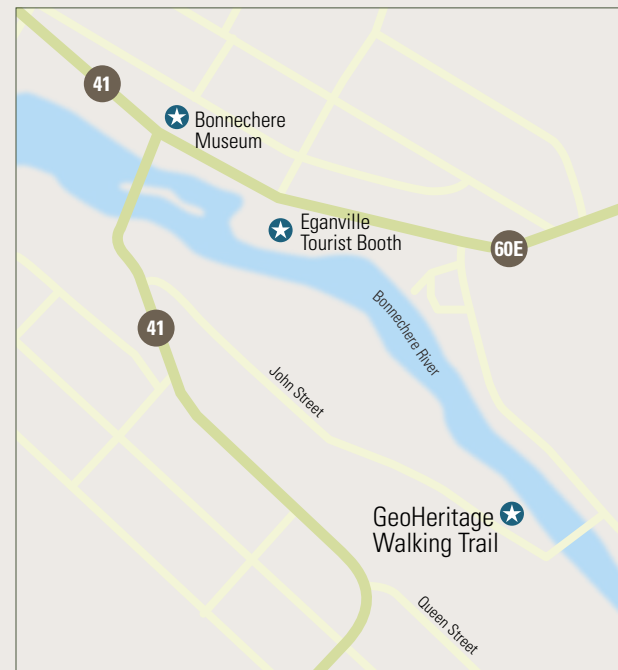


# The Bonnechere Museum GeoHeritage Trail

A geologically rich trail leads you to an exhibit of rock types, a limestone quarry, a dug trench, a riverview walk and fossils. The Bonnechere Museum is happy to offer this local trail for recreational geology and for educational exploration. An outdoor, enjoyable way to learn some of our ancient history written in stone.



HOW TO REACH US  
613.628.1000  
info@bonnecheremuseum.ca

BONNECHERE MUSEUM HOURS  
Tuesday-Saturday 10am - 4pm  
Sunday 1- 4pm Holiday Mondays 10am - 4pm

Check out the Museum Event Calendar for  
scheduled Geo-Walks and Fossil Hunts!  
www.bonnecheremuseum.ca



the  
BONNECHERE  
museum

www.bonnecheremuseum.ca



GEOHERITAGE TRAIL





# What you will see on this trail

Outlier surface rock, limestone quarry, mysterious layered trench, Ordovician fossils, rock types and their features.

## Fossils

Pelecypods, brachiopods, cephalopods (orthocone and horn-shaped) gastropods, crinoid stems and rings.

## Igneous

Mafic materials, syeniorite, mafic with dykes, pegmatite.

## Sedimentary

Stromatolitic dolomite, limestone with fractures, 18" orthocone and bedding surface fossils, limestone bedding with multiple trace tools.

## Metamorphic

Granite and gneiss quartzite feldspar, banded gneiss, garnets, foliation and lineation, circular folding and mafic gneiss.

## Types of rock and their characteristics

### IGNEOUS

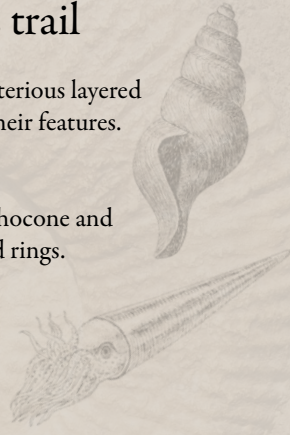
Molten material (magma/lava) cools and hardens. The hot material crystallizes into different minerals. The oldest type of this rock is igneous. *Granite, Obsidian, Basalt*

### SEDIMENTARY

Sediments eroded from any rock type, even organic remains are deposited in layers and then compressed into rock. Most fossils are found in this type of rock. *Limestone, Coal, Gypsum*

### METAMORPHIC

Sedimentary or igneous rocks can be transformed by heat and/or pressure. Metamorphic means 'to change shape' in Greek. *Marble, Slate, Quartzite*



1

### MAFIC SYENODIORITE

Interlocking mosaic of small, equal-sized grains of amphibole and plagioclase (no quartz).

**IGNEOUS**



2

### GRANITE PEGMATITE

Very large crystals of orthoclase, a mineral which forms igneous rock, quartz and greenish gray amphibole.

**IGNEOUS**



3

### DOLOMITIC LIMESTONE

Contains numerous small thrombolites (stromatolites that show an internal clotted fabric rather than distinct laminations).

**SEDIMENTARY**



4

### LIMESTONE

Shows solution along a fracture due to action of acidic groundwater. This is how caves originate.

**SEDIMENTARY**



5

### DOLOMITIC LIMESTONE

Shows underside of domal stromatolites, layered structures made by shallow water microorganisms that bind sediments.

**SEDIMENTARY**



6

### LIMESTONE

Contains low-relief, laterally linked stromatolites.

**SEDIMENTARY**



7

### FOLIATED MAFIC GNEISS

Intruded by three generations of quartz veins. The oldest was injected parallel to the foliation.

**IGNEOUS**



8

### LIMESTONE

Contains several orthocones including the highlighted 18" fossil and many gastropods.

**SEDIMENTARY**



9

### MAFIC GNEISS

Intruded by granite sills.

**METAMORPHIC**



10

### FELSIC GNEISS

Granitic composition, mainly a mosaic of interlocking orthoclase and quartz grains.

**METAMORPHIC**



11

### MAFIC GNEISS

Shows lineation, the alignment of elongated mineral grains, shown here parallel to the pen, as well as foliation, sheeted mineral layering.

**METAMORPHIC**



12

### FELSIC GNEISS

Show pervasive foliation, intruded by sinuous granitic dyke (below pen in image).

**METAMORPHIC**



13

### MAFIC GNEISS

Abundant garnets on the left side.

**METAMORPHIC**



14

### MAFIC GNEISS

Intruded by granitic dykes, most are parallel to the foliation, before it was folded around axes parallel to the pen in the image.

**METAMORPHIC**