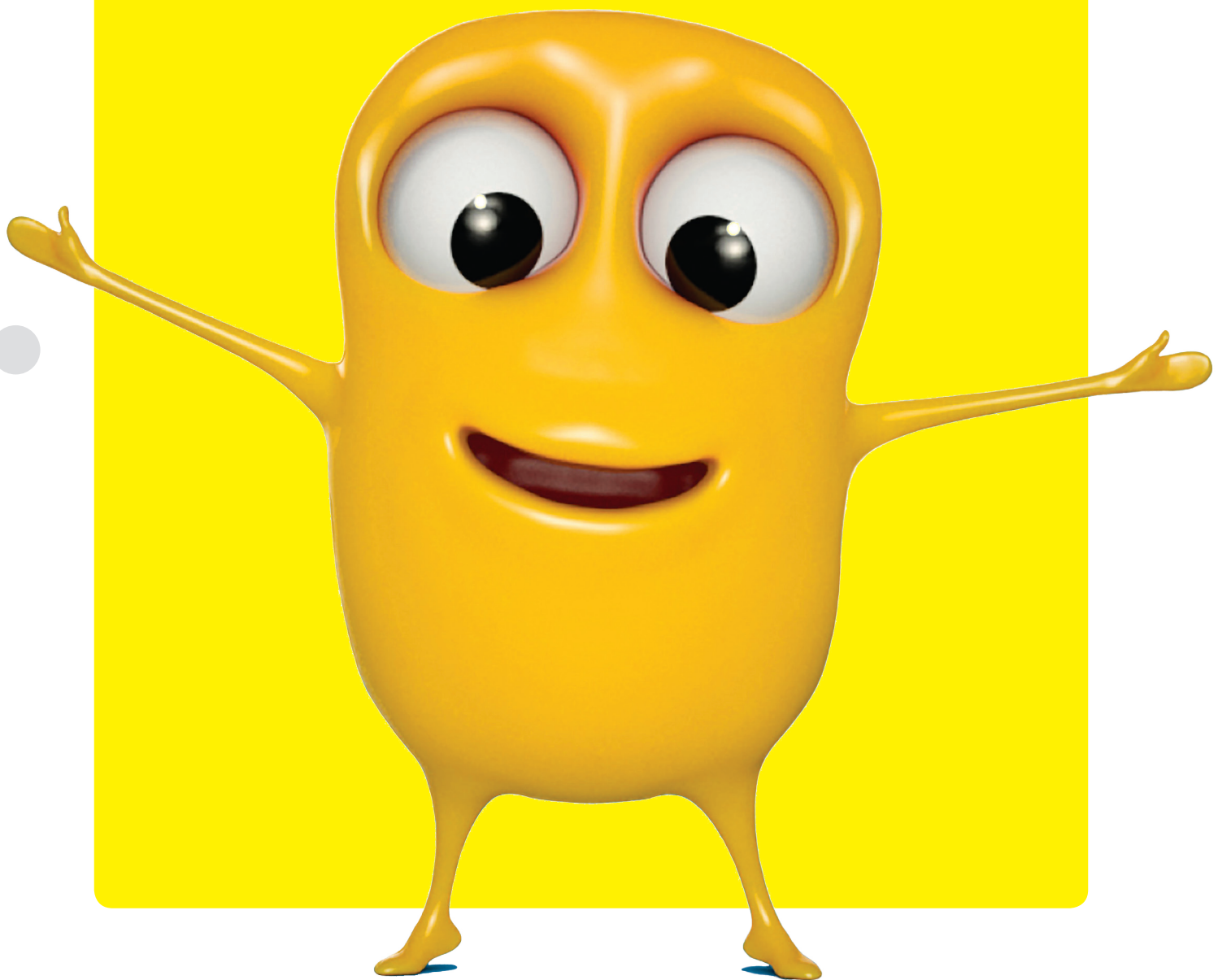


# General tips for teaching visually impaired students



This is part of a series by the Macular Society on teaching visually impaired students which includes subject-specific tips. Download resources for each subject from [www.macularsociety.org/teaching](http://www.macularsociety.org/teaching)

## **Why adapt lessons for visually impaired (VI) students?**

This 90-second video [youtu.be/O7j4\\_aP8dWA](https://youtu.be/O7j4_aP8dWA) demonstrates how much learning is visual and how much audio description is required to make content accessible. With a few adaptations, VI students can participate fully and learn independently.

Always speak to students about what would best help them and how their needs might change over time. They are the experts of their own sight condition and can help you work out the best solution.

## **Lighting and classroom setup**

It may not be possible to change lighting. However consider the following:

- General lighting should be bright and even, without causing glare.
- Effective task lighting can be helpful.
- If possible, avoid being in front of strong light, such as a window that casts you in shadow.

- Macular conditions affect central vision, meaning students may appear to be looking out of the window because they are using their peripheral vision.
- Students with sight needs should sit near the front of the class.

## **Teaching strategies**

- Allow time for the student to process information.
- Build in time for more breaks if necessary to counter eye fatigue.
- Apply for extra time and alternative recording methods for exams.

## **Changing needs**

- Students who have degenerative conditions will find their eyesight deteriorates over time, so adaptations may change.
- As children grow up and perhaps become more image conscious they may experience emotional issues because of the need to do things differently to other children.

## **Formatting documents and presentations**

- Use 16pt sans serif font e.g. Arial.

