



Vision Health Module

Child-to-child vision screening manual

Please cover your left eye
and begin reading the chart.

1	W	E	M	3
2	E	3	M	3
3	E	W	M	3
4	M	3	M	3
5	3	M	E	3
6	M	E	3	M

1	W	3	M	E
2	3	E	M	E
3	3	W	M	E
4	M	E	M	E
5	E	M	3	E
6	M	3	E	M

1	W	E	M	3	Two or more correct? YES NO
2	E	3	M	3	Two or more correct? YES NO
3	E	W	M	3	Two or more correct? YES NO
4	M	3	M	3	Two or more correct? YES NO
5	3	M	E	3	Two or more correct? YES NO
6	M	E	3	M	Two or more correct? YES NO

R You are the tester.
Testing their right eye. **R** Flip page

Testing their right eye. **R**



Vision Health Module

Child-to-Child Vision Screening

Brief Description

Students will screen each other's vision in groups of three using the Child-to-Child Vision Screening Toolkit. All learning is hands-on except for a brief video introducing the Child-to-Child Vision Screening Toolkit.

Duration: 90 minutes

Year Level: 7

Topics: Vision screening, optical illusions, review of learning from Lessons 1 and 2.

Preparation: 20 minutes

Overview

Whole class	Introduction to Child-to-Child Vision Screening Toolkit (video and class discussion)	15 minutes
Small groups	Vision screening (groups of 3)	75 minutes

Equipment and Preparation

Equipment

- Google Slides PowerPoint link
- Computer and screen to display PowerPoint
- Vision testing equipment
 - 5 x flipcharts (so 5 groups of children can be tested at once)
 - 1 x result sheet per child
 - 1 x masking tape roll
 - 1 x 1-metre ruler

Preparation

- Become familiar with completing the vision screening.
- Read teacher instructions.

Teacher Notes

A picture of each slide is included with teacher notes below. These teacher notes are included in the Google Slides presentation as well.

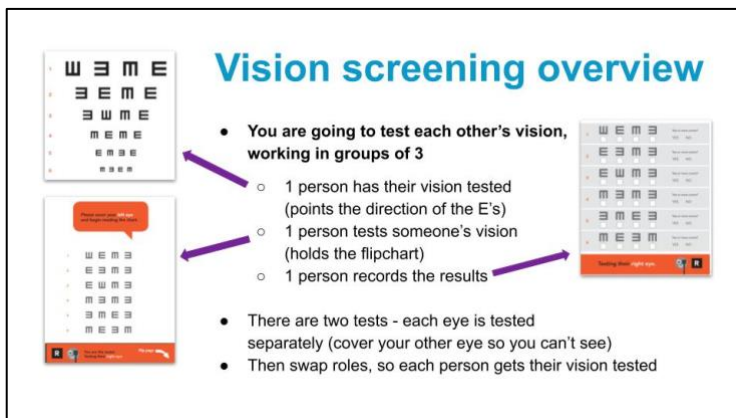
Title slide:



Slide 2:

Vision screening overview

- You are going to test each other's vision, working in groups of 3
 - 1 person has their vision tested (points the direction of the E's)
 - 1 person tests someone's vision (holds the flipchart)
 - 1 person records the results
- There are two tests - each eye is tested separately (cover your other eye so you can't see)
- Then swap roles, so each person gets their vision tested



- Work in groups of three
- 1 person has their vision tested (points the direction of the E's)
- 1 person tests someone's vision (holds the flipchart)
- 1 person records the results
- There are 2 tests in total - each eye is tested separately (cover your other eye so you can't see)
- Each test is colour-coded
- Swap roles, so each person gets their vision tested


Note: it is recommended not to have more than 5 groups of children (15 children) testing each other's vision at once. This allows the teacher to effectively monitor each group of children to ensure they are completing the testing accurately.

Slide 3:

Vision screening roles

ROLE 1: Having your vision tested
(pointing the directions of the E's)

- If you usually wear glasses for seeing things in the distance, make sure you wear them for this test.
- Stand on the line of tape, 4m away from the person holding the flipchart.
- Make sure you cover your eye with your hand so you can't see out of it.
- Read the chart from left to right, starting at Row A.
- Use your arm to point in the direction that the limbs of the "E" are facing. Make sure you point SLOWLY.
- If you make a mistake, you can repeat that row once.



