What are we going to talk about?

- The Cryosphere (the “Frozen” World) & Glaciers
- Glaciers that hide mysteries and secrets
- Glaciers that tell stories
- Ice that can catch fire
- Ice that plays music
- Ice Volcanos
- Halloween Ice? *Creepy Ground* – that slithers!
- Glacier Tsunamis
- *Invisible* Glaciers!
- Cryogenic Super Powers
- $20 for you for a few minutes on your phone!
We Need Two Teams
PINGOS  GLOFs
And a Scorekeeper

Look for: ? (point question!)
What is a Glacier?

Hubbard Glacier – Alaska, USA
This is one kind of glacier ... what does this look like?

A River?
Lava?
Are these white rocks, salt rocks ... or glacier ice?
Is this one or two glaciers flowing down the mountain?

Denali National Park – Alaska, USA
How about here? How many?
Careful ... this is a trick question!
Closer to 1, 5, or 10?

Aletsch Glacier – Switzerland
Aletsch Glacier – Switzerland

3?
I count 10!

Aletsch Glacier – Switzerland
The Entire Front of a Glacier is called?
Terminus (the end)
The Large Pieces of the Front of the Glacier are Called ?
Seracs
They’re pretty big!
What are these guys waiting for?

TEST QUESTION!
GLACIER WAVE
https://www.youtube.com/watch?v=ZjbQtunsB-U
Garrett McNamara and Kealii Mamala Surfed Glacier Waves in Alaska!
Is there a glacier in this picture?
And Here?
And Here?

These are called Penitents
Blade-Like ice cones that look like stalagmites
they point to the sun!
And Here? TEST QUESTION
ICEBERGS ≠ GLACIERS
Though They May Derive From Glaciers
Glacierets are Small Glaciers

And Here?
Perennial Ice

Glaciers?
Types of Glaciers

(A) Flowing Glacier
(B) Ice Platform
(C) Combined Basins
(D) Combined Basin
(E) Simple Basin
(F) Circus
(G) Niche
(H) Foothill
(I) Foothill
(J) Expanded Base
(K) Lobulus
(L) Coalescent

Source: Geoestudios
- Surround most of Antarctica and parts of Greenland
- They stretch out over the ocean
- Can be hundreds of meters thick, some 2.6 miles thick!

ICE SHEETS
- Rapid Flowing Ice

ICE STREAMS AND OUTLET GLACIERS
- Look like tongues of ice flowing down mountain valleys
- Spill onto flat lands in lobe like patterns.
TYPES OF GLACIERS

COMBINED BASINS

SIMPLE BASIN

CIRCUS

CIRCUS
End Part I