

# CREATING COLLAGE TACTILE GRAPHICS



AMERICAN  
PRINTING  
HOUSE





# Sally Hart

Tactile Graphic Designer

American Printing House for the Blind

# Learning Objectives

- Participants will state the most important part of making a tactile graphic.
- Participants will know how to use the TGIL with the collage process.
- Participants will name characteristics that make a readable collage graphic.

# What is a tactile graphic?

- Key component of literacy
- Representation, not reproduction
- Conveys non-textual information
- Set of symbols to be examined by touch

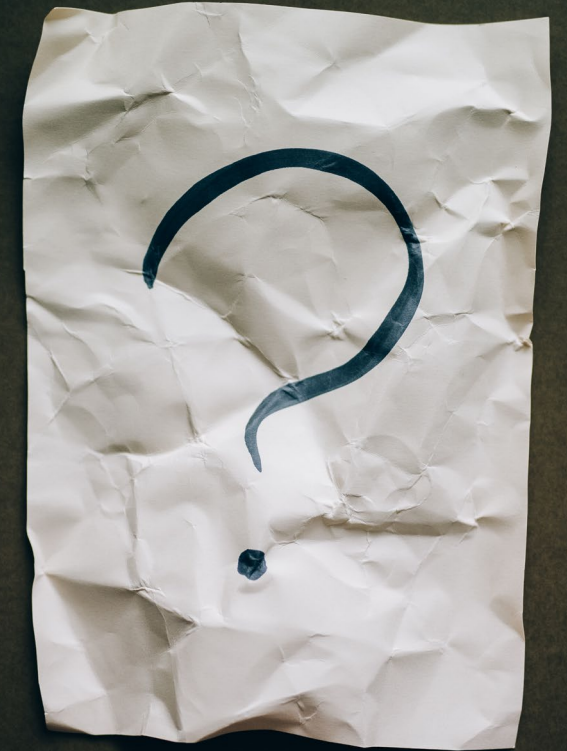


# Think Tactile!

- Common Myth: The tactile reader possesses an uncanny ability to “see” with their fingertips.
- The Truth: Tactile materials are an alternative to, but not a complete substitute for, visual materials.
- The Truth: Visual perception works differently than tactile perception.

# What is a collage graphic?

- Produced by layering a variety of textures on the graphic base.
- Collage graphics are effective in conveying information.
  - Wide choice of materials enables the creation of many different textures and various heights.
- May be produced for a one-time use or as a master to be copied by thermoform.



1

2

3

# Stop and Plan First!

1. Should it be made into a graphic?
2. What is the point?
3. Will the graphic be thermoformed?

# Should it be a graphic?

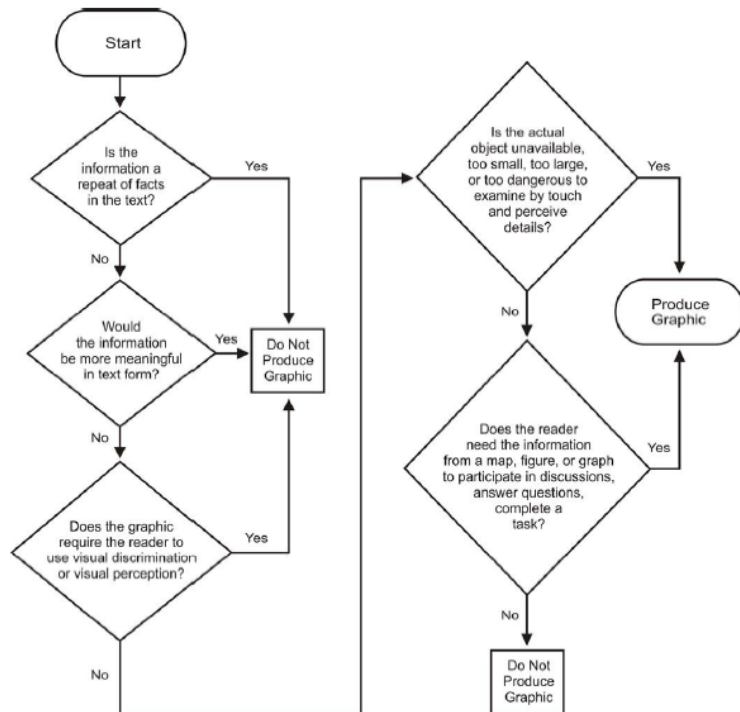


- Is it a repeat of the text?
- Would it be more meaningful in text form?
- Does it require visual discrimination?
- Is it needed to understand the concept, answer a question, etc.?



# To Help You Answer...

1.8 **Decision Tree**  
Is this appropriate for a tactile graphic?






When a graphic is complex and/or has many details that cannot be shown in a tactile graphic, a well written description may provide better information for the reader.



A print graphic may be most useful to the reader when produced as a tactile graphic and a description.



Excellent guidelines to assist in writing the description are available from the National Center for Accessible Media



# Should it be made into a Graphic?



 Circle the Picture that Ends in the Sound the Two Letters Make



1. **og**  



2. **at**  



3. **ee**  


4. **ap**  

5. **an**  

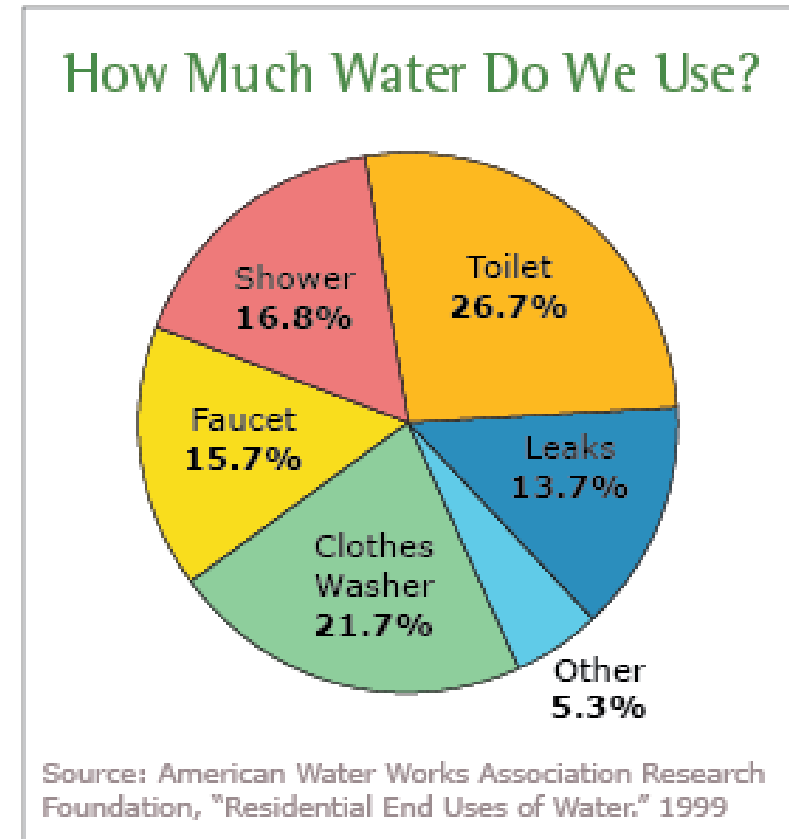
6. **ig**  

7. **ow**  

8. **all**  



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# What is the point?