Person having their vision tested (pointing the direction of the E's)

- If they usually wear glasses, it is essential that children wear them for this exercise. This excludes reading glasses as they are to improve near vision and won't be needed for this far vision testing.
- Stand on the line of tape, 4m away from the person holding the flipchart. These lines will be measured and marked out with tape.
- This vision test uses the letter E. Children will be asked to point with their arm the direction that the branches of the E are facing. It is important that they do this very SLOWLY so the person screening them, and the results keeper can clearly see what direction they are pointing.
- We are testing both left and right eyes in turn. When testing children's left eye for example they will need to cover their right eye with their hand enough to block their vision from that eye. It's important that they can't see anything out of the eye they are covering.
- It is important to read the chart from left to right (start on the side with the red numbers).
- Even if children can't see a letter very well, they can have a guess as to which way the E's are facing.

Get the children to point the direction of the top line of E's on the screen, to ensure their understanding.


Note: you may notice that the E's that are pointing left and right, are facing opposite ways on the charts for the person being screened and the person testing/recording the results. For example, an E which is facing to the right for the tester and person recording the results, will face to the left for the person being tested. This is because if a child points to his/her left, it will look like they are pointing right for the tester and person recording the results.

Slide 4:

Vision screening roles

ROLE 2: Testing someone's vision
(holding the flipchart)

- Stand on the line of tape, 4m away from the person having their vision tested.
- Hold the chart up straight, at the top and bottom.
- Read out the instructions exactly as they are written on the page.
- Make sure the person having their vision testing is covering the correct eye.
- Read out the letter of the row before the person being tested starts pointing, e.g. "row 1".
- Turn each page AWAY from you.
- If the person being tested gets a direction wrong, you can ask them to repeat that line.



Person testing someone's vision (holding the flipchart)

- Make sure they hold the chart up straight, at the top and bottom so they are not covering any of the letters.
- Make sure the person having their vision tested is covering the correct eye.
- Read out the number of each row before the person being tested starts pointing, e.g., "row 1".
- They need to turn each page AWAY from them.
- Make sure the person being tested reads the row from LEFT to RIGHT.
- If the person being tested gets a direction wrong, they can ask them to repeat that line.


Hold up a flipchart to demonstrate the correct way to hold it. Demonstrate turning the pages over the correct way.

Slide 5:

Vision screening roles

ROLE 3: Recording the results

- Stand beside the person holding the flipchart.
- Carefully watch the person who is getting their vision tested, and which way they are pointing for the limbs of the E's.
- If they point in the correct direction, draw a TICK in the box.
- If they point in the wrong direction, draw a CROSS in the box.
- Start at Row 1 and go through each line of the chart.
- Make sure you are recording the results for the correct test.
- Make sure you complete tests for both eyes.
- If the person being tested gets a direction wrong, you can ask them to repeat that line.



Person recording the results

- Their job is to carefully watch the person who is getting their vision tested, and which way they are pointing, for the limbs of the “E’s”.
- If they point in the correct direction, draw a “tick symbol” in the box.
- If they point in the wrong direction, draw an “X” in the box.
- When they have finished the row, circle “yes” or “no” for whether they have gotten two or more ticks for that row.
- Start at row 1 and go through each line of the chart.
- Make sure you are recording the results for the correct test.
- Make sure you complete both tests.
- If the person being tested gets a direction wrong, you can ask them to repeat that line.

Hold up a results sheet to show the children

Slide 6:

Fair testing


What is fair testing?

- A way to investigate a scientific question
- Important to follow the instructions exactly
 - e.g. stand on the 4m line
 - If someone points too fast and you didn't see which way they pointed you need to ask them to repeat that line
- Must be honest with your results and not help each other to see the E's.

Why is fair testing important?

- Otherwise the results might not be accurate
- Someone might not get glasses when they need them and their eyes might get worse

This test is not about having "good" or "bad" vision but about understanding that everyone sees differently.



Ask children if they know what fair testing is?

- A way to investigate a scientific question
- Variables must be kept the same, except for the variable you are investigating (children's vision in this case)
- Means they need to follow the instructions exactly
 - e.g. stand on the 4m line
 - If someone pointed too fast and you didn't see which way they pointed you need to ask them to repeat that line
- Fair testing also means that they need to be honest with their results and not help each other to see the E's.

Why is fair testing important?

- Otherwise it might make it easier or harder for someone to see the E's.
- It might mean our results aren't accurate
- Someone might not get glasses when they need them - eyesight could get worse

Emphasize that it's not about having "good" or "bad" vision but about understanding that everyone sees differently.

