

## Surface Features Unit Project

Your task is to explore the processes that attack and change the surface of the Earth.

The Earth's surface is built up by the processes of plate tectonics (*mountain-building and volcanoes*). What processes break down Earth's surface?

*Driving question: How do surface process create certain surface features?*

You will be given a specific **surface feature** (such as *rivers* or *caves*) that you must research, and then explain how it was created and by what process.

### PROJECT GUIDELINES

- You will demonstrate your knowledge by:  
    using the **Explain Everything** app **OR** writing **Poetry/Song** (*recorded or presented*)
- Your presentation will be shown in class.
- Must use a real world example. Use photos.
- Must be around **2 minutes long**. Marks will be deducted if too short or too long.
- **Due APRIL 16/17**. You will have at least two classes in the library.

### NECESSARY INFORMATION IN YOUR PRESENTATION

- Define your surface **feature**.  
*(What is it? Where is it found? How does it impact people?)*
- Describe the **process** that created your feature?  
*(How was you feature created? How long does it take? Dangers to human life?)*
- Explain the type of **weathering** that occurs with your feature:
  - mechanical (*eg. ice wedging, abrasion, exfoliation, thermal expansion...*)
  - chemical (*eg. acid rain, leaching, oxidation, dissolution...*)
  - biological (*eg. roots, animals, lichens and fungus, humans...*)
- Explain type of **erosion** that occurs with your feature:
  - (*gravity, ice, water, wind movement...*)
- Show a **specific example**.
- How is your process been affected by the current **climate change**?

Topics: **PROCESS**

1. Feature

### **RUNNING WATER**

1. Rivers and Streams
2. Canyons and Valleys
3. Waterfalls
4. Meanders and Oxbow Lakes
5. Deltas and Alluvial Fans
6. Floodplains

### **GROUNDWATER**

7. Springs and Wells
8. Hot springs
9. Geysers and Fumeroles
10. Caves and Karst Topography
11. Sinkholes

### **OCEANS**

12. Beaches and beach erosion
13. Sea Cliffs and Sea Stacks
14. Sandbars, spits, hooks,
15. Lagoons
16. Tidal Bores
17. Reefs and Atolls

### **ICE**

18. Valley Glaciers
19. Glacial lakes
20. Erratics and Striations
20. Glacial Erosion Features (*cirques, horns, aretes, ridges, nunatuk, fjord*)
21. U-shape Valleys and Hanging Troughs (valleys) and hanging waterfalls
22. Glacial Deposits (*drumlins, moraines, kettles, kames, out wash plains, till, esker...*)
23. Continental Ice Sheets
24. Moulins and Disappearing lakes
25. Icebergs

### **WIND**

26. Deserts
27. Dust Storms
28. Sand Dunes
29. Ventifacts and Mushroom Rocks
30. Loess Plateau

### **LAND MOVEMENT (mass wasting)**

31. Landslides
32. Rock Fall
33. Avalanche
34. Soil Degradation and Topsoil Erosion
35. Hoodoos