When designing either simple or complex tactile graphics, it is vital that the author's original intent and purpose for the image is recognized.

# To Help You Answer...

Tactile Graphic Planning Sheets

TACTILE GRAPHIC PLANNING SHEET	
Title:	Method:
Transcriber:	Graphics Designer:
Due Date:	Proofreader:
Include (derived from surrounding text):	
Simplification and/or elimination:	
Re-sizing:	
Consolidation and/or distortion:	
Separation (List titles or headings for each part of the diagram):	
Transcriber's notes (explaining change in format or description to support graphic):	
Comments:	

- Include
- Simplification
- Re-sizing
- TN's
- Comments
- Materials

# Design It Well...

and sights the top with an angle of elevation of  $75^\circ$ . How tall is the tree (to the nearest foot)?

53. *Avoiding a Swamp* Muriel was hiking directly toward a long, straight road when she encountered a swamp. She turned  $65^\circ$  to the right and hiked 4 mi in that direction to reach the road. How far was she from the road (to the nearest tenth of a mile) when she encountered the swamp?

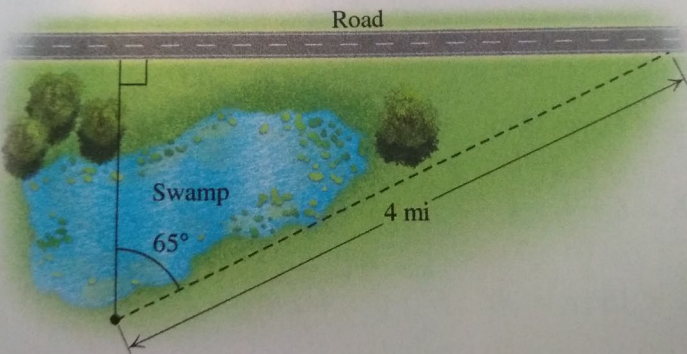
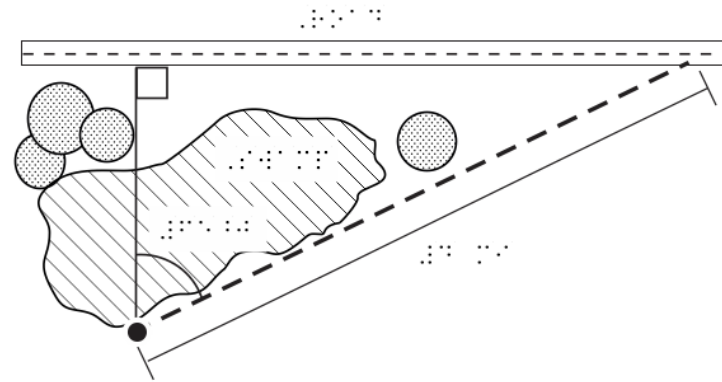


Figure for Exercise 53

57. Height  
crossw  
drawir  
measu  
of the  
foot.

58. She  
50  
east  
at t  
to  
50  
Ha

Less than Ideal



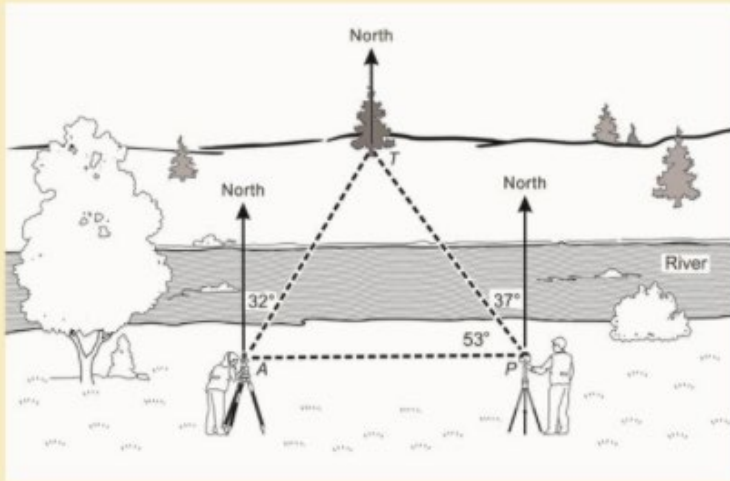
# Guidance from BANA

Angles on Survey Map

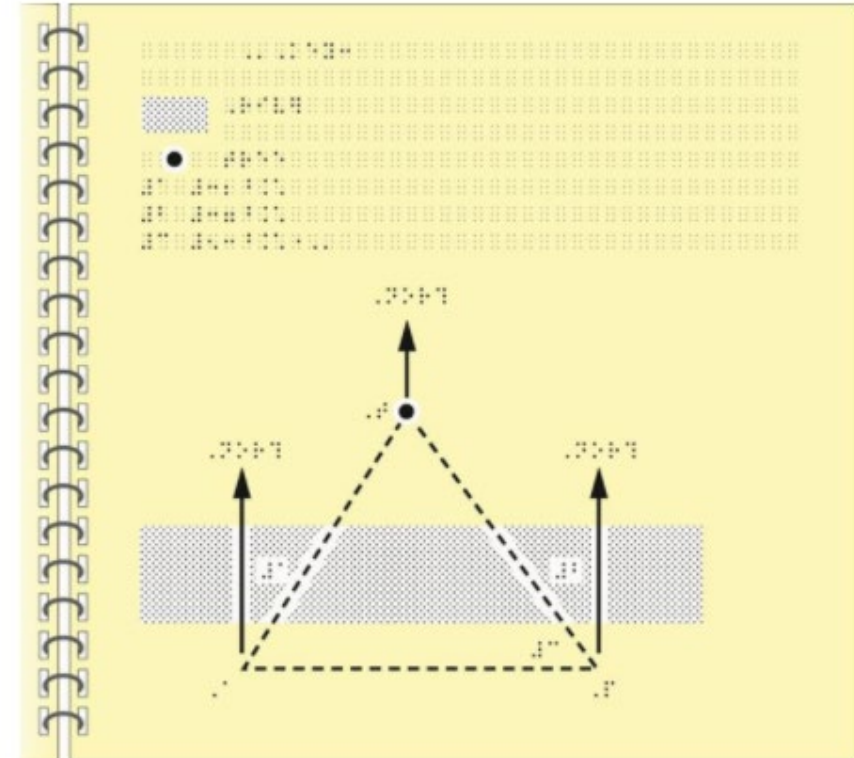
19 The figure below shows the positions of a surveying crew measuring the distance to a tree across the river.

