eye
    c. Pupils that appear to be different in size
    d. All of the above

Appendix F: Colorado Vision Resources

School Nurse Resources

- **Recommended organizations**
    - Children's Hospital Colorado, Pediatric Low Vision Clinic https://www.childrenscolorado.org/doctors-and-departments/departments/eye/low-vision-clinic/
    - American Academy of Ophthalmology https://www.aao.org/
    - American Academy for Pediatric Ophthalmology and Strabismus https://www.aapos.org/home
    - American Board of Ophthalmology https://abop.org/
    - American Optometric Association https://www.aoa.org/
    - American Foundation for the Blind https://www.afb.org/
    - Eye Care America https://www.aao.org/eyecare-america
    - National Eye Institute https://www.nei.nih.gov/
    - National Federation for the Blind https://nfb.org/
- Colorado Department of Education Health Services https://www.cde.state.co.us/healthandwellness/snh_home
- Colorado Association of School Nurses (CASN) https://coloradoschoolnurse.org/home
- National Association of School Nurses (NASN) https://www.nasn.org/home
    - Vision Vouchers for NASN/CASN members https://www.nasn.org/membership/benefits/vsp-eyes-of-hope
- Health First Colorado (Colorado's Medicaid Program) https://www.healthfirstcolorado.com/
- Prevent Blindness https://preventblindness.org/

Family Resources

Resources for eye exams and glasses

- American Academy of Ophthalmology - Resources for glasses: https://www.aao.org/eyecare-america/resources/eye-glasses
- Colorado Lions Clubs https://www.colionsmd6.org/
- Health First Colorado (Colorado's Medicaid Program) https://www.healthfirstcolorado.com/
- New Eyes for the Needy https://new-eyes.org/
- Vision Vouchers for school nurse NASN/CASN members https://www.nasn.org/membership/benefits/vsp-eyes-of-hope

Resources for families with children with vision impairments

- American Council of the Blind https://www.acb.org/
- Family Connect https://aphconnectcenter.org/familyconnect/
- National Federation of the Blind https://nopbc.org/
- Ability Connection Colorado https://www.abilityconnectioncolorado.org/p2p-co/
- Colorado Department of Education Information for Families of Children and Youth with a Visual Impairment https://www.cde.state.co.us/cdesped/sd-vision_families

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