



Visual impairment support

Supporting a pupil with a visual impairment in maths and English

About this fact sheet

This fact sheet explains how to support a pupil with a visual impairment during maths and English lessons. The aim is to enable them to access these subjects and to maximise independence whenever possible.

General recommendations

- Pupils should be seated near the front, close to the board/teacher. The exact position, whether central or to the left/right will be determined by the nature of their impairment. We can advise you on this.
- Pupils should be working in well lit areas with their backs to window and the amount of light entering the room should be controlled with blinds/curtains to avoid glare.
- Staff should avoid addressing pupils whilst standing in front of windows as glare may make them seem invisible.
- Black or blue marker pens should be used on whiteboards/flipcharts/individual magniboards as these provide the best contrast. Coloured pens should be avoided.
- It is helpful if staff read aloud what is being written on the board.
- Pupils should not be expected to copy large amounts of board work as this will lead to visual fatigue and possible focusing problems.
- Pupils should be provided with individual desk top copies of board work, in their appropriate print size, if they are unable to access the board with comfort. This is especially important when working with interactive whiteboards as they are a particularly difficult medium to access due to glare.
- Set English reading texts and English and mathematics text books and worksheets may need to be presented in a different format e.g. enlarged print, bold print, reduced text on only one page, reorganisation of information i.e. 'decluttering', braille or tactile diagrams.
- Enlarging materials onto A3 paper is not recommended as the size is difficult to manage and increase difficulties scanning the information. Larger paper also highlights differentiated material which can make pupils feel 'different'. Books can be enlarged or modified by the us if needed.

- Pupils should always have their own copies of text/worksheets and never be expected to share.
- Pupils may benefit from using a reading and writing stand which will bring work closer to the eye and promote good posture.
- Low vision devices can be used to access smaller print e.g. magnifiers, electronic video magnifiers although devices should not be used for long periods of time as they increase fatigue. We can advise on this.
- Pupils with poor contrast may benefit from writing on paper with darker lines. Modified exercise books, lined and graph paper are available.
- Use of 2B pencils for younger pupils and black fibre-tipped pens for older pupils will help improve contrast levels and enable better clarity when reading back own work
- Most pupils will need extra time to complete tasks, especially written assignments. Accessing mathematical information which involves a large input such as scanning and searching a graph or setting out long multiplication or division problems, will also take more time and be more visually tiring. The amount of work expected from pupils with a visual impairment may therefore need modifying.

Recommendations for English

- Young children would benefit from viewing a big book individually before it is used in a lesson. Alternatively they could access their own individual copy of the book.
- More time may be needed in early years to practise handwriting skills as vision plays a major part in helping children to refine motor skills and spatial concepts. Low vision can restrict chances for imitating the actions of others and writing may be excessively large, uneven and letter formation inconsistent. As pupils progress through school and curriculum demands increase touch typing tuition may be advised.
- The use of line marker or reading windows may be beneficial to pupils who have tracking problems. They may help increase the pupil's reading speed and fluency.
- For a pupil who reads using braille, a video magnifier or enlarged/modified print, reading longer texts in K.S. 2, 3 and 4 may be a daunting task. We have a selection of audio books available for schools to loan.
- Pupils may benefit from using large print dictionaries and thesaurus which are available for loan from the service.
- Pupils may benefit from using electronic readers for reading mainly fiction books. They are available in both large print format and speech.

Recommendations for maths

- Basic mathematical concepts start developing in young children through incidental learning from our everyday environment. Reduced visual input can delay concept formation. Pupils should have a practical basis to maths lessons for longer than a fully sighted child to ensure understanding of increasingly complex concepts and relationships.
- Concrete 'hands on' learning experiences should be incorporated into lessons e.g. going shopping, weighing everyday items, measuring objects, making fractional parts.
- Adults should not assume that pupils understand relatively simple concepts such as same/different or bigger/smaller e.g. distant objects may not be seen yet be perceived as being smaller than foreground objects.
- Verbal explanations will be required to compensate for a lack of incidental visual mathematical input in the environment.
- Maths schemes can be highly visual in design to appeal to a fully sighted pupil. Diagrams, tables and graphs may need to be modified. Sometimes this may involve simplifying layout or 'decluttering' information or it may involve replacing an unnecessary illustration with a text description. Maths schemes can be enlarged/modified by our service if necessary.
- Real coins and notes should be used when doing 'money' activities to avoid confusion.

- Clear containers rather than opaque ones should be used for measuring liquids and print on containers should have good contrast. Liquids should be coloured using food colouring and it may be necessary to highlight the rims of containers to improve pouring skills.
- Pupils should not be expected to share apparatus or materials.
- Specialist mathematical equipment may be necessary such as enlarged or talking calculators, talking weighing scales, large protractors, rulers/tape measures with clear contrast markings and tactile rulers and protractors.
- Pupils may need time to familiarise themselves with specific equipment or materials prior to an activity.

More information

The visual impairment service is part of Dudley Disability Service. We are a team of qualified teachers of the visually impaired and specialist teaching assistants.

We provide advice and information to parents and teachers. We help teach and support children with a visual impairment of all ages and abilities. We also assess children's vision. In addition we support and advise on the use of specialist equipment and train in the use of low vision aids, provide Braille and enlarged or modified learning materials, provide training independence and mobility training and teach touch typing and specialist software. We will also liaise with other professionals such as social care, healthcare and RNIB.

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