Ask the children if they have any questions and clarify any confusion regarding the vision screening process.

Use the masking tape and metre ruler to measure and mark the 4m lines. When children are doing the screening, the person being tested will stand behind the tape on one side and the tester and results recorder will stand opposite them behind the second masking tape line.

Slide 7:

Results

Fill out this summary for each test. Circle the final score for each eye.

Eye	Refer	1	2	3	4	5	6
Left							
Right							

Summarizing your results

You need to fill in the "Results Summary" table on your results sheet.

First, you must calculate your score for each test.

- Your final score is the number of the most difficult line that you got two or more correct (two or more ticks).
- The most difficult line is Row 6.
- Start by looking at Row 6.

You had two correct answers in row 6, so your score is 6.

You only had one correct answer in row 6, but you had three correct answers in row 5, so your score is 5.

This can be completed by children in their groups of threes (utilising peer-to-peer teaching) or can be led by the teacher (the whole class summarizes their results together).

The children need to calculate their final score for each test, so they can fill in the results summary table on their results sheet.

- Their final score for each test/page, is the number of the most difficult line that they got two or more correct (two or more ticks).
- The most difficult line is row 6; the easiest line is row 1.
- Look at the scores for row 6 first.
 - E.g. If they got 2 or more ticks for row 6, then their score is 6.
 - E.g. If they got 0 or 1 tick for row 6, look at how many ticks they got for row 5. If they got 2 or more ticks for row 5, their score is 5. If they got 0 or 1 or tick, look at row 4 etc. Continue as far up the chart as necessary.
 - The majority of children will score 6's and not need referring for visual impairment.
- When they have worked out their score for a test, circle the score number in the results summary chart.
- Complete this process for both charts.

Explanation of the scores:


- A score of 0-4 = refer. This means that the child may have some problems with their vision, so it is recommended that they go to the optometrist for a more detailed eye examination.
- A score of 5-6 = pass. This means that the child's vision is within normal range.
- For further information on interpreting "refer" scores, see "Child-to-child vision screening toolkit - further information".

Slide 8:

Recording your results

You need to record your results in two places:

1. Class vision screening spreadsheet
2. Vision screening results letter
 - a. You will take this home to your parents
 - b. If your overall result is "Pass" - write your name at the top of the "Vision Screening Results - Pass" letter.
 - c. If your overall result is "Refer" - write your name at the top of the "Vision Screening Results - Refer" letter. Then tick the boxes on the letter for which tests you had a "refer" score (0-4).



Once children have had their vision screened and have summarized their results, they need to record these results in two places:

1. Excel spreadsheet

There is an excel spreadsheet template available for teachers to download from the Science Learning Hub, for the children to input their results into. Teachers will then have a record of children's overall results.

2. Vision Screening Results letter

This letter will go home with the child to their parents. The "Pass" and "Refer" letters are intentionally printed in the same colour so that children's results are less obvious to their peers.

Overall result "Pass"

- Children simply need to write their name at the top of the "Vision Screening Results – Pass" letter.

Overall result "Refer"

- Children need to write their name at the top of the "Vision Screening Results – Refer" letter.
- They then need to tick the boxes on the letter for which tests they had a "refer" score (0-4).

Learning Intentions

There are two options for evaluating the learning intentions from this unit: teacher or peer assessment.

1. Teacher assessment: the teacher can photocopy this page and evaluate these intentions with each child
2. Peer assessment: the children can evaluate their level of learning with a peer, using the table of learning intentions in the back of their student workbook.

CHILD'S NAME:	CLASS:		
LEARNING INTENTIONS Child-to-Child Vision Screening	ACHIEVEMENT LEVEL		
	YES	NO	PARTLY
Understand how to use the Child-to-Child Vision Screening Toolkit accurately			
Have your vision tested by a peer using the Child-to-Child Vision Screening Toolkit			
Test the vision of a peer using the Child-to-Child Vision Screening Toolkit			
Record the vision screening results of a peer using the Child-to-Child Vision Screening Toolkit			

The Child-to-Child Vision Screening Toolkit: Further Information

The information provided below is intended as supplementary information for the teacher, and it is recommended that the teacher reviews it before using the child-to-child vision screening toolkit. It may also be used to aid the teacher in ensuring the children complete the vision screening accurately, or to troubleshoot any problems that arise.

Interpreting “refer” results

Refer score:

- This child is having a lot of difficulty seeing things clearly that are far away. They may have myopia and/or astigmatism and need glasses. It is essential that they visit an optometrist to confirm this.

