FAIRBANKS
MUSEUM
& *planetarium*
STEM LAB

STEM Math Encounters Lab: A Deep Investigation of Mathematics

- Saturdays from 2-5pm, meets in STEM Lab and McGuire Conference Room
- 12 months long, meeting every third Saturday
- All ages with a focus on youth
- $250 for one participant, $400 for two participants in a family, $500 for three participants in a family. Each price is for the full year.

2019 Dates: Sept 21, Oct 19, Nov 16, Dec 21
2020 Dates: Jan 18, Feb 15, Mar 21, April 18, May 16, June 20, July 18, Aug 15

Preliminary List of General Topics

These topics can be adjusted based on interests and opportunities that arise during the course of the year.

- September: Math history, interesting 3D shapes
- October: Conic Sections
- November: Taxicab Geometry (Non-Euclidian Geometry)
- December: Solstice and astronomy math; meet in the FB Planetarium
- January: Gerrymandering
- February: Math of Meteorology
- March: Tessellations and STEAM
- April: Single Digits
- May: Crocheting Hyperbolic Planes
- June: Big Data
- July: Field trip to NYC and MoMath; topic to tie in with MoMath lecture
- August: Code breaking

Homework will be a part of this program, assigned before class and reviewed at the beginning of each class session. Class time will be a mix of peer-to-peer sharing, lecture, and hands-on activities. Student expectations during the program:
- Comfortable with algebraic notation
- Understanding of variables
- No computation restrictions apply
- Should be comfortable using a calculator
- Open minded and willingness to think outside of the box
- Being comfortable not having the right answer

Here is a list of personal materials students will need to have access to when they are in the lab:
- Notebook
- Pen or pencil
- Calculator
- Ruler
- Copy of *Taxicab Geometry: An Adventure in Non-Euclidean Geometry* by Eugene F. Krause

The STEM Lab and McGuire Conference Room are located in the McGuire Center behind the Fairbanks Museum & Planetarium at 73 Charles Street, St. Johnsbury, Vermont 05819 on the first floor.