- Use bold type for emphasis. Don't use italics or underline type.
- Align text to the left.
- Avoid dotted lines in the text. Solid lines are better.
- Don't hyphenate words at the ends of lines.
- Ensure good colour contrast between text and background. Black on yellow is preferable to black on white, which may cause glare.
- Use a neat, consistent and uncluttered layout.
- Short sentences help people using magnifiers keep their place on the page.
- Don't run text round objects or pictures as split text is difficult to read.
- Avoid thin paper as black print shows through and can be confusing. 90gsm is a good thickness. Use matt paper as glossy paper creates glare.
- Place page numbers at the bottom right hand corner.
- Allow adequate space between words, lines of type and paragraphs and columns.
- Make PowerPoints easier to read – use high-contrast black text on yellow, or white text on black, and remove background distraction.

## Touch and feel

- Set up raised dots for the start and finish of any document.
- Place tabs on the page to mark chapter headings.
- Use colour overlays if they make text clearer.  
**[www.thedyslexiashop.co.uk/coloured-overlays.html?learning\\_difficulties=143](http://www.thedyslexiashop.co.uk/coloured-overlays.html?learning_difficulties=143)**

You can also change the background colour of a screen to create the same effect.

- Hand-over-hand guiding (where the teacher's hand guides the student's hand) can be useful for exploring models, if the student is comfortable with this. Parents/carers also need to give consent and this agreement should be recorded in the school's SEND system.

## Assistive technology (AT)

AT can make a huge impact on the VI student, giving them the tools to access information on their device, or share a screen with their teacher. Listed below are suggestions that are relatively cheap and easy to implement, both for the teacher and the VI student.

### Hardware

- Talking pen with programmable dots to access worksheets.

- Microsoft Comfort Mouse 4000 enables a student to zoom into the screen.
- High contrast keyboard stickers make any keyboard accessible  
[www.inclusive.co.uk/product-list?Text=keyboard%20stickers](http://www.inclusive.co.uk/product-list?Text=keyboard%20stickers)

### **Screen magnification software**

- Supernova  
[www.inclusive.co.uk/dolphin-supernova-p6360](http://www.inclusive.co.uk/dolphin-supernova-p6360)
- Desktop Zoom  
[users.telenet.be/littlegems/MySoft/DesktopZoom/Index.html](http://users.telenet.be/littlegems/MySoft/DesktopZoom/Index.html)
- iPads, Android devices and Windows tablet PCs all support pinch-to-zoom so students can magnify any piece of text.

### **Text to speech (and speech to text) software**

- NVDA  
[www.nvaccess.org/download](http://www.nvaccess.org/download)
- Texthelp Read&Write is a toolbar which gives students to a range of options to write, display, hear and record text.
- Clarospeak is a text-to-speech reading toolbar that works across all applications.

## The wider classroom

- Large TV screens and interactive boards may be enough but consider screen-sharing technologies which enable students to see content on their own device and to respond:
  - DisplayNote  
[itunes.apple.com/us/app/displaynote/id540711783?mt=8](https://itunes.apple.com/us/app/displaynote/id540711783?mt=8)
  - Bridgit(SmartNotebook)  
[itunes.apple.com/us/app/bridgit/id433502122?mt=8](https://itunes.apple.com/us/app/bridgit/id433502122?mt=8)
  - AB Tutor  
[www.abtutor.com](http://www.abtutor.com)
  - Reflector 2  
[www.airsquirrels.com/reflector](http://www.airsquirrels.com/reflector)
- Flipped classroom tools such as [www.nearpod.com](http://www.nearpod.com) and [padlet.com](http://padlet.com) allow students to work collaboratively, locally and remotely at their own pace and in their own way.

## Useful apps

- Book Creator (iOS/Android/PC) supports pinching to enlarge and move images.

- MD\_evReader (iOS/Android) enlarges pre-loaded classic books text and scrolls like a ticker tape  
[itunes.apple.com/us/app/md-evreader/id602074340?mt=8;](https://itunes.apple.com/us/app/md-evreader/id602074340?mt=8)
- VBookZ (iOS/Android) pdf text-to-speech reader  
[itunes.apple.com/us/app/vbookz-pdf-voice-reader-us/id497274026?mt=8](https://itunes.apple.com/us/app/vbookz-pdf-voice-reader-us/id497274026?mt=8)  
[play.google.com/store/apps/details?id=com.mindex.vbookz\\_pdf&hl=en\\_GB.](https://play.google.com/store/apps/details?id=com.mindex.vbookz_pdf&hl=en_GB)
- TapTapSee uses the camera to recognise objects and tell you what they are.
- VisionAssist uses the camera as a magnifier.
- BeMyEyes connects users via video link to a volunteer, and could be used discreetly by a classroom assistant.
- Magnifying Glass with Lightæ  
[itunes.apple.com/gb/app/magnifying-glass-light-digital-magnifier-flashlight/id406048120?mt=8](https://itunes.apple.com/gb/app/magnifying-glass-light-digital-magnifier-flashlight/id406048120?mt=8)

### Other tools

- Siri, Cortana and the Google Assistant allow the user to dictate speech into their mobile phone or device and have it read back to them.
- Google Chrome has an inbuilt voice search and can read search results back.



- Google Docs has speech recognition built in.
- Office 365 Online's Immersive Reader tool adds enlarged text to your Word Online document – find it under 'Help'.

## In this series:

- **General tips** for teaching visually impaired (VI) students
- Tips for teaching **art** to VI students
- Tips for teaching **design technology** to VI students
- Tips for teaching **geography** to VI students
- Tips for teaching **history** to VI students
- Tips for teaching **ICT** to VI students
- Tips for teaching **literacy** to VI students
- Tips for teaching **mathematics** to VI students
- Tips for teaching **music** to VI students
- Tips for teaching **science** to VI students
- Tips for teaching **sport** to VI students
- Tips for VI students on **school trips**

  
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