Which of the following best represents the measure of  $\angle TAP$ ?

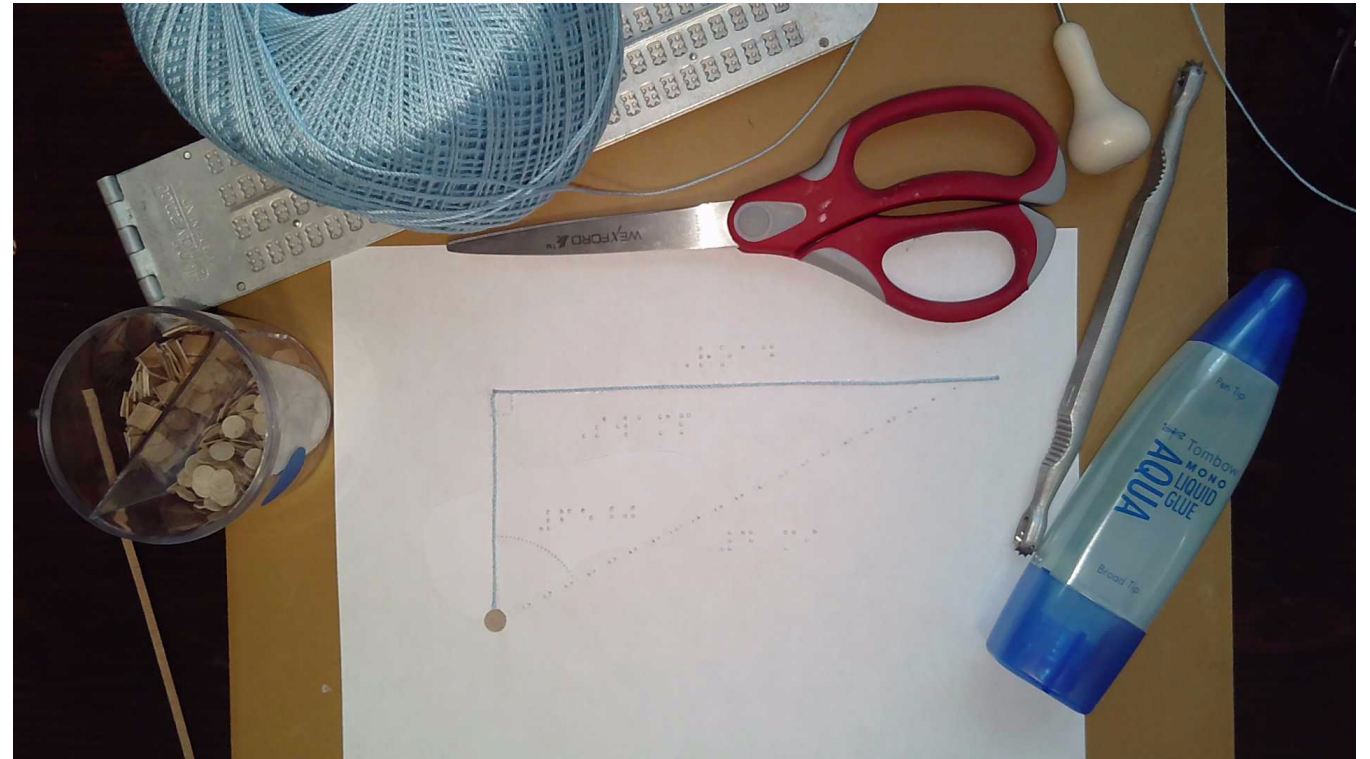
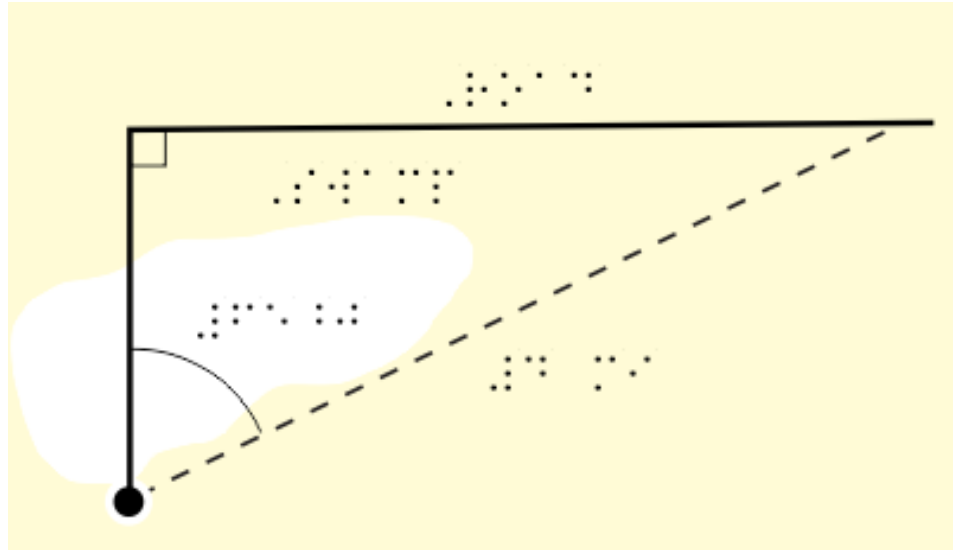
- A  $58^\circ$
- B  $69^\circ$
- C  $90^\circ$
- D  $122^\circ$



Angles on Survey Map



# Readable Option



# Thermoform?

- Thermoform is a widely used and accepted mass production method of tactile graphics.
  - Easy and inexpensive for making multiple copies once the master is created.
  - Capable of replicating good height and texture variations.
  - Capable of catching complexity and fine details.
  - Produces durable and wipe-clean plastic pages.







