



Glacier Treasure Hunt

Topic:	Dynamic Change, Research
Method:	A "treasure hunt" handout will guide children's time during outdoor glacier viewing and help them to learn about the features of the glaciers they can see.
Time Frame/Age:	20-40 minutes/6 - 12 years old
Background:	Glaciers have a unique vocabulary...
Materials:	Laminated "Glacier Treasure Hunt" handout for each child, post-it stickers (16 per card), Glacier Feature cards
Procedure:	<ol style="list-style-type: none">1. Give the group an introduction to glaciers. You can use the <i>Glacial Feature</i> cards to help.2. Take group outside while in front of the <i>Margerie</i> and <i>Grand Pacific</i> glaciers. Break group into pairs of 2 to 4 (depending on the number of kids doing the activity). Give each group one "Glacier Treasure Hunt" card and 16 post it note stickers.3. Explain that the goal is to find as many of the pictured items as possible. Once they've seen the real-life version of the item in the picture, then they cover it with a post it note sticker. If they need assistance or have questions, there are definitions of each item on the back of the card.4. While the kids are searching, mingle with them and help them if they get stuck. Ask them to

point out the features to you. You can also give them the definition for what is being pictured and ask them if they see anything like that around them. The goal is to get them to observe and study the glacial features, not just to click off all the pictures on the card.

5. Finish up by asking the group to share their favorite glacial feature.
6. If you can't take the group outside during the Glacier Viewing time you can post the Glacier Feature Cards onto the walls of the Youth Center. Then the children could check off their Glacier Treasure Hunt cards by viewing the Glacial Feature Cards.

Conclusion:

Glacier Bay National Park is defined by glaciers. Many of the land formations surrounding the cruise ship were formed by historic glaciers.

Extension:

A great activity to reinforce the children's memory of the different glacial features they found during the Glacier Treasure Hunt would be Ice Cream Glaciers.



Glacier Treasure Hunt



Moraines



Seracs



Nunatak



Margerie Glacier



Icebergs



U-shaped Valley



Crevasse



Arete



Silt in the water



Cirque



Calving Glacier



Mountains



Striations



Tidewater Glacier



Grand Pacific Glacier



Ice Cave

Glacier Treasure Hunt Definitions

Moraines: Jumbled pile of rocks and debris that are carried or pushed by a glacier; they often appear as a dark band on the white ice of the glacier. A medial moraine is a dark band in the middle of ice where two glaciers come together.

Seracs: High peaks of ice at the glacier's front or snout.

Nunatak: Mountains or mountain peaks that rise above the glaciers or ice fields that surround them.

Margerie Glacier: The white/blue glacier at the end of Tarr Inlet. It has a cleaner appearance than the Grand Pacific Glacier because it has fewer rocks in its ice.

Icebergs: Chunks of floating ice that have broken off a glacier.

U-shaped Valley: As glaciers move through the landscape, they carve out U-shaped valleys. Glacier Bay is a U-shaped valley that is filled up with the ocean's water called a fjord.

Crevasse: An open crack in the ice that can be very deep.

Arete: A thin, almost knife-like, ridge of rock which is typically formed when two glaciers erode parallel U-shaped valleys.

Silt in the Water: The grayish tan colored water seen near glaciers. The silt is finely ground rocks the size and texture of baking flour and carried along by melt water from a glacier.

Cirque: An amphitheater like valley formed at the head of a glacier. Look for valleys high up in the mountains that look like an ice cream spoon scooped out a piece of the mountain.

Calving Glacier: Glacier that has ice breaking off and falling from its face. The Tlingit people call the sound it makes "white thunder." Watch for the splash and wave that calving creates.

Mountains: Land masses with steep sloping sides that project high above the surrounding land.

Striations: As glaciers move they carry rock and debris with them that scratch up against the bedrock and the sides of the mountains. The scratch marks left behind on the rock are called striations.

Tidewater Glacier: A glacier with its terminus or snout ending into the sea.

Grand Pacific Glacier: The dark colored glacier at the end of Tarr Inlet. It looks more like a hill than a glacier because there is a lot of rocky debris that has been frozen into the ice. If you look closely, you can still see some white ice peaking through.

Ice Cave: A hole in the glacier that ice and water pours from.