GLACIERS

How do glaciers help shape our Earth?
Periodic Glaciation
Glacier - naturally formed mass of ice and snow that moves downhill under the force of gravity
Glacier Movement:

- As snow and ice accumulate the glacier moves forward under its own mass and the pull of gravity.
- Sometimes called a “river of ice” glaciers act like fluids and flow in a plastic-like motion.
Valley Glacier Movement
Types of Glaciers:

- **Continental Glaciers** - huge sheets of ice that cover entire land masses
- **Valley Glaciers** - glaciers that form in high elevations in mountain valleys
Glacial Features:

- **U-Shaped Valleys** - shape of the valley walls from glacial erosion
Glacial Features [continued]:

- **Till** - unsorted sediments deposited by a glacier
• Glacial Features [continued]:

• **Erratics** - large deposited fragments that can be transported hundreds of miles inside or on top of the glacier
• Glacial Features [continued]:

• **Drumlins** - streamlined oval shaped mounds of till
• Glacial Features [continued]:

• Eskers - a long winding ridge of till
Glacial Features [continued]:

- **Terminal Moraines** - a mound of till deposited along the leading edge of a glacier
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Terminal Moraine
Terminal Moraines
• Glacial Features [continued]:

• **Glacial Grooves** - long parallel scratches formed by sediment embedded in a glacier that has passed over the surface and indicate the direction of travel
Glacial Grooves
• Glacial Features [continued]:

• **Kettle Lake** - depression left in the ground that is filled with glacial melt water

• Example: Lake Ronkonkoma
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Kettle Lake Formation

Step 1
Block of glacial ice

Step 2
Block of glacial ice

Step 3
Melting ice block

Step 4
Water
Glacial Features [continued]:

- **Outwash Plain** - broad feature of smaller sediment carried from the melting water of a retreating glacier
  
- Example: Southern Long Island
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Glacier in retreat
Largest Glacier Calving