# Thermoform Area Symbols

- Textured or corrugated paperboard, cardstock, and paper stock
- Different fabrics: corduroy, cross stitch, Handiwipes, etc.
- Leather or thin wood pieces
- Textured paper towels
- Sandpaper in different grits
- Embossed textures



# Thermoform Linear Symbols

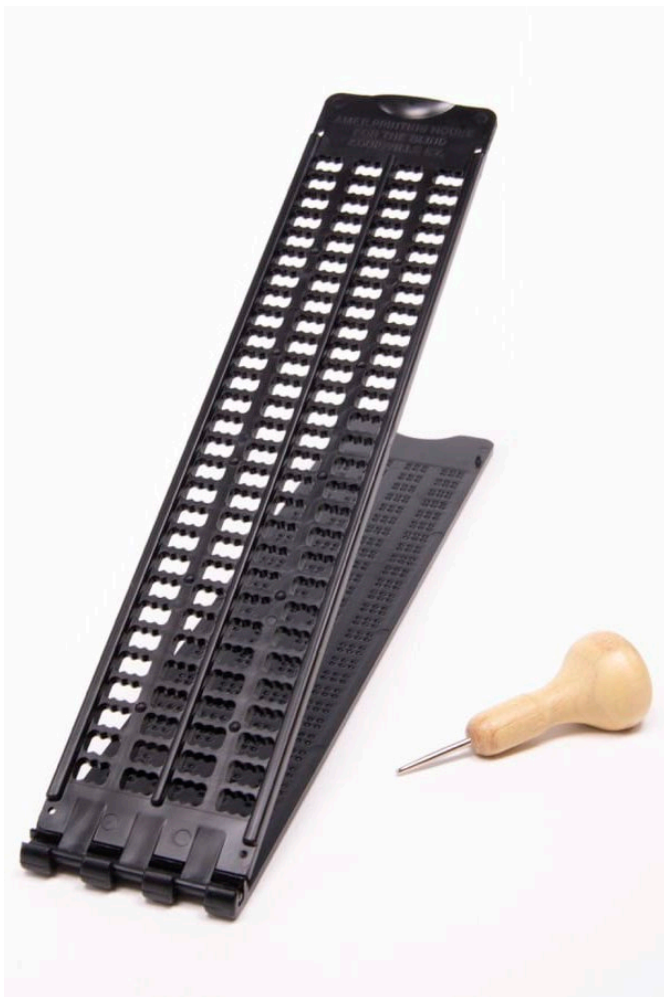
- Cotton strings, candlewicks, and carpet threads in different widths
- Strips of cardboard
- Paper or cloth covered floral wires
- Line tools
- Edge of a solid areal piece (a natural linear symbol created by solid areal symbol piece)

# Thermoform Point Symbols

- Precut or punch out cardboard pieces
- Point symbol tools (Tactile Graphics Kit)
- Thin wooden shapes

Sticky backed foam, beads, and metal pieces should not be used in the thermoform machine.





## Labels (braille)

- Labels should be brailled directly on the page.
- Cut & pasted piece naturally creates a tactile “box” around the label.
- Labels are logical.
- Use lead lines and measurement lines only when necessary.

# Tools For Every Box

- Sharp scissors
- X-Acto knife
- Laser engraver
- Hole punches of different sizes
- APH line drawing tools
- Light box (APH or craft stores)
- Semi-transparent, self-healing cutting board (office supply stores)



# Non-thermoform (Classroom/Home) Materials



# Non-thermoform Cont.



# Create a Good Master

- Simplicity!
- Variation in heights and contrast between textures.
- Capturing the intent.
- Sufficient empty space around each component:  
“1/8 inch rule”
- Large enough area for the fingers to move within it to gain tactual perception.



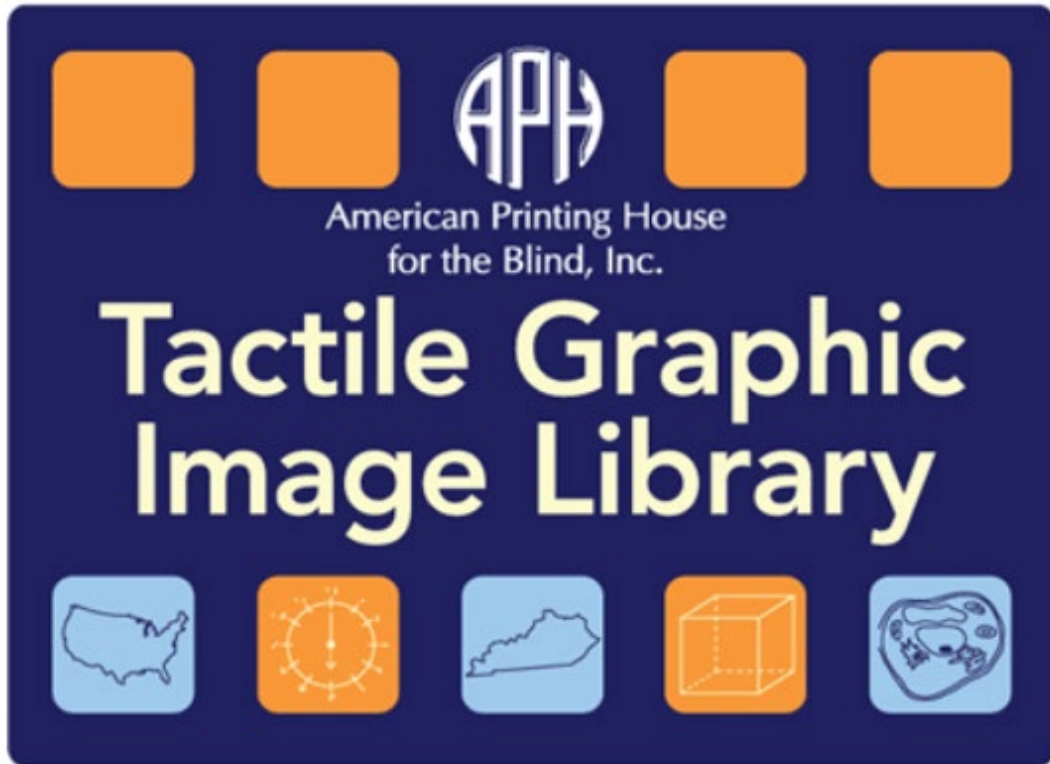
# Plan Ahead!

