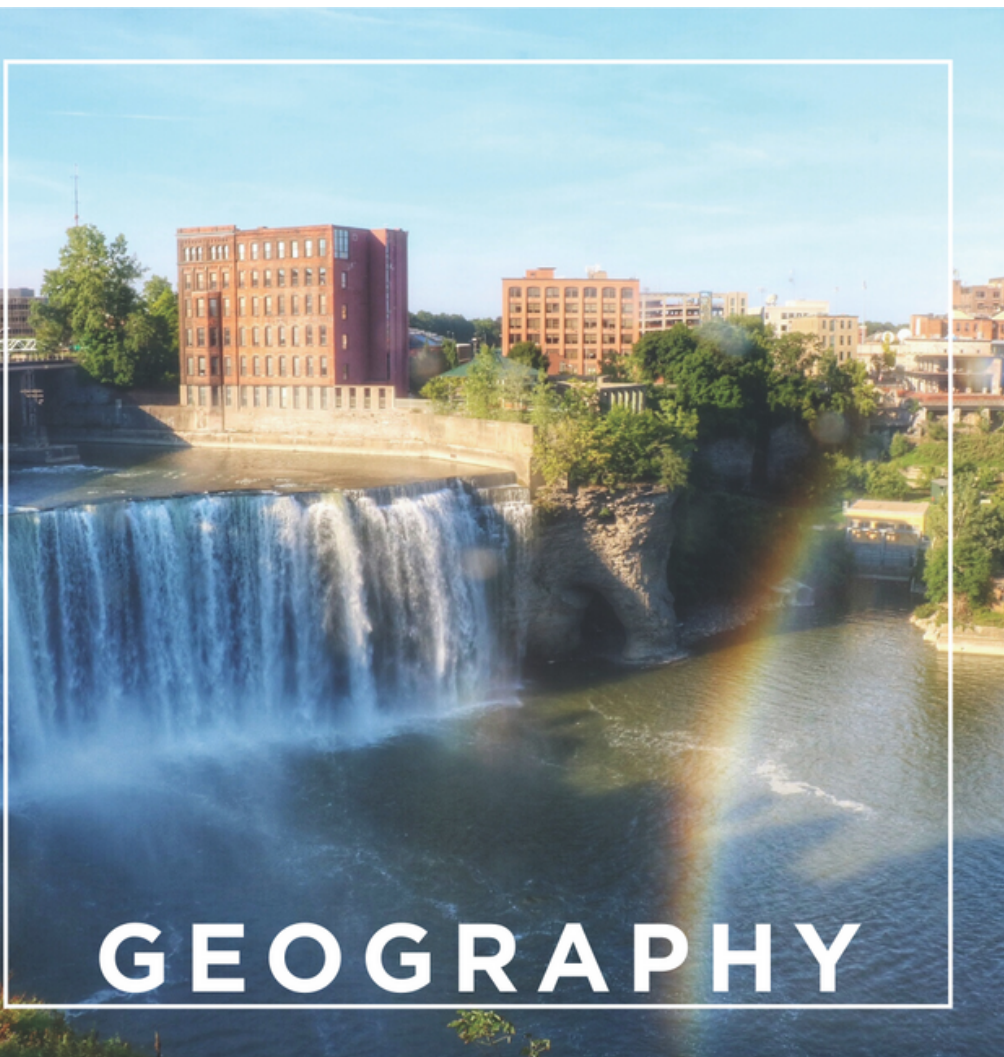


# S.T.E.M. ROCS

