

Glacial Geology Scavenger Hunt: Find examples of the five features described below that provide evidence of recent (in geologic terms) glacial activity.

As glaciers move along, they carry with them fragments of rock. As these rocks are pulverized and scrapped across the surface of exposed bedrock they leave distinctive marks that can tell a story...

Draw a sketch of each feature as you find and explore them.

- 1) **Glacial polish** = very smooth “polished” rock surface resulting from abrasion by “rock flour” (the powder being created as the ice pulverizes rock it is carrying).



- 2) **Striations** = long grooves and scratches cut into the bedrock. They can be a few inches or several feet long and usually between 1/16th to 1/2 inch wide. They show smoothing on the edges distinguishing them from more recent, human marks that may be present as well. Striations indicate the direction of movement of the ice sheet.



- 3) **Chatter Marks** = as the ice slides along over the bedrock, it can sometimes get “stuck” on the surface. The built up pressure is sometimes released explosively taking little chips of rock out as it goes. The marks left can appear as little crescent-shaped depressions in the rock, usually several in a series. These marks can be large (inches across) or small and can often be seen inside a striation. Chatter marks are perpendicular to the flow of ice with the crescent opening in the direction of flow.

- 4) **Plucking** = As ice moves over large expanses of exposed bedrock, it can “pluck” large pieces of the rock off the trailing edge. You see this as a smooth, often slightly upward sloping, exposed surface of bedrock ending in a sharp, nearly vertical break. Small to very large pieces of rubble can be seen beyond. The transition from smooth bedrock to sharp-break indicates the direction of ice flow. NOTE: smaller version of this can occur due to weathering and frost cracking of the bedrock, can you find examples of these as well?
- 5) **Glacial Erratic** = small to very large, boulders of a rock type unlike that of the local bedrock. They are smoothed and worn on all sides as a result of being carried and worked by the glaciers (not just the top as would be water worn boulders).



Draw a sketch of the area (use the back of this sheet) and label where the various features described above were found. In the sketch provide an indication of the direction of flow of the glacier that modified this area (Superior Lobe) based on the features listed above.