- Precut shapes
- Stock up on textures
- Store in moveable box
- Ask your braille friends
- Make a list/library of resources
- Pre-make common outlines



# Resource Documents and Sites

- BANA's Ask An Expert
- *Tactile Graphics Guidebook*, by John Barth (APH)
- Websites: perkinslearning.org; tactilegraphics.org; pathstoliteracy.org; lighthouse-sf.org; tsbvi.edu
- Tactile Skills Matrix: <https://sites.aph.org/tactile-skills/>
- Guidelines for Image Description:  
<http://diagramcenter.org/table-of-contents-2.html>

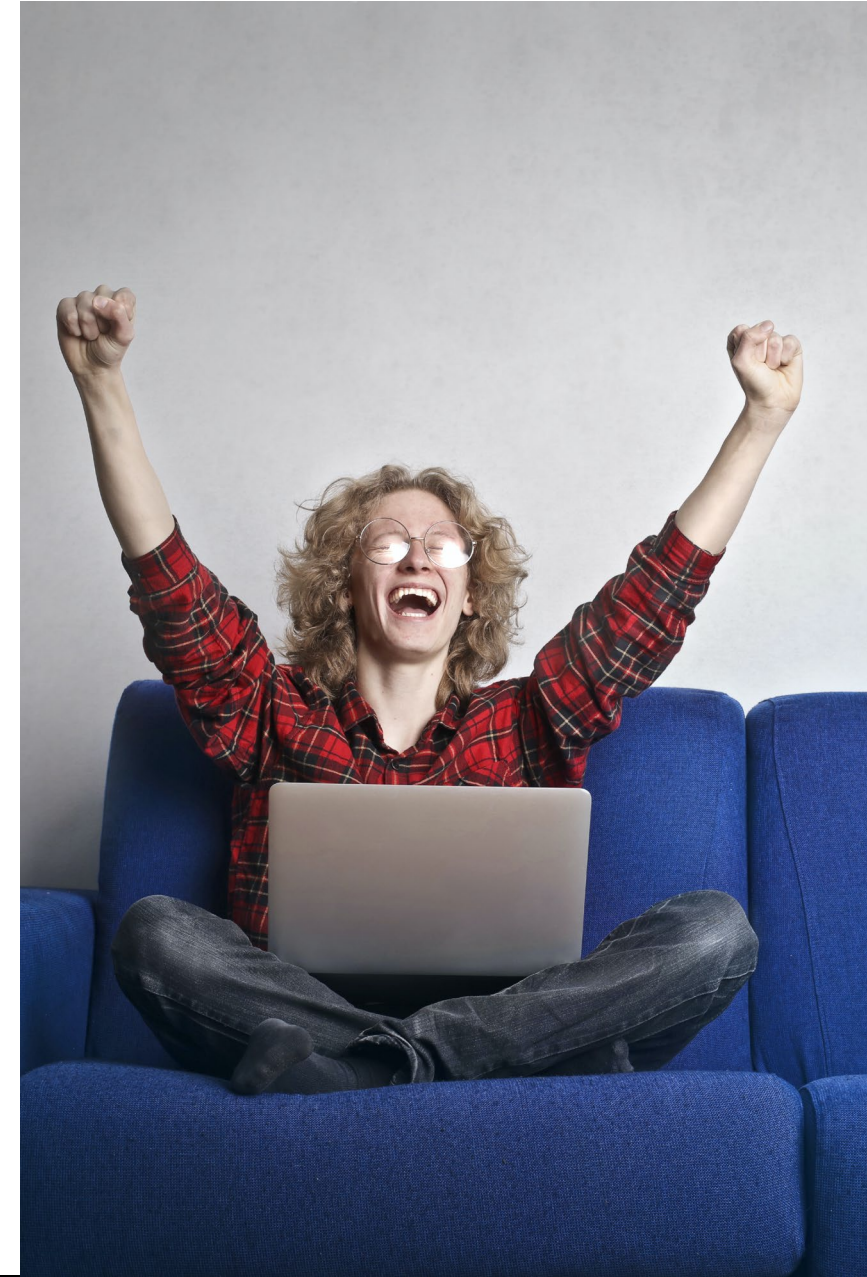


# Downloadable Templates

- Tactile Graphic Image Library
  - [imagelibrary.aph.org](http://imagelibrary.aph.org)
- Over 2,000 FREE images
  - Downloadable
  - Customizable
- Contact the TGIL: [tgfeedback@aph.org](mailto:tgfeedback@aph.org)

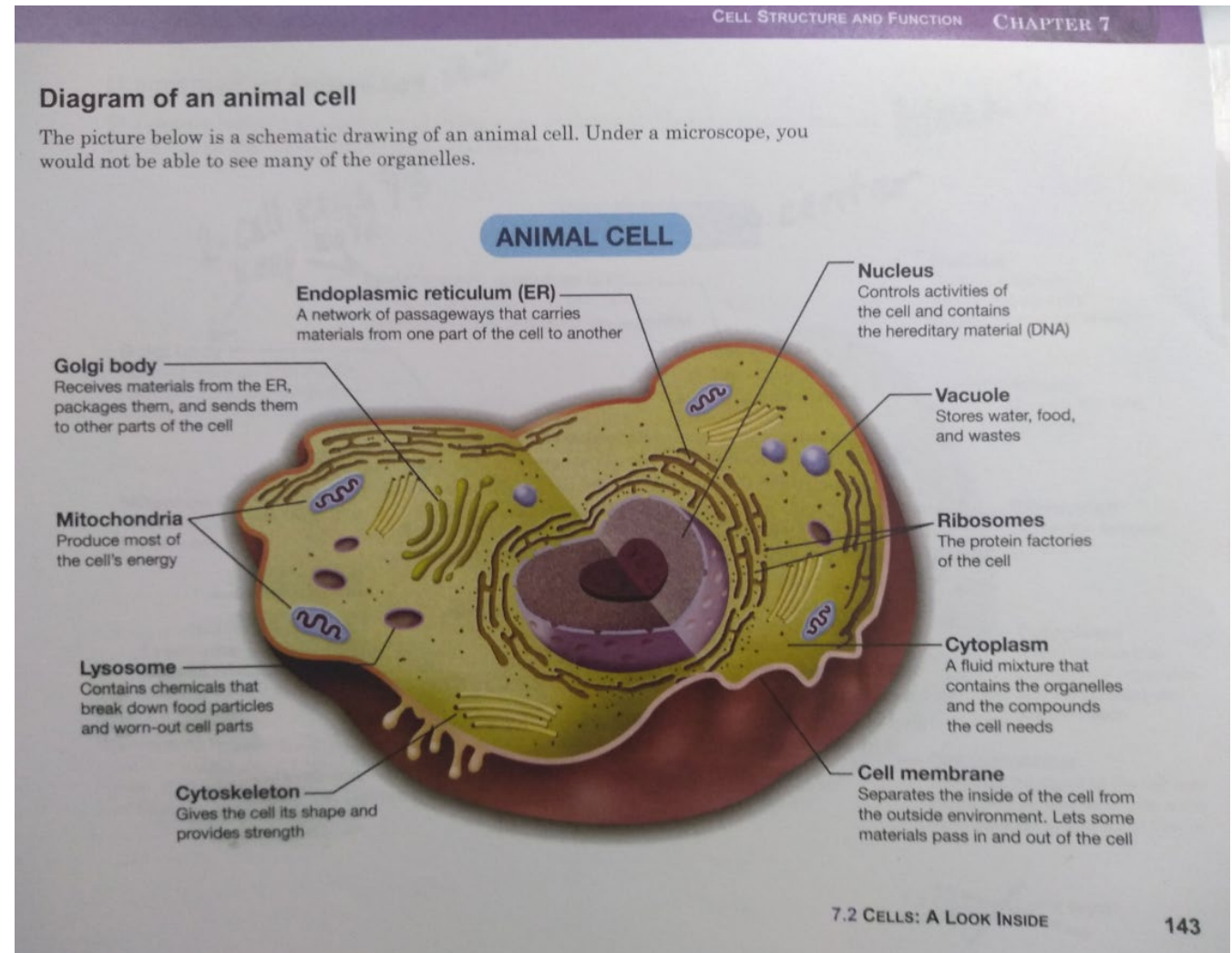
# TGIL Images With Collage?