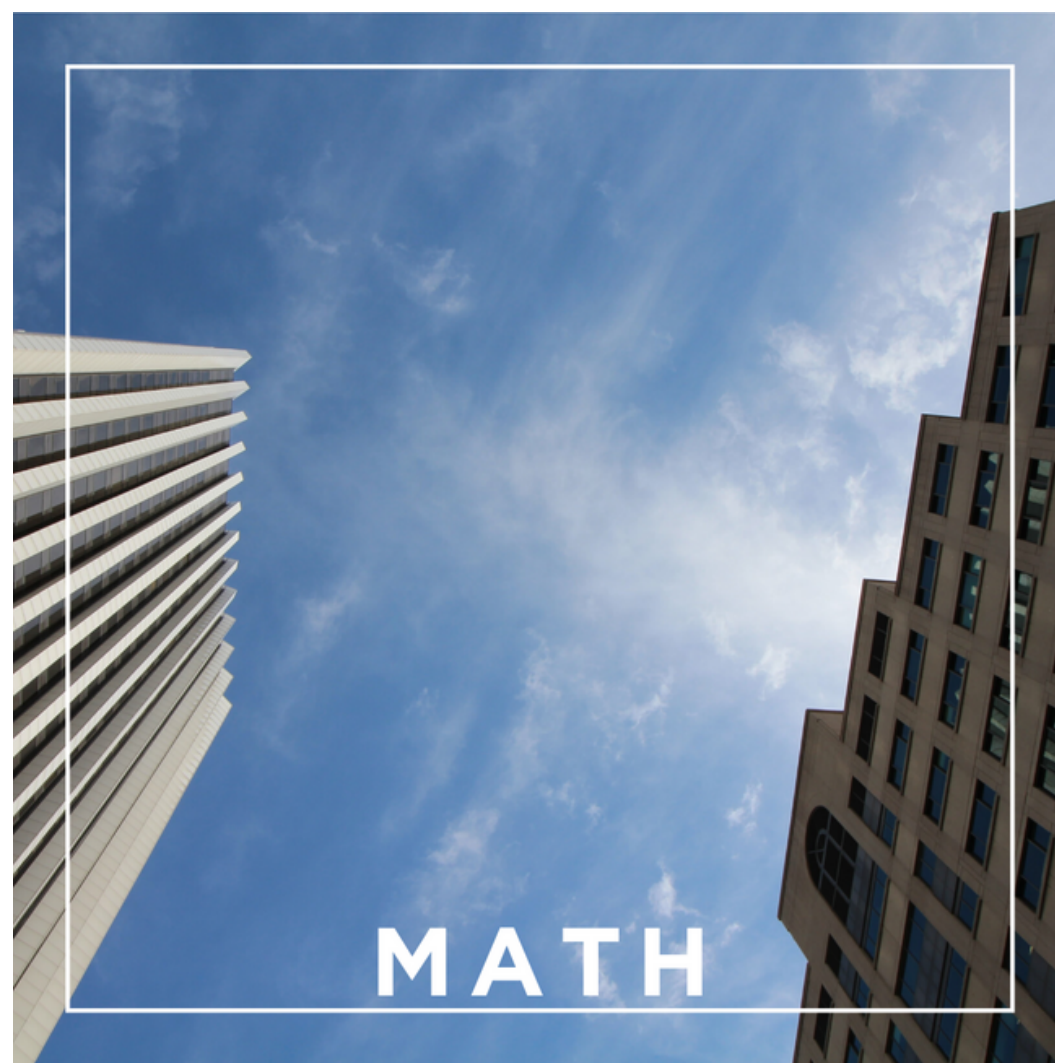
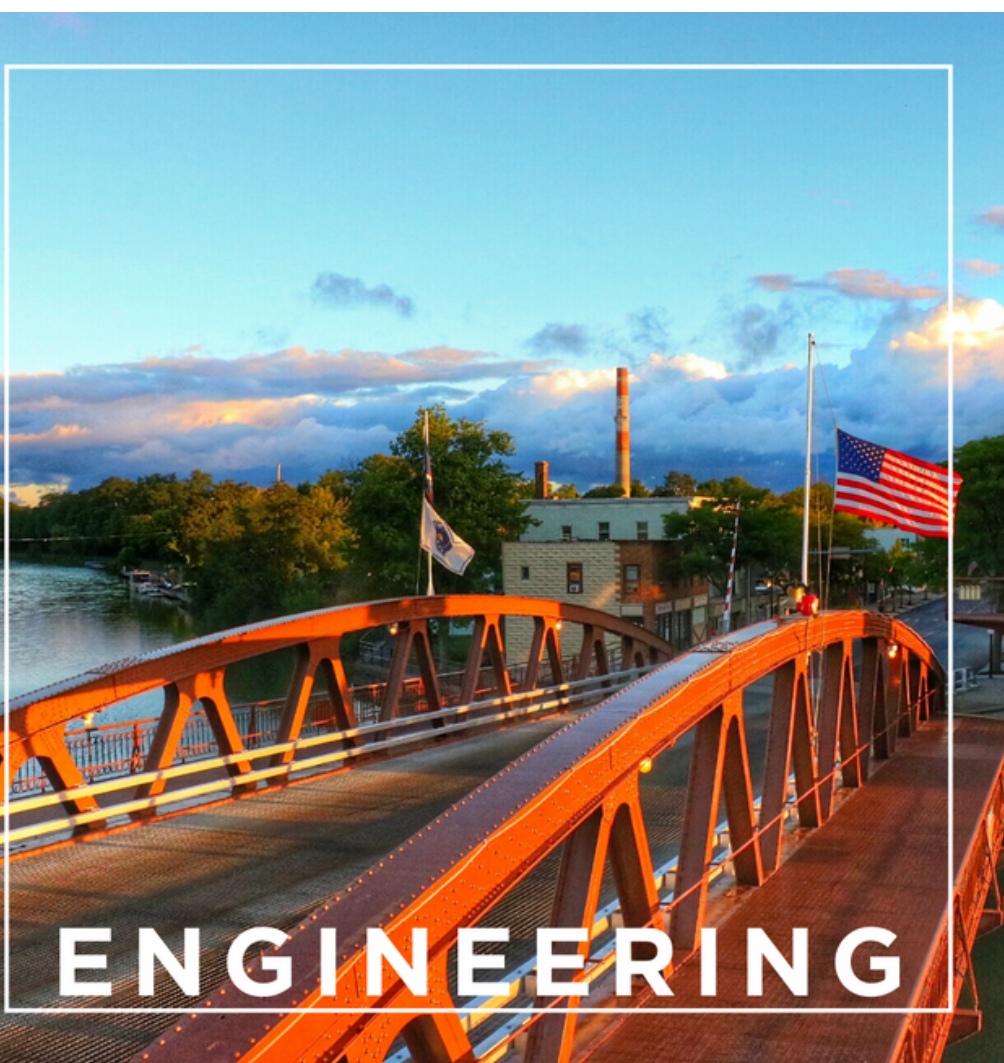
EDUCATIONAL SCAVENGER HUNTS THAT EXPLORE ROCHESTER



