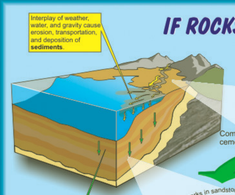
GEOSCAPE NORTHERN SASKATCHEWAN

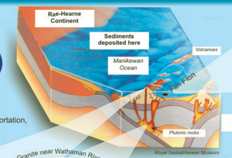
Geoscience for our Canadian Shield Community

We are a northern people, living in a diverse landscape of rocky wilderness and rolling parkland, covered by boreal forest and strewn with countless lakes and rivers. We are tied to our geological landscape — or **geoscape** — regardless of whether we live in communities or on the land. Life in past centuries was simple, with the land providing food and clothing for our families and wood to heat our shelters. Today, life is more complicated, but the land still provides us with the materials to build our homes; the energy to heat them and the food that sustains us. Our ancestors understood how to gain advantage from their geoscape: eskers and rivers served as travel routes; rocks were used in tool making; and iron minerals provided pigments in paints used for petroglyphs. The advances of technology in our lives: the coming of electrical power, roads, and motor vehicles, have increased our level of comfort. These technological advances have resulted from an enhanced understanding of the geoscape and Earth's natural systems. The Earth provides our needs, but as custodians of this land, we are also responsible for its care.

IF ROCKS COULD TALK...



DID YOU KNOW that the oldest known rocks in Saskatchewan are 3.1 billion years old and that 1.6 billion year old fossils record our oldest evidence of life?



DID YOU KNOW that the province's world-class copper-zinc deposits at Flin Flon formed during the collision of two ancient continents about 1.9 billion years ago?

DID YOU KNOW that the oldest fossils in Saskatchewan?

DID YOU KNOW that the province's largest producer of organic wild rice?

ENVIRONMENTAL STEWARDSHIP

Uranium and its potential health risks to humans is taken seriously in our community. Mining companies, Federal Government and Provincial agencies monitor our land. In the last decade the Athabasca Working Group (AWG), Environmental Quality Committee (EQC), Community Vitality Monitoring Partnership Process (CVMPP), and public meetings combined to ensure safety to the land and our people.

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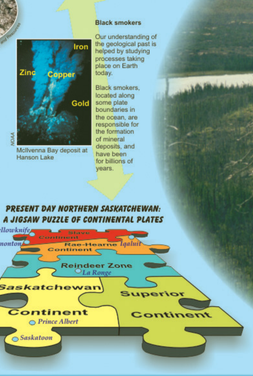


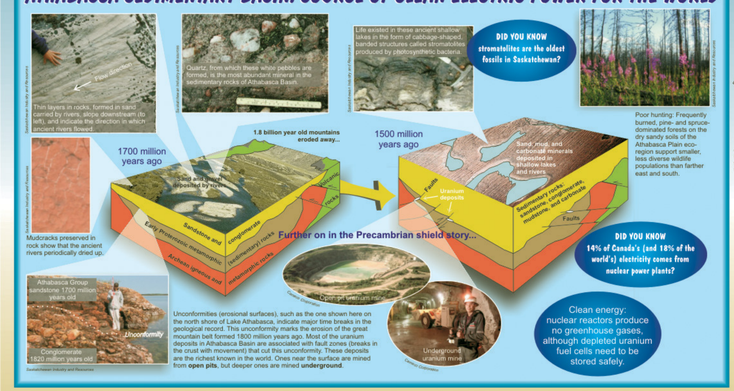
DID YOU KNOW that the oldest known rocks in Saskatchewan are 3.1 billion years old and that 1.6 billion year old fossils record our oldest evidence of life?

DID YOU KNOW that Northern Saskatchewan is the world's largest producer of organic wild rice?

DID YOU KNOW that a huge mountain range formed in Saskatchewan 1.8 billion years ago as a result of the collision of several oceanic and continental plates?