- **Yes!** You can use it for the collage.
- **Yes!** They are electronic files but I am getting ready to show you how to apply them to the collage method.
- **Yes!** The Tactile Graphic Image Library really is free.




# Animal Cell

- Familiarization of cell and identifying individual parts.
- Simplify the shape and detail of the parts.
- Change the viewing angle
  - 3D to 2D
  - Top view
- Key lengthy labels on a facing page key.
- Collage




# TGIL Cell Image

- Search “cell”
- Select thumbnail image or follow link
  - This is Asset #1250
- Select download button
- Make changes to electronic file if needed
  - Reverse image
- Print on braille paper
- Add collage embellishments

**Tactile Graphic Image Library**  American Printing House for the Blind, Inc.

Search the TGIL  Search

Contact 

**3D Models**

**Activities-Games**

**Art**

- Barraga
- Color-By-Texture Coloring Pages
- Digital Light Box Artwork
- Greeting Cards
- Holidays and Events

**Automotive-Vehicles**

**Education**

- Raised-line Print

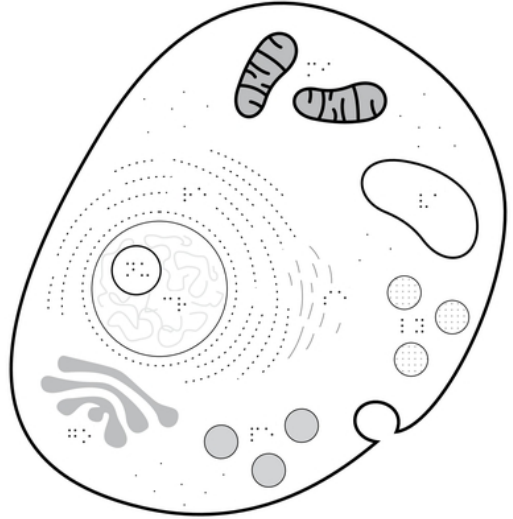
**Health**

- Sports and Recreation




**Independent Living**

**Mathematics**

- Algebra
- Geometry
- Statistics and Probability
- Trigonometry

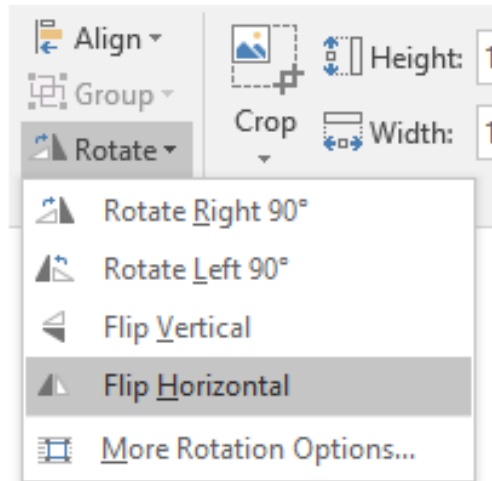


**Name:** Cell Animal  
**Production Notes:**

 Back  Download Image  Add to Cart

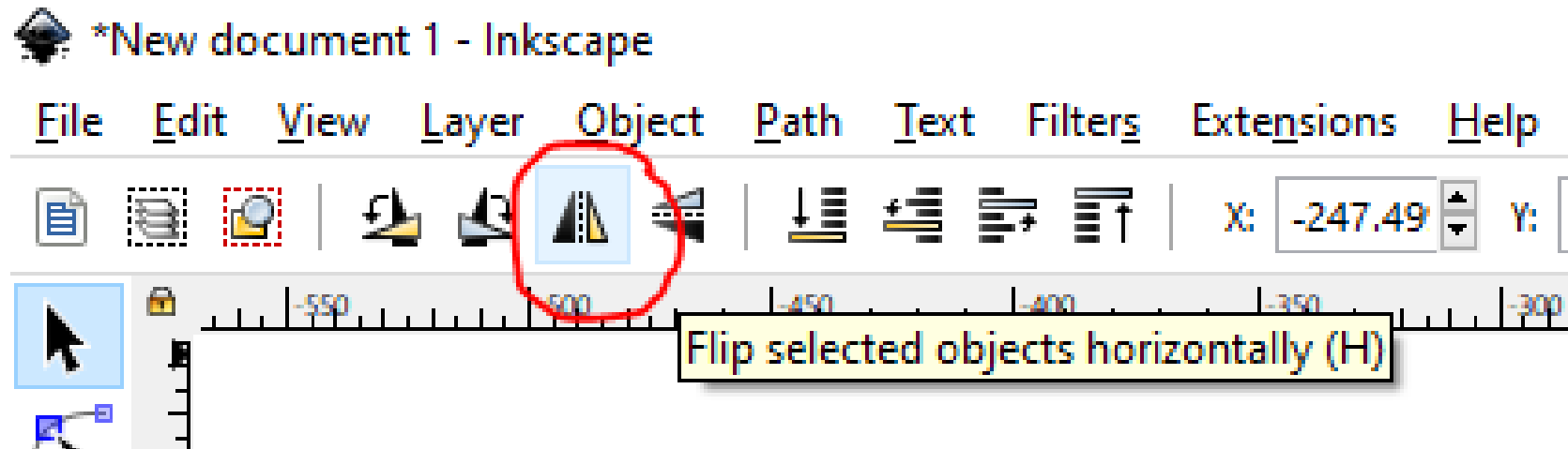
# Reverse a TGIIL Image in Word

To reverse an image or object in Microsoft Word, select the area to be flipped and then select Rotate > Flip Horizontal in the drawing toolbar.



