Australia and New Zealand Accessible Graphics Group (ANZAGG)
2024 Round Table Conference Workshop
Drawing by Touch Readers

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This document has been created to accompany the ANZAGG Workshop being presented at the 2024 Round Table Conference in Perth. It includes the text from the slides that will be used during the workshop but also provides additional information such as where to obtain supplies and extra techniques not covered in the workshop.

# Why Drawing is Important

Tactile drawing is an important component of tactile literacy:

* Active learning about concepts and representation methods
* Enables 2-way communication (checking for understanding)

Tactile drawing provides agency:

* Artistic expression and learning
* Equal participation in learning tasks, such as creating graphs
* Touch readers as authors and creators
* Drawing is fun!

## Example 1: Moving from 3D to 2D (for early learners)

Using drawing to understand 2D representations of 3D objects:

* Making imprints of an object, using sand, playdough or clay
* Tracing the outline of an object, using Wikki sticks or a tactile drawing board
* Examining objects from different angles (perspective)

## Example 2: Learning a new route or a new space

Drawing to:

* Check your understanding
* Identify knowledge gaps that need to be filled via further exploration
* Reinforce learning

## Example 3: Artistic expression and learning

Drawing for art:

* Experimenting with lines, colour and textures
* Drawing for pleasure or artistic expression

## Example 4: Accessing Art

Learning about art:

* Learning about art techniques
* Learning about famous artists, art movements and artworks
* Being able to participate more fully in cultural activities together with friends and families

# Tactile Drawing Methods and Resources

## Tactile Drawing Boards

Tactile drawing boards allow you to draw (firmly) with a pen onto paper or plastic to create an instant raised line. They are best suited for quick rough sketching.

* **Draftsman board:** board used with mylar film and stylus, aimed at professional tactile drawing. Available from APH (USD$260) or Quantum RLV (AUD$5000): <https://www.quantumrlv.com.au/products/draftsman>
* **Tactile Doodle:** board used with tactile drawing paper and stylus, aimed at younger users. Available from APH for USD$130: <https://www.aph.org/product/tactiledoodle-kit/>
* **Sensational Blackboard:** Product by Ann Cunningham. Small lightweight product that can be used when out and about. Cost USD$50 for full size or USD$30 for half size: <https://sensationalbooks.com/products.html#blackboard>
* **TactiPad drawing kit**: Uses mylar film and comes with a lot of tools for drawing shapes, graphs, etc. Cost €300 for the basic kit, plus extra for the tools. <https://thinkable.nl/tactipad/>
* **inTACT sketchpad with eraser:** Drawing board with frame to be used with intact drawing sheets. The battery-powered eraser works like a miniature iron, flattening unwanted lines. Temporarily out of stock. <https://www.easytactilegraphics.com/>
* **Sewell E-Z write drawing board:** Clip board that can be used with mylar film or foil sheets. Available from MaxiAids for USD$40: <https://www.maxiaids.com/product/sewell-e-z-write-n-draw-raise-line-drawing-kit-with-clip>
* **Reizen tactile drawing board**: Drawing board that can be used with mylar film or foil sheets, which are secured with 2 nut-and-bolt style clamps. Available from MaxiAids for USD$40: <https://www.maxiaids.com/product/reizen-tactile-drawing-kit-with-original-style-drawing-board>
* **Geometry mat**: without clamps. AUD$50 from Vision Australia <https://shop.visionaustralia.org/geometry-mat-rectangular-and-rubber.html>

## Tactile Drawing Paper

* **German paper / mylar film:** For use with a tactile drawing board. Available from Quantum RLV for AUD$60 for a pack of 100 <https://www.quantumrlv.com.au/collections/tactile-graphics/products/draftsman-plastic-sheet-refills-100-pack>or Vision Australia for AUD$16 for a pack of 50 <https://shop.visionaustralia.org/plastic-embossing-film-a4-21-x-29-7cm.html>
* **Foil sheets:** Thin sheets for use with a tactile drawing board available from MaxiAids for USD$10 for 30 sheets <https://www.maxiaids.com/product/ez-write-n-draw-replacement-aluminum-foil-sheets>. Thicker sheets for creating tactile graphic masters (drawn in reverse on white painted back) available from APH for USD$51 for a pack of 30 sheets <https://www.aph.org/product/aluminum-diagramming-foil-sheets/>
* **Quickdraw paper:** Draw with water-based markers. The paper instantly swells. Available from APH for USD$45 for a pack of 10 sheets and 2 markers <https://www.aph.org/product/quick-draw-paper/>
* **Plastic sheet protectors**: Standard office supplies available for AUD$4 for 100 from Kmart.

## Paints

**Puffy paint:** Purchase (e.g. 12 pack for AUD$9 at Kmart) or make your own. There are lots of recipes for DIY scented puffy paints, e.g. <https://theimaginationtree.com/scented-puffy-paint-recipes/> or <https://asthebunnyhops.com/skintimate-the-key-to-summer-legs-summer-fun/>.

Impasto: Add impasto (available from art suppliers) to make paint thicker and more raised.

Add different **textures** (e.g. sand, glitter, etc.) and **scents** to distinguish between different colours for finger painting.