The Precambrian shield forms Saskatchewan's bedrock formations. It resembles a jigsaw puzzle made up of five continental landmasses created 4.5 to 2.5 billion years ago (**Archean Eon**). Between these are zones of rocks that formed on or below the ocean floor about 2.5 to 0.5 billion years ago (**Proterozoic Eon**). This tectonic assembly, which included closure of the former Manikewan Ocean (to produce the now present Reindeer Zone), was complete by about 1.8 billion years ago, after which time the area we know as Saskatchewan remained a single and relatively stable land mass.

ATHABASCA SEDIMENTARY BASIN: SOURCE OF CLEAN ELECTRIC POWER FOR THE WORLD

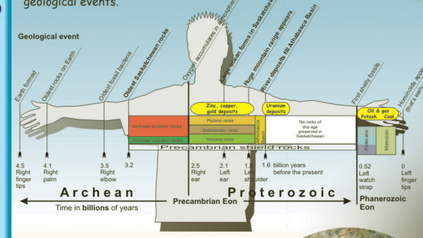


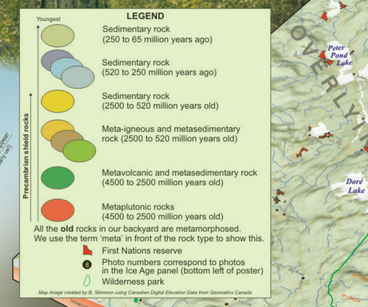
DID YOU KNOW 14% of Canada's (and 18% of the world's) electricity comes from nuclear power plants?

Clean energy: nuclear reactors produce no greenhouse gases, although depleted uranium fuel cells need to be stored safely.

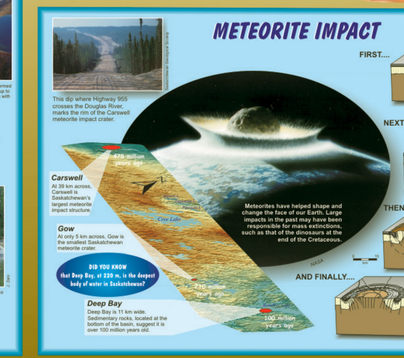
DID YOU KNOW stromatolites are the oldest fossils in Saskatchewan?

How **long** is time? Use this body scale to represent major geological events.

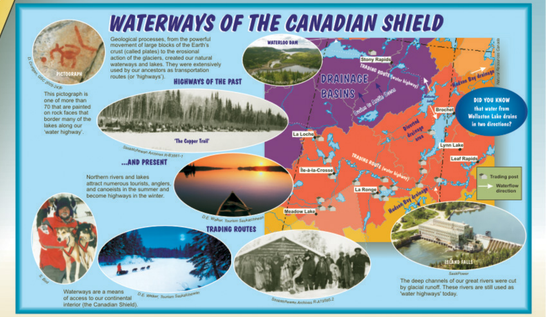




At least 23 reported sites from Uranium City to The Pas contain pictographs, drawn by our ancestors up to a thousand years ago.



WATERWAYS OF THE CANADIAN SHIELD


PICTOGRAPHS
This pictograph is one of more than 70 that are painted on rock faces that border many of the lakes along our 'water highway'.
HIGHWAYS OF THE PAST
'The Gopher Trail'
...AND PRESENT
Northern rivers and lakes attract numerous tourists, anglers and canoeists in the summer and become highways in the winter.
Waterways are a means of access to our continental interior (the Canadian Shield).
WATERLOO BAR
DRAINAGE BASINS
Churchill River
Saskatchewan River
Nelson River
Winnipeg River
Ottawa River
Lake Athabasca
Reindeer Lake
Lake Winnipeg
Lake Manitoba
Lake Nipigon
Lake Superior
Lake Huron
Lake Michigan
Lake Ontario
Lake Erie
Lake St. Clair
Lake Nipissing
Lake Simcoe
Rideau Lake
Lake Ontario
Lake Erie
Lake St. Clair
Lake Nipissing
Lake Simcoe
Rideau