# Lines, Tactile shapes, and Mazes, Oh-My!

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## Lesson Objectives

* To teach the skills of the zoom-in/zoom-out feature of tactile graphics
* To teach and practice the skill of panning left, right, up, and down
* To teach and practice the skill of tracking tactile graphics in combination with the zoom-in/zoom-out and panning features
* To teach and practice the skill of identifying shapes on the tactile graphics viewer
* To teach and practice using the ‘point-and-click’ feature on the Monarch to arrive at certain places on the tactile graphic.
* Incidental lessons involve math, graphing, and literacy (on these see below)

## Pre-Lesson Preparations

* You will need a laptop or someway to create a maze that can be converted into a tactile graphic and used on the Monarch. You will need a Monarch device.
* You may or may not need a flash drive or some way to transfer a file from point A to B.
* Using your favorite application (MS Word, Firebird, etc.) create a maze. For example, in MS Word you can use the insert lines and use the ‘draw a shape’ option on the toolbar.
* After selecting the ‘line’ option, create a maze in Word. The maze can be as big or small as you like but needs to have a starting point and a termination point which are easily identifiable by the user. A sample is shown below:
* There should be some false leads in your maze to make the lesson work.
* After you have drawn your maze or during your construction, you should add shapes using the ‘draw a shape’ option. You can make the maze as complicated as you choose, but the start and termination points should be the same shape, so the user knows where to start and end. You can add some braille words in as well—such as ‘start’ and ‘finish’.
* Add as many shapes as you like as this can be a good follow up question or ‘side’ game within the lesson.
* The maze should take up at least one 8.5”x11” piece of paper (1 page of a Word file).
* After you have created the maze, save the file as a .PDF using the ‘save as’ feature. Save your file to a flash drive or other external drive device. Then transfer the file to the Monarch using the following steps.
* Go to the File Manager, go to the file you want to “save.” Then use the copy file (backspace+Y). Use space+D to select the drive…pick storage…a copy button should appear… move to it and hit enter. The maze file should be on your Monarch and ready for student interaction.

## Lesson Execution

* Make certain your maze has a file name that the student can easily find. Perhaps include the word ‘maze’ in the file name. Have the student locate the maze using the file manager. Once the file is located, have them open the file in the tactile viewer. There are different ways of opening the file so use whatever works (either through scrolling line by line, using ‘key’ letters, etc.)
* For students who are dual media learners, you may consider using a ‘sleep-shade’ or another method to occlude residual vision, depending on their individual needs. This approach ensures that they rely solely on their tactile senses while using the Monarch. It is important to make this decision based on a thorough understanding of each student’s preferences, feelings, and the specific objectives of the lesson. As the instructor, you have the discretion to determine the best method to achieve these goals, always prioritizing the student's comfort and educational needs.
* Once the file is open, it should appear in small form on the Monarch screen. You can give the student the opportunity to explore the maze in small version or not. They may or may not be able to discern information from this size.
* After this pre-exploration, have the student practice with the zoom in/zoom out features (the +/- buttons). You can also practice using the point and click feature on the Monarch at this point to find the beginning of the maze. I used circles for the start/termination points of my maze so these were easy to find even in small form. The student can use this feature to find the beginning of the maze. If they find the termination point first, simply reverse the maze and have them go backwards. **(For fun: you can also ‘rotate’ the tactile maze using the space-r feature on the Monarch. This adds a different feel to the maze and provides additional uses for the maze when it comes to tracking and panning.)**
* When you have completed this part of the lesson, you can either have the student find the ‘start’ circle on their own or you can point and click so that it is on the screen. Then it is simply a matter of using the panning feature (the ‘d’ pads on the left and right of the Monarch) to solve the puzzle. Don’t forget to remind the student of which shape marks the start and the termination points of the maze. Have the student work with the panning feature until they reach the termination point of the maze.
* This is the completion of the lesson.

## Lesson Follow Up Questions or Alternate Games to Play

* How many of each shape were you able to find? **(Then you can turn this into a math lesson by working on graphing or charting the number of shapes, etc.)**
* Time how long it takes the student to get through the maze. Then rotate it and time them again.
* Add some braille into the maze and have the student track their way to find certain words. When they find the words, have them read the words for clues to the next direction they should track on the maze or just for literacy purposes.
* Very important to simply ask the student what they thought of the lesson and the maze. Too difficult? Too easy? What can we add? What can we subtract?
* How many false leads did the student follow? Is their time improving with each ‘run’ of the maze?