## Collage

Lines:

* string/yarn
* Hot glue gun or 3D printing pen
* Wikki Stix [www.wikki-stix.com.au/](https://www.wikki-stix.com.au/)
* Pipe cleaners
* Draw with crayons with flywire mesh screen under the paper

Shapes:

* Foam shapes
* Gem stickers
* Feel n Peel carousel of textures <https://www.aph.org/product/feel-n-peel-sheets-carousel-of-textures/>
* Textured materials such as felt, corrugated cardboard, fake fur, sandpaper, etc.
* Sensory objects like eucalyptus leaves, cinnamon stick, unwashed wool
* Foil – scrunch it up, cover it with paper and water (papier maché) and mould into the desired shape
* Lollies (stuck down with melted chocolate)

Stick objects down using:

* A sheet of contact secured upside down on a cardboard frame
* Double-sided tape
* Velcro
* Sticker maker (to apply adhesive backing)
* Glue. This can be unpleasant and very messy.
* Hot glue. There may be some issues such as the quick drying time and hot metal tip.

Lucia Hasty provides further ideas for collage (or “tactile graphics on the fly”) at <https://www.tactilegraphics.org/TGsFly.html>

## Magnets on a magnet board

Option 1: cut your own shapes from a magnet sheet

Option 2: Add magnetic backing to found objects or manipulatives

## Playdough/modelling clay

Playdough will dry and harden after being shaped and left out. Homemade playdough can also be painted.

Use playdough, modelling clay or clay for:

* 3D representations (mini sculptures)
* 2D imprints – press found objects into the clay to make a texture or explore the outline
* tactile drawings

## Kits for Orientation and Mobility (O&M)

* **Wheatley Tactile Drawing Kit** – felt board and shapes with Velcro backing. Available from APH for USD$200: <https://www.aph.org/product/picture-maker-wheatley-tactile-diagramming-kit/>
* **3D printed street puzzle pieces**: square pieces, each showing a different Australian street layout, that can be joined to create a route or map. 3D printable files available for free download from [https://www.thingiverse.com/thing:5236166](https://www.thingiverse.com/thing%3A5236166)
* **Tactile Town**: Detailed kit with large board, a wide variety of felt shapes for mapping and a comprehensive manual. Available from APH for USD$580 at <https://www.aph.org/product/tactile-town-3-d-om-kit/>

## Braille drawings

As well as being a method of creating drawings, using a Perkins brailler to create drawings provides good brailling practice as well as procedural practice (following instructions).

Free instructions for braille drawings are available from:

* [www.brailleart.org/en/braille-drawings.html](https://www.brailleart.org/en/braille-drawings.html)
* <https://www.perkins.org/resource/braille-drawings/>
* <https://www.pathstoliteracy.org/just-fun-braille-designs/>

## Grids

Tactile grids can serve as an excellent basis for graphing, map referencing, word games, showing positions on a sports field and more.

* **Graph paper files:** Embossable grid lines in a variety of sizes are available for free download from Duxbury Systems at <https://www.duxburysystems.org/downloads/gp/index.htm>. Students can add their own labels using a Perkins brailler and lines using Wikki stix, hot glue, string, etc.
* **Laying board:** 3D printable board with 8 x 8 spaces and accompanying tiles with patterns and lines, available for free download from <https://medien.augenbit.de/legebrett-fuer-muster-und-ornamente/>
* **Pin grid:** 3D printable cartesian graph lines and 10x10 data points with pin holes. The grid can be pinned to a cork or cardboard surface then pins and rubber bands added to create graph lines. Available for free download from <https://medien.augenbit.de/3d-druck-modell-6/>
* **3D printable geoboard:** Cartesian coordinate system board with pegs for four 5x5 quadrants. Rubber bands can be added to create graph lines. Available for free download from <https://cults3d.com/en/3d-model/art/cartesian-coordinate-system-board-xy-system-plotting-graphing>
* **commercially available geoboards:** A wide variety of geoboards are commercially available from educational suppliers and cheap online stores. They are usually made of plastic and paired with rubber bands for graphing or drawing. Some have moveable x and y axes. Cost ranges from AUD$5 to AUD$90.
* **5x5 modular grids:** Laser cut wooden grids with square wells that can be paired with braille, music or pattern tiles. Cost AUD$10 from <https://childsply.wixsite.com/catalogue/product-page/extended-maths-kit>

## SVG

SVG (scalable vector graphics) is a computer graphics file format using mathematical formulae based on points and lines on a grid. Drawings can therefore be created using basic programming, which is of course accessible for people who are blind. This technique is best suited to senior secondary students and adults.

Blind SVG is a new website by Marco Salsiccia, a blind graphic designer. The site aims to “help teach blind and low-vision folks how to code their own graphics with SVG”: <https://blindsvg.com/>.

# Integrated drawing methods

Aishwarya Pillai, a blind artist, explained her technique for creating tactile paintings using aluminium foil, paper and textured paint on canvas at <https://www.youtube.com/watch?v=SGknSgEAYGg>. She uses masking tape to cover areas while she is painting. She uses QR codes to label her paint tubes with colour descriptions and suggested uses.

At SASSVI, students draw first using a tactile drawing board. For a more finished artwork, the initial drawing is then traced and copied onto swell paper, which is cut out from the background and used as the basis of an artwork with collage and paint. Refer to Gower, L. (2019). Now You See Me ... Now I See You. *JSPEVI Journal of the South Pacific Educators in Vision Impairment*, *12*, 99-102. <https://www.spevi.net/jspevi/>

# Further Resources

Elizabeth Salzhauer Axel & Nina Sobol Levent (2002) Art Beyond Sight: A Resource Guide to Art, Creativity, and Visual Impairment, AFP Press.

Gail Cawley Showalter (2002) Time for Art: Art Projects and Lessons for Students with Visual Impairments, American Printing House for the Blind. <https://sites.aph.org/files/manuals/8-03800-00-Time-for-Art.docx>