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# PARENT'S GUIDE

# S.T.E.M. ROCS

## EDUCATIONAL SCAVENGER HUNTS THAT EXPLORE ROCHESTER

### EARTH SCIENCE

USE THE REGION AS A TOOL TO TEACH EARTH SCIENCE INCLUDING GEOLOGY, ECOLOGY AND MORE!

#### LANDMARKS

- THE LAST ICE AGE, THE PLEISTOCENE GLACIATION, WHICH BEGAN 2.58 MILLION YEARS AGO, FORMED THE LANDSCAPE WE KNOW TODAY, ESPECIALLY LAKE ONTARIO, WHOSE BASIN WAS FORMED BY SOFT, WEAK SILURIAN-AGE ROCKS. THE MATERIALS PUSHED SOUTHWARD BY THE ICE SHEET FORMED DRUMLINS, KAMES, AND MORAINES WHICH YOU CAN BE FOUND TODAY. AT IT'S WIDEST, THE LAKE IS 53 MILES ACROSS AND ON A CLEAR DAY, YOU CAN SEE TORONTO!
- 12,000-14,000 YEARS AGO, MT. HOPE WAS COVERED IN A SHEET OF ICE, ONE TO TWO MILES THICK! AS THE ICE MELTED, THE ROCKS AND RUBBLE LEFT BEHIND FORMED WHAT ARE KNOWN AS ESKERS WHICH ARE LONG, WINDING RIDGES OF STRATIFIED SAND AND GRAVEL. THE SENECA PEOPLE USED THE ESKER AS A TRAIL FROM THE BRISTOL HILLS NORTH TO LAKE ONTARIO, AS IT PROVIDED A CONTINUOUS PATH THROUGH THE MORaine, A GLACIALLY FORMED ACCUMULATION OF UNCONSOLIDATED GLACIAL DEBRIS SUCH AS REGOLITH AND ROCK. THE ESKER IS THE MAIN PATH THROUGH THE CEMETERY, NAMED INDIAN TRAIL AVENUE.
- AN EXTENDED DRIVE WILL TAKE YOU TO ONE OF THE LARGEST DRUMLIN FIELDS IN ALL OF NORTH AMERICA AT CHIMNEY BLUFFS. YOU'LL FIND MORE THAN 10,000 DRUMLINS. A DRUMLIN IS A LOW OVAL MOUND OR SMALL HILL, TYPICALLY ONE OF A GROUP, CONSISTING OF COMPACTED BOULDER CLAY MOLDED BY PAST GLACIAL ACTION.
- A HIKE THROUGH MAPLEWOOD PARK, WILL LEAD YOU TO THE LOWER FALLS OF THE GENESEE RIVER. AT THE BOTTOM OF THE FALLS, YOU'LL SEE MATERIAL DEPOSITED 430 MILLION YEARS AGO! THE MATERIAL AT THE TOP OF THE WATERFALL WAS DEPOSITED 410 MILLION YEARS AGO. FUN FACT: THE GENESEE RIVER IS ONE OF ONLY 33 IN THE WORLD WHICH FLOW NORTH.
- VISIT THE DEVIL'S BATHTUB, IN MENDON PONDS PARK TO DISCOVER A RARE MEROMICTIC LAKE. A MEROMICTIC LAKE IS ONE IN WHICH THE VARIOUS LAYERS OF WATER NEVER INTERMIX. THE DEVIL'S BATHTUB IS ALSO KNOWN AS A KETTLE HOLE, A HOLLOW TYPICALLY FILLED BY A LAKE, RESULTING FROM THE MELTING OF A MASS OF ICE TRAPPED IN GLACIAL DEPOSITS. MENDON PONDS PARK WAS NAMED TO THE NATIONAL REGISTRY OF NATURAL LANDMARKS IN 1969 DUE TO IT'S GEOLOGIC HISTORY AND PRESENCE OF SIGNIFICANT KAMES, ESKERS AND KETTLES.
- POST-QUARANTINE, MAKE A VISIT TO THE ROCHESTER MUSEUM AND SCIENCE CENTER, TO LEARN ABOUT HOW THE ICE AGE SHAPED OUR REGION.

#### RESOURCES

[WWW.EN.WIKIPEDIA.ORG/WIKI/LAKE\\_ONTARIO](http://WWW.EN.WIKIPEDIA.ORG/WIKI/LAKE_ONTARIO)  
[WWW.EN.WIKIPEDIA.ORG/WIKI/MOUNT\\_HOPE\\_CEMETERY\\_\(ROCHESTER\)](http://WWW.EN.WIKIPEDIA.ORG/WIKI/MOUNT_HOPE_CEMETERY_(ROCHESTER))  
[WWW.DAYTRIPPINGROC.COM/MAPLEWOOD-PARK/](http://WWW.DAYTRIPPINGROC.COM/MAPLEWOOD-PARK/)  
[WWW.DAYTRIPPINGROC.COM/ROCHESTER-GEOLOGIC-HISTORY/](http://WWW.DAYTRIPPINGROC.COM/ROCHESTER-GEOLOGIC-HISTORY/)  
[WWW2.MONROECOUNTY.GOV/PARKS-MENDONPONDS.PHP](http://WWW2.MONROECOUNTY.GOV/PARKS-MENDONPONDS.PHP)  
[WWW.RMSC.ORG/](http://WWW.RMSC.ORG/)

### BIOLOGY

THERE IS NO GREATER TIME TO EXPLORE THE SCIENCE OF LIFE, THAN SPRING TIME IN ROCHESTER. AFTER A LONG WINTER, THERE ARE PLENTY OF ORGANISMS GROWING AND BLOOMING.

