Mud Lake Math Trail

This math trail has been developed as part of The Mud Lake Project, a TLLP project undertaken by staff at Regina Street Public School.

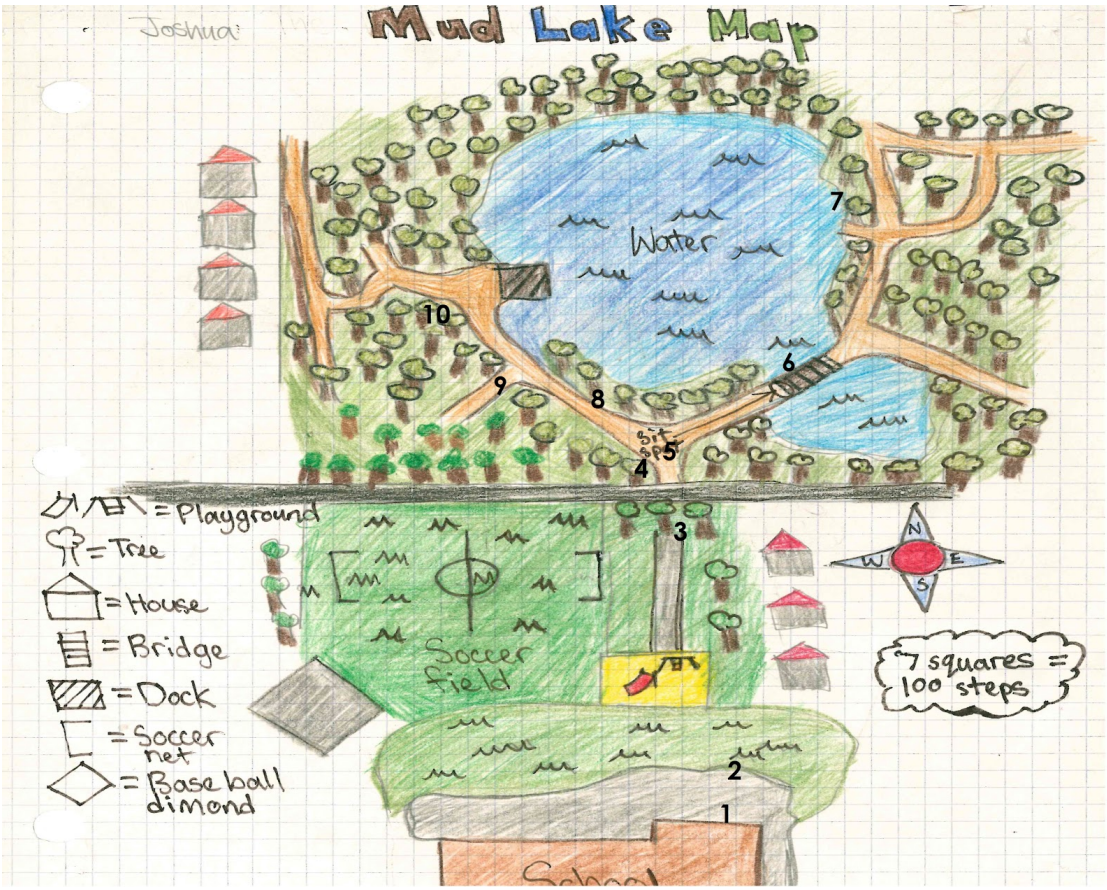
The problems are best suited for Junior students (those in grades 4, 5, and 6), but could be adapted to other levels, as well. You will encounter two types of problems on the trail - ***Stop and Solve*** and ***Record For Later***. ***Stop and Solve*** problems can be completed on the spot, while you'll need to record the necessary information to solve the ***Record For Later*** problems after completing the math trail.

There is also a scavenger hunt that you will need to work on as you follow the trail.

The starting point for the trail is the doors on the northeast corner of Regina Street Public School. The only equipment required is a 1 metre measuring tape, a clipboard, a pencil, and these math trail sheets. It would also be helpful to have a watch or timing device.

Math Trail Participants - _____

Time Started - _____



Scavenger Hunt

Some of the items in the scavenger hunt should be easy to find, while others may be much more difficult depending on time of year and weather conditions. Before you begin the trail,take some time to predict what you will observe using the probability lines provided. As you find the items check off the boxes provided. There is also a bonus question for each item to test your nature knowledge.

5 or more Chickadees

☐ ☐ ☐ ☐ ☐

Where would you look for a chickadee nest?

A snapping turtle

☐

What is the lifespan of a snapping turtle?

A woodpecker

☐

What kind of woodpecker did you see?

Litter

☐

How long does it take a plastic pop bottle to break down in nature?

An acorn

☐

Which province has acorns on its flag?

More grey than black squirrels

Grey tally -
Black tally -

How fast can an eastern grey squirrel run?

Station 1 - ***Record For Later*** -

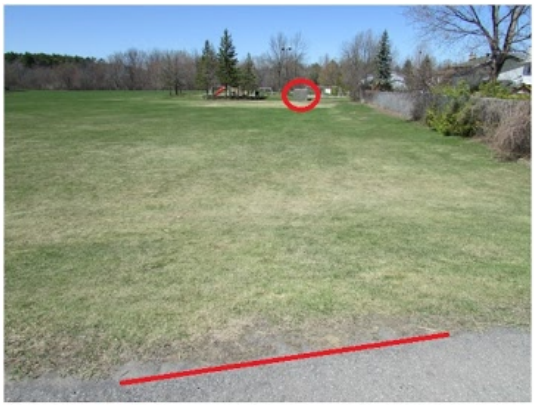
Northeast corner brick wall

How many bricks make up this wall?

