Connecting Math to Our Lives and Communities

Push-pin Maze

Introduction:

Now that you've solved mazes and labyrinths, explored the math related to them, and learned about the Mi'kmaq ways of knowing used to solve them, it is time to build your own 3D maze or labyrinth. The Mi'kmaq word for build is eliatl. Although it might not feel like math, this activity will require you to use some skills related to measuring and geometry. When you are finished, take some time to try out your puzzle, and offer others the chance to solve it too!

As you work, take the time to think about mazes and labyrinths that seem to appear on the land. Connecting rivers and landmasses have often been compared to mazes, just like the bridges of Konigsberg problem. Mi'kmaq people have been experts at navigating these "mazes" on the land. Next week you will learn more about wayfinding and navigating!

Math Connections
- Geometry
- Logical Reasoning
- Measurements

Materials:
- 1-2 packs of 100 push pins
- Garden kneeler
- Marble
- Marker
- Yarn

Activity:

1. For this activity first find the garden kneeler (foam board) in your kit. This is what you will be making your maze/labyrinth on. It's a good idea to map out a plan for your maze/labyrinth by drawing it out onto the foam using a marker. You may want to make a practice copy on graph paper first.
2. Once you have your plan mapped out, place push pins along the "walls" of the maze over the marker.
3. If you choose to, you can pin down yarn using the push pins as you go. This will make the maze more visible and will help prevent the marble from rolling through the walls!
4. When you are finished, you will have a maze that you or your friends can roll a marble through by tilting the foamboard!

Make sure to watch out for push pins falling to the floor!

Questions:

- Think about the size of the marble and the spacing of the push pins. How wide is the marble? How wide must the push pins be spaced?
- What kind of shapes did you use in your maze/labyrinth? Did you use lines or curves?
- Did you make a maze or labyrinth? Can you recall the difference?
- Did you incorporate any symmetry into this activity? If so, how?
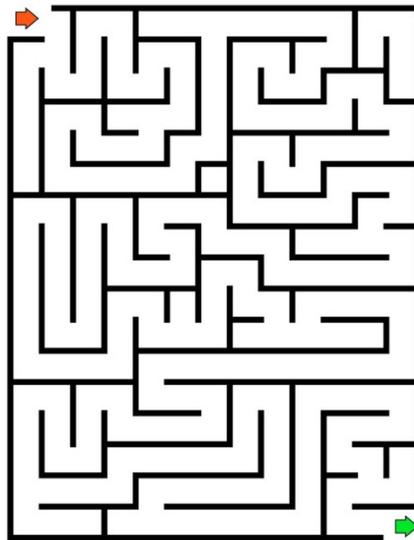
Send us a photo of your push pin maze at Connecting Math To Our Lives and Communities email (cmtolcstfx@gmail.ca)! ☺