#### LANDMARKS

- ALTHOUGH IT MIGHT BE BEST KNOWN FOR IT'S COLLECTION OF LILACS, HIGHLAND PARK IS A GREAT PLACE TO EXPLORE THE CLASSIFICATION SYSTEM. YOU'LL FIND A JAPANESE MAPLE COLLECTION, 35 VARIETIES OF MAGNOLIAS, 700 VARIETIES OF RHODODENDRON, AZALEAS, MOUNTAIN LAUREL, AND MORE. THE SCIENTIFIC NAME FOR LILAC IS SYRINGA, AND IS A GENUS OF 12 CURRENTLY RECOGNIZED SPECIES OF FLOWERING WOODY PLANTS IN THE OLIVE FAMILY. SYRINGA IS PART OF THE OLEACEAE *FAMILY*, OF THE LAMIEALES *ORDER*, OF THE PLANTAE *KINGDOM*. AS YOU EXPLORE THE MANY BEAUTIFUL PLANTS AND FLOWERS, THERE IS ONE THING THAT ALL HAVE IN COMMON AND THAT IS PHOTOSYNTHESIS, THE PROCESS BY WHICH PLANTS TAKE ENERGY FROM THE SUN AND CREATE SUGAR MOLECULES.
- EXPLORE BRADDOCK BAY IN SEARCH OF SOME OF THE FLYING WILDLIFE THAT CALL OUR REGION HOME. THIS TIME OF YEAR, YOU'LL FIND INDIGO BUNTING, SAVANNAH SPARROW, ROBINS, DUCKS, SWANS AND MORE. THE AMERICAN ROBIN IS PART OF THE TURDIDAE *FAMILY*, OF THE AVES *CLASS*, OF THE PASSERIFORMES *ORDER*, THE CHORDATA *PHYLUM*, AND ANIMALIA *KINGDOM*. THEY HAVE A LIFESPAN OF APPROXIMATELY TWO YEARS.
- LAKE ONTARIO IS IMPORTANT FOR IT'S DIVERSITY OF BIRDS, FISH, REPTILES, AMPHIBIANS, AND PLANTS. LAKE TROUT AND WALLEYE ARE FOUND AT THE TOP OF THE OPEN WATER FOOD WEB WITH ALGAE FORMING THE BASE, HOWEVER ALGAE ALSO FEEDS INVASIVE SPECIES WHICH HAVE HAD A SIGNIFICANT IMPACT ON THE ECOSYSTEM OF LAKE ONTARIO. LAMPREY AND ZEBRA MUSSELS ARE PROMINENT AND POSE SIGNIFICANT THREATS TO THE LAKE AND ITS WATERWAYS. THE FORESTS SURROUNDING THE LAKE ARE DECIDUOUS, FILLED WITH MAPLE, OAK, BEECH, ASH, AND BASSWOOD.

#### RESOURCES

[WWW.CITYOFROCHESTER.GOV/HIGHLANDPARK/](http://WWW.CITYOFROCHESTER.GOV/HIGHLANDPARK/)  
[WWW.BIOLOGY4KIDS.COM/FILES/PLANTS\\_MAIN.HTML](http://WWW.BIOLOGY4KIDS.COM/FILES/PLANTS_MAIN.HTML)  
[WWW.EN.WIKIPEDIA.ORG/WIKI/BRADDOCK\\_BAY](http://WWW.EN.WIKIPEDIA.ORG/WIKI/BRADDOCK_BAY)  
[WWW.EN.WIKIPEDIA.ORG/WIKI/LAKE\\_ONTARIO](http://WWW.EN.WIKIPEDIA.ORG/WIKI/LAKE_ONTARIO)

V I S I T  
 ROCHESTER  
L I M I T L E S S

# PARENT'S GUIDE

## ASTRONOMY

SAVE SOME LEARNING FOR THE EVENING HOURS WITH A LESSON IN ASTRONOMY, OR THE NATURAL SCIENCE OF CELESTIAL OBJECTS AND PHENOMENA. YOU'LL WANT TO DRIVE AWAY FROM THE CITY LIGHTS IN SEARCH OF THE DARKEST SKY POSSIBLE AND WILL FIND OPTIMAL VIEWING NORTHEAST OF THE CITY OF ROCHESTER NEAR LAKE ONTARIO OR SOUTH OF US-20 IN THE FINGER LAKES REGION. FUN FACT: FLASH FORWARD TO APRIL 8, 2024 WHEN ROCHESTER WILL BE IN THE LINE OF TOTALITY FOR THE SOLAR ECLIPSE!