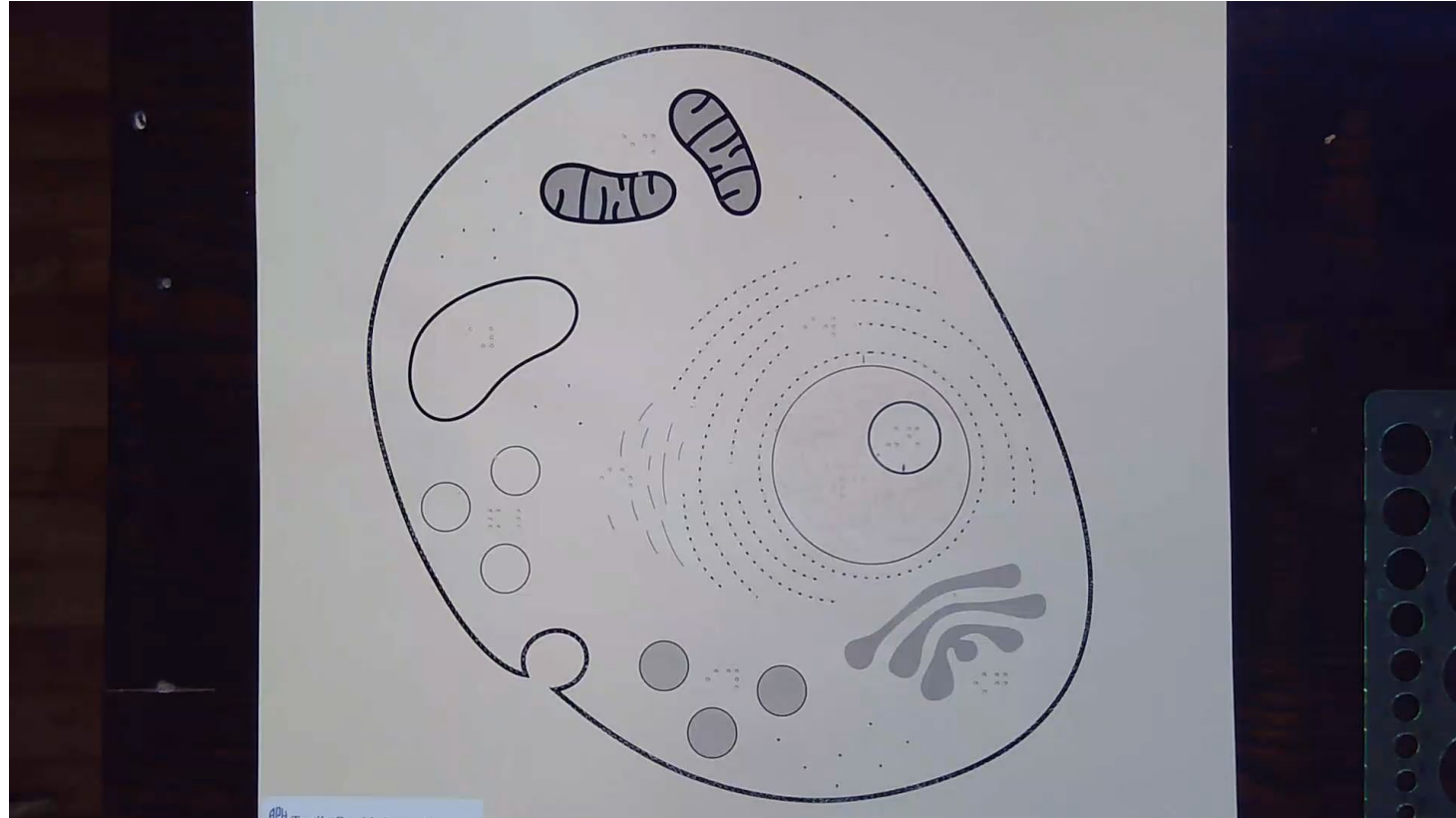
# Reverse a TGIL Image in Inkscape

To reverse an image or object in Inkscape, select the area to be flipped with the Selector Tool and click the Flip horizontally button.





# Make it into a Graphic



# Proofreading

- Proofread your design beforehand.
- Proofread your braille.
- Follow the TG Guidance.
- Proofread your key and compare to the graphic page.



# Proofread the Design

Name \_\_\_\_\_ Date \_\_\_\_\_

**COMPARING NUMBERS AND OBJECTS 4 (LEAST)**

1) Shade the frog with the **least** spots blue.

2) Circle the **smallest** number.

3 8 2 7

3) Circle the bucket with the **least** holes.


4) Circle the animal with the **least** legs.


Free Math Sheets, Math Games and Math Help  
MATH-SALAMANDERS.COM

**Less than Ideal**

# Guidance from BANA

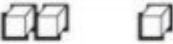
**Add. How Many Together?**


  
2 and 2   
"Two and two makes four."


  
1 and 4   
"One and four makes five."

**Practice**

1. Add. Read the addition sentences.

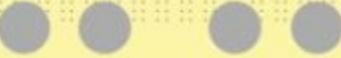
  
\_ and \_


  
\_ and \_

  
\_ and \_

[Sample worksheet from  
www.MathMammoth.com](http://www.MathMammoth.com)


Add. How Many Together?


  
2 and 2   
"Two and two makes four."


  
1 and 4   
"One and four makes five."

**Practice**

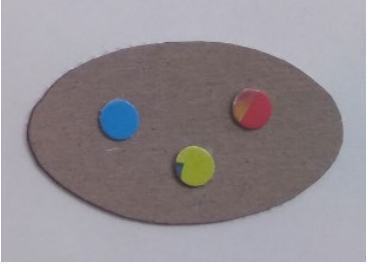
1. Add. Read the addition sentences.

  
\_ and \_

  
\_ and \_

  
\_ and \_

# Readable Options



Braille characters and symbols for counting and identification.