What is the area of the wall?

From the wall walk north towards Mud Lake until you reach the edge of the pavement.

Station 2 - ***Stop and Solve*** - **Edge of pavement at top of hill overlooking yard**



Estimate the number of steps that it will take you to reach the cement shed.

Count the steps as you walk and record the total steps taken. How close was your estimate?

Walk through the schoolyard and park area towards the entrance to Mud Lake until you reach the “Y” in the paved path located just before you reach the bike path.

Station 3 - ***Stop and Solve*** -

Pavement/grass “triangle” at the bike path

Using the definitions provided on the next page, classify the triangle by the length of its sides and the size of its angles. Justify your answers by discussing what you did to measure the sides and angles.

How I Measured

- Scalene - a triangle with no equal length sides
- Isosceles - a triangle with two equal length sides
- Equilateral - a triangle with all equal length sides

- Acute-angled - a triangle with three acute angles
- Right-angled - a triangle with a right angle
- Obtuse-angled - a triangle with an obtuse angle

Look both ways and, when it is safe, cross the bike path. You'll be examining the Mud Lake sign located at the fenced entrance.

Station 4 - ***Stop and Solve*** - ***Mud Lake Sign***

How many letters can you find on the sign with at least one line of symmetry?

Which letter has the most lines of symmetry?

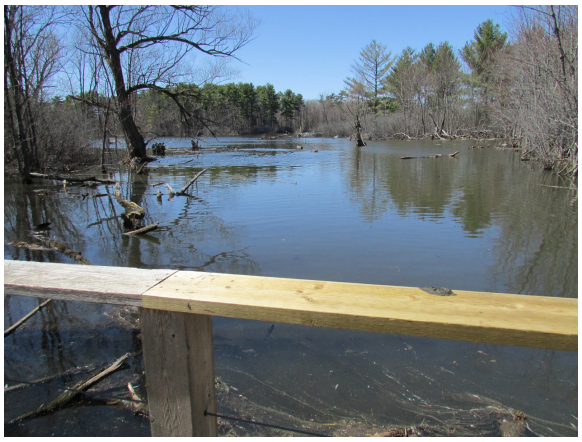
The next stop on the trail is just ahead on the pathway.

Station 5 - ***Stop and Solve*** - ***Fork in the Trail Triangle***

Compare this triangle to the one near the bike path. How are they the same/different?

Turn right and head toward the bridge.

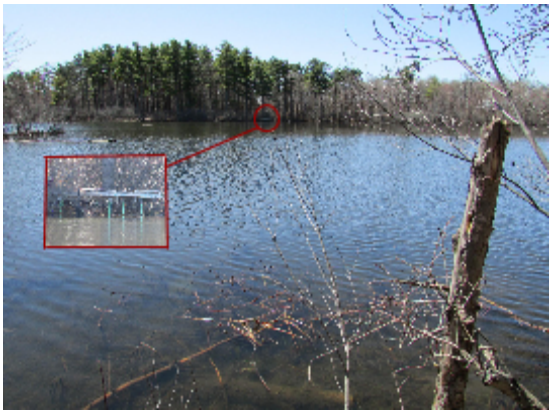
Station 6 - ***Record For Later*** - ***Bridge***



While standing on the bridge, take two minutes and observe the living things that you can see and/or hear? Tally your results using the chart below.

Mammals	Birds	Reptiles & Amphibians	Insects

Continue over the bridge and turn left. Follow the trail until you reach the next junction. Here you will veer off the main stone-dust path to the left to the Flat Rock Point lookout.



Station 7 - ***Record For Later*** - ***Flat Rock Point***

Look west across Mud Lake and find the viewing platform. You have the choice of swimming directly across to the platform or running to it using the trail that you will follow for the rest of the walk. If you can swim 3 km in one hour and run 12 km in one hour, which method of travel would be faster?

Retrace your steps back across the bridge and continue along the edge of Mud Lake until you reach Big Rocks lookout. Here you'll be able to see right across Mud Lake towards the Britannia Water Filtration Plant.

Station 8 - ***Stop and Solve*** - ***Big Rocks Lookout***

Look at the tall white pine trees on the west side of Mud Lake. About how far up the height of the tree do the branches with needles on them begin? Express your answer as a fraction of the total tree height.

Continue along the path towards the Tall Pines.

Station 9 - ***Stop and Solve*** - **Dead Tree Corner**

Look around at the dead trees. Use the trunks of these trees to identify examples of acute, right, and obtuse angles. Sketch them in the space below.

Head towards the Tall Pines finishing your outbound journey at the viewing platform.

Station 10 - ***Stop and Solve*** - **Tall Pines**

Find a tree with a circumference (distance around the trunk) that is approximately equal to your height. Explain how you did this using words and/or pictures.

Would your answer change if you measured the circumference of the tree trunk at a different height? Explain.

Return to school remembering to look for any scavenger hunt items that you may have missed along the way.

Once you arrive at the back doors of the school, create your own math problem that could be solved on the math trail. Write it below and you've completed your journey.

Time Completed - _____

Elapsed Time - _____