### UPCOMING EVENTS

- THE [LYRIDS METEOR SHOWER](#) WILL PEAK THIS YEAR ON [APRIL 21 AND 22](#). YOU'LL SEE AROUND 20 METEORS PER HOUR, PRODUCED BY DUST PARTICLES LEFT BEHIND BY COMET C/1861 G1 THATCHER, DISCOVERED IN 1861. BEST VIEWING WILL BE AFTER MIDNIGHT AND A NEARLY NEW MOON WILL ENSURE A DARK SKY.
- THERE WILL BE A [NEW MOON](#) ON [APRIL 23](#), HOWEVER ITS LOCATION ON THE SAME SIDE OF EARTH AS THE SUN WILL NOT BE VISIBLE. THIS WILL ALLOW FOR AN EXTRA DARK SKY WHICH PROVIDES THE OPPORTUNITY TO SEE STAR CLUSTERS AND OTHER FAINT OBJECTS. HEAD DOWN TO HEMLOCK LAKE FOR A BEAUTIFUL VIEW OF THE MILKY WAY IF THE SKY IS CLEAR OF CLOUDS!
- ENJOY THE LAST [SUPERMOON](#) OF 2020 ON [MAY 7](#). THIS FULL MOON IS ALSO KNOWN AS A MILK MOON OR CORN PLANTING MOON, AND WAS KNOWN TO NATIVE AMERICAN TRIBES AS THE FLOWER MOON DUE TO THE ABUNDANCE OF SPRING FLOWERS IN BLOOM AT THIS TIME.
- POST-QUARANTINE, VISIT THE STRASENBURGH PLANETARIUM AT THE ROCHESTER MUSEUM AND SCIENCE CENTER!

### RESOURCES

[WWW.ACCUWEATHER.COM/EN/SPACE-NEWS/10-ASTRONOMY-EVENTS-YOU-DONT-WANT-TO-MISS-IN-2020/649605](http://WWW.ACCUWEATHER.COM/EN/SPACE-NEWS/10-ASTRONOMY-EVENTS-YOU-DONT-WANT-TO-MISS-IN-2020/649605)  
[WWW.DAYTRIPPINGROC.COM/DARKEST-SKY-NEAR-ROCHESTER/](http://WWW.DAYTRIPPINGROC.COM/DARKEST-SKY-NEAR-ROCHESTER/)

## GEOGRAPHY

THE SAME ICE SHEETS THAT MELTED TO FORM LAKE ONTARIO HELPED FORM THE MANY BODIES OF WATER AND WATERFALLS, AND BEAUTIFUL HILLY TERRAIN FOUND HERE TODAY.

### LANDMARKS

- THE LINE OF HILLS FORMED BY THE MELTING ICE SHEETS INCLUDE MT. HOPE, THE HILLS OF HIGHLAND PARK, PINNACLE HILL, AND [COBBS HILL](#), WHICH WAS FORMED BY GLACIAL DEPOSITS SOME 12,000 YEARS AGO. YOU CAN REACH THE TOP BY CAR OFF OF HIGHLAND AVENUE (NEAR MONROE) OR GET SOME GOOD EXERCISE HIKING TO THE TOP. YOU'LL FIND A BEAUTIFUL VIEW OF THE CITY SKYLINE AND A RESERVOIR CONSTRUCTED IN 1908 THAT HOLDS 144,000,000 GALLONS OF WATER SUPPLIED FROM HEMLOCK LAKE. THE ELEVATION OF THE RESERVOIR IS 400 FEET HIGHER THAN ROCHESTER.
- THE CITY OF ROCHESTER IS INTERSECTED BY THE [GENESEE RIVER](#), ONE OF JUST 33 NORTHERN FLOWING RIVERS IN THE WORLD. IT ORIGINATES IN POTTER COUNTY, PENNSYLVANIA, AND IS 157 MILES LONG. YOU CAN EXPLORE SEVERAL WATERFALLS AS PART OF THE GENESEE RIVER INCLUDING LETCHWORTH STATE PARK AND THE UPPER (HIGH FALLS), MIDDLE AND LOWER FALLS IN ROCHESTER.
- FOR AN EXTENDED DRIVE, EXPLORE THE 11 [FINGER LAKES](#), EAST OF ROCHESTER. CAYUGA AND SENECA ARE THE DEEPEST AT 435 FEET AND 618 FEET RESPECTIVELY, BOTH BELOW SEA LEVEL. VERIFIED REPORTS DATE THE NAME FINGER LAKES BACK TO 1883 AND HABITATION DATES BACK TO 1720 WITH THE TUSCARORA TRIBE, ALTHOUGH THERE IS EVIDENCE THROUGHOUT THE REGION THAT PRE-IROQUOIS HABITATION EXISTED.