Braille for 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100.

Illustrations of ovals containing different numbers of dots (1, 2, 3, 4, 5).

Illustrations of trapezoids containing different numbers of dots (1, 2, 3, 4).

Illustrations of insects (spider, beetle, ant) with corresponding Braille labels.



# Braille and the Codes

[Formats 2016 \(UEB\)](#)

[Early Learning Materials](#)

[Unified English Braille Code \(UEB\)](#)

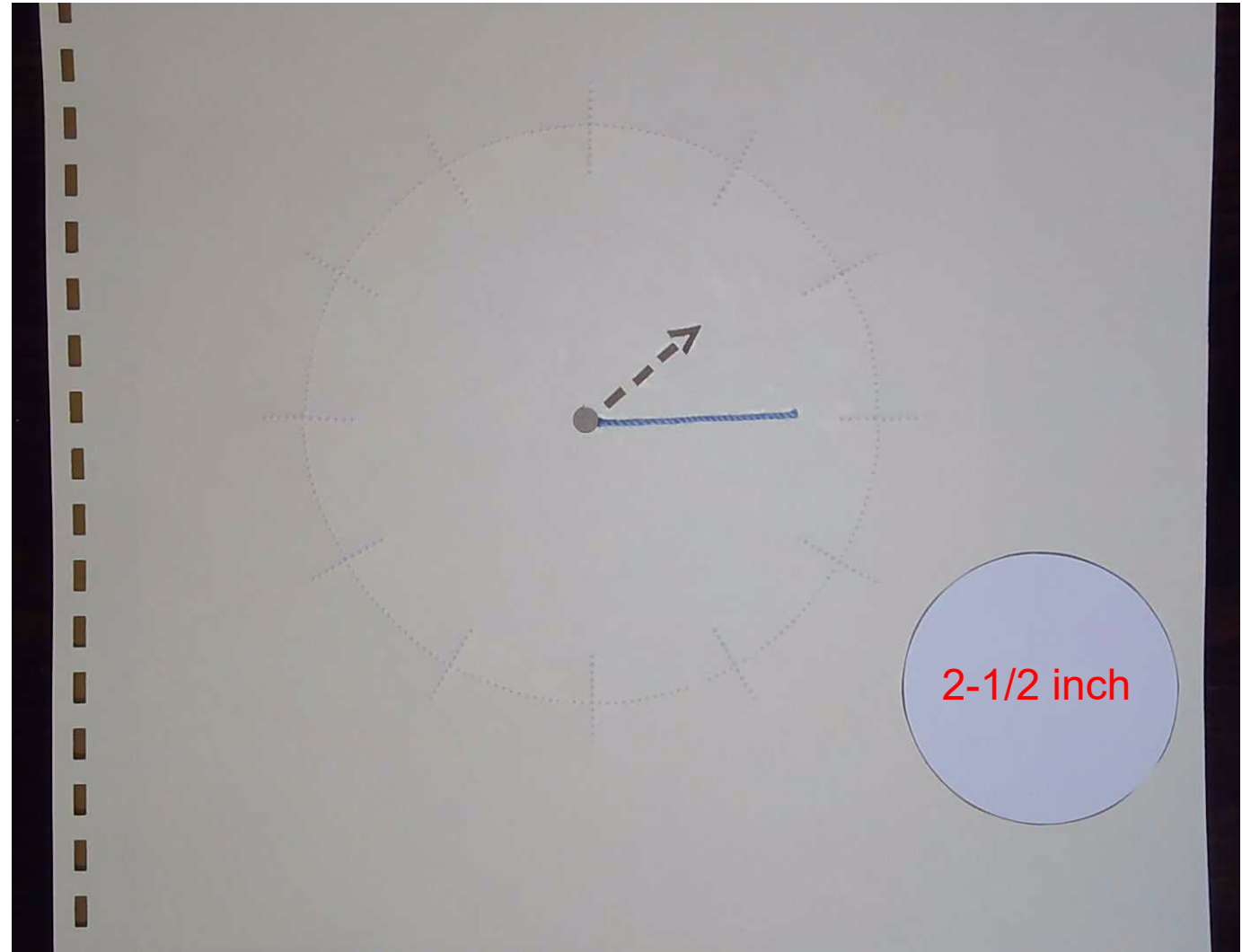
[Guidelines and Standards for Tactile Graphics](#)

[Foreign Language](#)

[The Nemeth Code](#)

# Know your Code

- Clock hands (unit 6)
- Tick marks (unit 6)
- Size (unit 6, 11.3.1)



# Readable Keys

- area textures
- line textures
- point symbols
- alphabetic key
- numeric key

transcriber's note in 7/5

blank line

area symbols left-aligned, top aligned with dots 14 of braille, description in 6/8

blank line

blank line

line symbols left-aligned, aligned with dots 25 of braille, description in 6/8

point symbols centered within the first four braille cells, description in 6/8

alphabetic and numeric keys in 1/3

space before diagram

space before page number

111



# Have Fun and Compete!

- **InSights Art Competition**
  - Juried art competition and exhibition for artists who are visually impaired and blind.
- **Typhlo & Tactus Competition**
  - International tactile illustrated book competition.



# APH InSights Art Contest

**Entries Due: March 26, 2021**

Information and Entry Form:

<https://insights-art.org/>

Contact: Rob Guillen

1-800-223-1839, [insights@aph.org](mailto:insights@aph.org)

The poster features a black background with three stylized writing instruments. On the left is a fountain pen with a red nib and a black cap. In the center is a large white fountain pen with a teal nib. On the right is a pencil with an orange tip and a white body. The APH logo is in the top left corner. The text 'InSights ART Application' is in the top right, and 'Entry Deadline: March 26, 2021' is below it. At the bottom, a white box contains the text: 'Thirtieth Annual Juried Art Competition and Exhibition for Artists Who Are Visually Impaired and Blind'.

**APH InSights ART**  
Application

Entry Deadline:  
March 26, 2021

Thirtieth Annual  
Juried Art Competition and Exhibition  
for Artists Who Are Visually Impaired and Blind

# Typhlo & Tactus Book Contest

- Entries due at APH: August 10, 2021
- Contact: Rob Guillen, APH [rguillen@aph.org](mailto:rguillen@aph.org)
- Registration form & rules available at T&T website: [tactus.org](http://tactus.org)

**ERIN I MORE (ERIN AND THE SEA)** - NICOL NAČINOVIĆ & PAULA FUMIĆ - CROATIA



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