Refer score in one eye only:

- This child may have anisometropia (a difference in power between their two eyes). They may also have astigmatism. It is essential that they visit an optometrist to confirm this. Both these conditions can cause headaches and difficulty concentrating.

Troubleshooting

Ambiguous results

In this situation, a child may have incorrect answers/low scores for an easier row but correct answers/higher scores for a higher row, or scores may be inconsistent. This may occur for the following reasons:

- The environment is too noisy, and the child being tested is finding it difficult to concentrate
 - *Solution: ensure a quiet environment, and that not too many children are being tested at once.*
- The child being tested is pointing too fast, so the results being recorded are inaccurate
 - *Solution: emphasize that children need to point SLOWLY*
- The child being tested does not fully understand which way to point for limbs of the E.
 - *Solution: before starting the screening, get the class to practice pointing the correct direction for the limbs of the E's, to ensure understanding.*

Stigma surrounding glasses and vision problems

- This may also result in children not being honest about their results or being embarrassed about other children knowing their results.

- Stigma is a widespread issue which is not easily solved; however, children are encouraged to discuss and reflect on attitudes towards glasses in the unit “looking after your eyes”. It is important that teachers normalize visual impairment and wearing glasses and reassure children that wearing glasses is not “bad”.

Children with hearing, reading, writing or other learning difficulties

- This vision screen has been designed to cater for the needs of all children. The difficulties listed should not prevent children being able to participate in the vision screening.
- Dyslexia
 - Ensure they practice pointing the correct direction for the limbs of the E’s first, and that they point SLOWLY. Lines may be repeated if necessary. Teacher supervision may be required.
- Hearing impairment
 - All instructions are also in printed text and there is the video demonstration of completing the vision screen.
- Reading impairment or limited English
 - “Tumbling E’s” have been utilized for this specific purpose; it is not necessary to be able to read letters of the alphabet. For children unable to read the instructions at the top of each page, the video demonstration is provided. Their peers are also able to assist by demonstrating, for example, which eye to cover.
- Writing impairment
 - The only writing necessary for completing the vision screen is filling in the front page of the results booklet. This could be completed by another student or teacher if necessary.

Difficulty with summarizing results

- The teacher will likely know which students are likely to have difficulty understanding how to summarize their results to the table on the front page.
- It is suggested to utilize peer-to-peer teaching; encourage more able children to assist those who are less able. The teacher can also assist those children who are finding this aspect difficult.

VISION SCREENING RESULTS - PASS



Name: _____

This child has had their vision checked using the Child-to-Child Vision Screening Toolkit. This screening tool provides a quick check of vision - **it will not detect all vision problems and should not be seen as an alternative to a full eye examination carried out by an optometrist (optician).**

What we found

The results of the screening suggest that this child's vision was within normal range.

What we recommend

Although this child's vision was found to be within normal limits, this screening will not necessarily detect all eye problems and diseases. During a full eye examination, an optometrist will carry out many other tests to check the health of your child's eyes.

Therefore, it is strongly recommended that all children have a full eye examination by an optometrist at least every two years.

Eyes are precious - let's look after them.

VISION SCREENING RESULTS - REFER



Name: _____

This child has had their vision checked using the Child-to-Child Vision Screening Toolkit. This screening provides a quick check of vision - it will not detect all vision problems and should not be seen as an alternative to a full eye examination carried out by an optometrist.

What we found

The results of the screening suggest that this child has a refractive error with their vision (for example **myopia, hyperopia, astigmatism, anisometropia**). Boxes with an "X" indicate areas where this child had difficulty.

Left eye *Right eye*

What we recommend

If you are aware of a problem with this child's vision and have had their eyes examined in the last year, you may not need to take any further action. However, if you are unaware of any issues and they have not had an examination by an optometrist recently, it is strongly recommended that you make an appointment as soon as possible.

Expected costs

- Many optometrists do package deals which include eye examination, prescription and glasses frames and lenses.
- Eye examination costs vary from \$0 - \$85 between Dunedin optometrists.
- Glasses frames and lenses are approximately \$100 from an optometrist, with discounts for more than one pair. These can also be purchased more cheaply online from companies such as Zenni and Clearly, but you will need to pay for a prescription from an optometrist first.

If you have a community services card or your child has a high use health card, there is a yearly Ministry of Health spectacle subsidy available of \$287.50, which can be used towards the cost of eye examinations and glasses.

Eyes are precious - let's look after them.