### RESOURCES

[WWW.ROCWIKI.ORG/COBBS\\_HILL\\_PARK](http://WWW.ROCWIKI.ORG/COBBS_HILL_PARK)  
[WWW.EN.WIKIPEDIA.ORG/WIKI/GENESEE\\_RIVER](http://WWW.EN.WIKIPEDIA.ORG/WIKI/GENESEE_RIVER)  
[WWW.EN.WIKIPEDIA.ORG/WIKI/FINGER\\_LAKES](http://WWW.EN.WIKIPEDIA.ORG/WIKI/FINGER_LAKES)

## TECHNOLOGY & ENGINEERING

THE ROOTS OF TECHNOLOGY AND ENGINEERING RUN DEEP IN OUR COMMUNITY AND REACH FAR BEYOND THE CONTRIBUTIONS OF GEORGE EASTMAN, AND KODAK, ALTHOUGH THEY MAY BE THE MOST NOTABLE.

### LANDMARKS

- INFLUENCED BY THE WORK OF SAMUEL MORSE AND THE TELEGRAPH, [HIRAM SIBLEY](#) FORMED THE NEW YORK AND MISSISSIPPI VALLEY PRINTING TELEGRAPH COMPANY IN 1851, LATER MERGING WITH WHAT WOULD BECOME THE WESTERN UNION TELEGRAPH COMPANY. ADMIRE THE FEDERAL REVIVAL STYLE HOME OF HIRAM SIBLEY, BUILT UPON HIS SUCCESS IN 1868, AT [400 EAST AVENUE](#). WESTERN UNION INTRODUCED THE FIRST TRANSCONTINENTAL TELEGRAM SERVICE, AN ELECTRICAL ENGINEERING FEAT, CONNECTING THE EASTERN UNITED STATES TO CALIFORNIA, ALLOWING FOR INSTANTANEOUS COMMUNICATION. ALTHOUGH THE TELEPHONE REPLACED THE NEED FOR THE TELEGRAM, THE COMPANY REMAINS RELEVANT TODAY THROUGH MONEY TRANSFER SERVICES.
- AT [1000 UNIVERSITY AVENUE](#), YOU'LL FIND GLEASON WORKS, A LEADING MANUFACTURER OF GEARS, CREATED BY WILLIAM GLEASON. WHEN HIS SON PASSED FROM TYPHOID FEVER, HIS DAUGHTER [CATHERINE ANSELM GLEASON](#) STEPPED IN (AT AGE 12) TO LEARN THE ROPES. KATE, AS SHE WAS KNOWN, BECAME THE FIRST WOMAN TO BE ADMITTED TO STUDY ENGINEERING AT CORNELL UNIVERSITY. SHE COMPLETED STUDIES AT THE MECHANICS INSTITUTE OF ROCHESTER, NOW THE ROCHESTER INSTITUTE OF TECHNOLOGY AND BECAME ONE OF THE FIRST FEMALE MECHANICAL ENGINEERS IN THE WORLD.
- STROLL ALONG THE HISTORIC [ERIE CANAL](#) IN ONE OF OUR CANAL VILLAGES SUCH AS BROCKPORT, SPENCERPORT, FAIRPORT, PITTSFORD OR BUSHNELL'S BASIN, OR CHECK OUT LOCK 32 STATE CANAL PARK. ON JULY 4, 1817, CONSTRUCTION BEGAN ON THE PROJECT KNOWN AS "CLINTON'S FOLLY," NAMED FOR THEN NEW YORK CITY MAYOR, CLINTON DEWITT. IT WAS MET WITH RIDICULE ALONG THE WAY BUT WHEN IT OPENED IN OCTOBER 1825, IT WAS DEEMED THE *GREATEST ENGINEERING MARVEL IN THE WORLD*. IT SPURRED ECONOMIC DEVELOPMENT BY CONNECTING THE GREAT LAKES TO THE ATLANTIC OCEAN AND CUT SHIPPING TIMES IN HALF. WHEN CONSTRUCTED, THE MIGHTY GENESEE RIVER ROARING THROUGH DOWNTOWN ROCHESTER POSED A CHALLENGE, AND A STONE AQUEDUCT SPANNING 800 FEET WAS BUILT ALLOWING THE CANAL TO CROSS THE RIVER. ANOTHER ENGINEERING FEAT CAN BE FOUND IN MEDINA, WHERE YOU'LL FIND A CANAL CULVERT TUNNEL WHICH ALLOWS FOR A ROAD TO RUN UNDER THE CANAL!
- POST-QUARANTINE, ENJOY A CANAL CRUISE ON EITHER THE [SAM PATCH](#) OUT OF SCHOEN PLACE IN PITTSFORD, OR THE [COLONIAL BELLE](#) IN FAIRPORT.

### RESOURCES

[WWW.EN.WIKIPEDIA.ORG/WIKI/HIRAM\\_SIBLEY](http://WWW.EN.WIKIPEDIA.ORG/WIKI/HIRAM_SIBLEY)  
[WWW.EN.WIKIPEDIA.ORG/WIKI/FIRST\\_TRANSCONTINENTAL\\_TELEGRAPH](http://WWW.EN.WIKIPEDIA.ORG/WIKI/FIRST_TRANSCONTINENTAL_TELEGRAPH)  
[WWW.EN.WIKIPEDIA.ORG/WIKI/GLEASON\\_CORPORATION](http://WWW.EN.WIKIPEDIA.ORG/WIKI/GLEASON_CORPORATION)  
[WWW.100MUSTSEEMILES.COM/](http://WWW.100MUSTSEEMILES.COM/)

## MATH

USE THE COMMUNITY TO LOOK AT MATH IN A NEW WAY.

### LANDMARKS

- FORMERLY KNOWN AS [XEROX TOWER](#), [100 S CLINTON AVENUE](#), IS THE TALLEST BUILDING IN DOWNTOWN ROCHESTER, AT 443 FEET TALL. IF THERE ARE 30 FLOORS, APPROXIMATELY HOW MANY FEET IS EACH FLOOR? ANSWER: 14.8 FEET. IN NEW YORK CITY, THE TALLEST BUILDING, *ONE WORLD TRADE CENTER*, IS 1,776 FEET TALL. HOW MANY XEROX TOWERS FIT INSIDE ONE WOLD TRADE CENTER? ANSWER: JUST SLIGHTLY MORE THAN 4 WHOLE XEROX TOWERS!
- IDENTIFY DIFFERENT SHAPES BY EXPLORING DOWNTOWN ROCHESTER. YOU'LL FIND SQUARE BLOCKS PROTRUDING FROM THE [STRONG NATIONAL MUSEUM OF PLAY](#), A CIRCULAR TOP IN THE MIDDLE OF THE SKYLINE ON THE [FIRST FEDERAL BUILDING](#), TRIANGLES ATOP [LEGACY TOWER](#), (FORMERLY BAUSCH AND LOMB,) AN OCTAGON ATOP [FIRST UNIVERSALIST CHURCH](#), AND A VIEW FROM THE [FORD STREET BRIDGE](#), WILL GIVE YOU A VIEW OF THE FREDERICK DOUGLASS-SUSAN B. ANTHONY BRIDGE, OR A SEMI-CIRCLE.