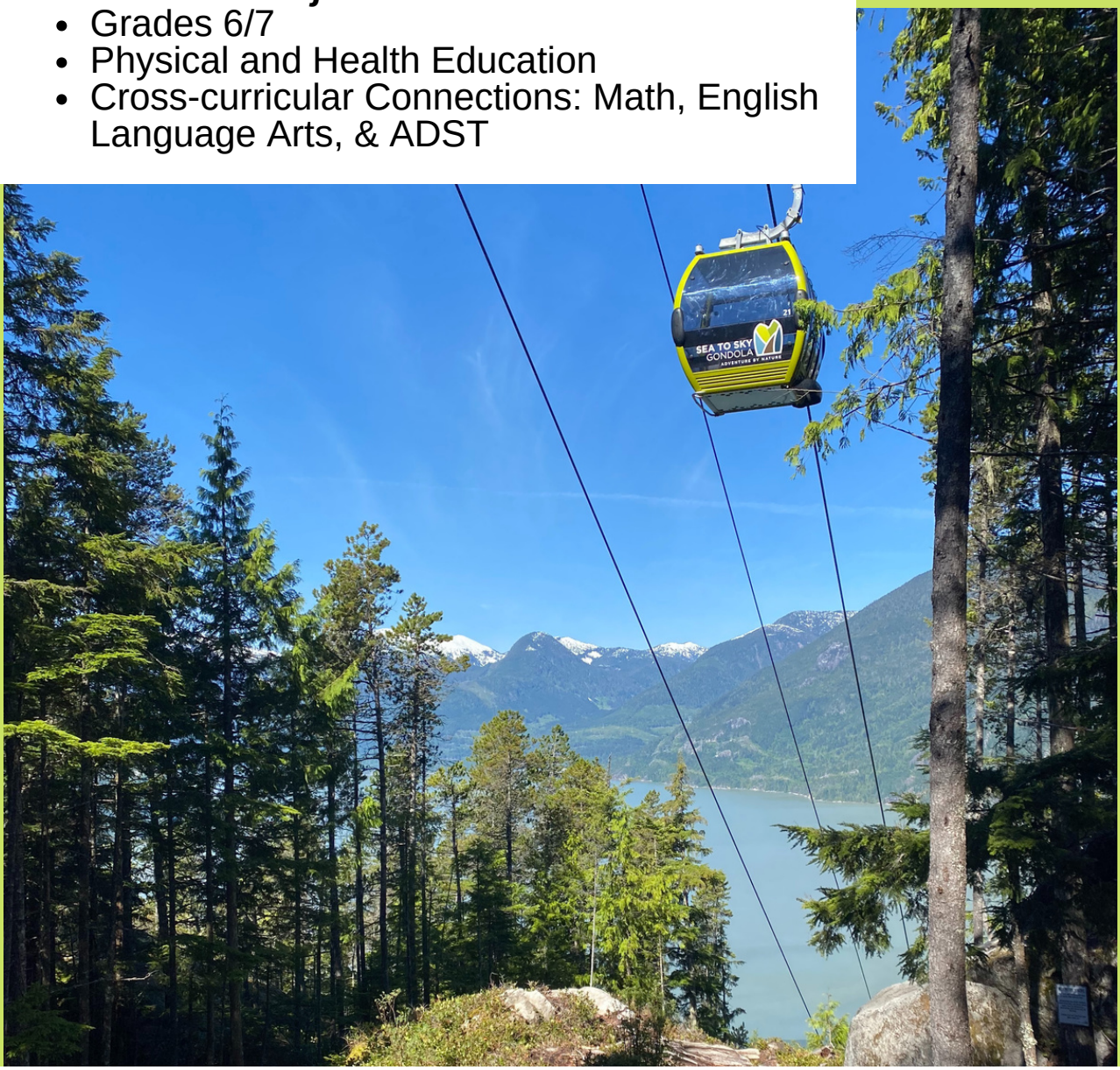
PHYSICAL LITERACY

Grades and Subjects:

- Grades 6/7
- Physical and Health Education
- Cross-curricular Connections: Math, English Language Arts, & ADST



BACKGROUND

Students will embark on a journey, connecting to their body and mind. Activities will involve monitoring their heart rate and level of physical exertion while being aware of their mental motivation and the surrounding elements that could impact their overall physical and mental experience. Students will be buddied up to support one another and work on their communication and personal/social relationships.

The Goal: Hike the Sea to Summit trail!
Timing: 5-6 hours

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BACKGROUND CONT. 📚

Physical and Health Education (Grades 6/7):

- **Big Idea:**
  - Physical literacy and fitness contribute to our success in and enjoyment of physical activity
- **Curricular Competencies**:
  - ***Physical Literacy:***
    - Apply methods of monitoring and adjusting exertion levels in physical activity
    - Develop and demonstrate safety, fair play, and leadership in physical activities
    - Identify and describe preferred types of physical activity
  - ***Healthy and Active Living:***
    - Which health components of fitness are influenced by the different types of physical activities you participate in?
    - Participate daily in physical activity designed to enhance and maintain health components of fitness.
- **Content:**
  - Ways to monitor and adjust physical exertion levels could include:
    - using heart rate monitors
    - checking pulse
    - checking rate of perceived exertion (e.g., a five-point scale to self-assess physical exertion level)
  - Basic principles for responding to emergencies:
    - following safety guidelines
    - having an emergency response plan
    - knowing how to get help

PRE-ACTIVITIES

Students will watch 2 videos before the field trip so they are aware of some of the things at the start of the trail. They will also be shown how to check their heart rate if they do not have a heart monitoring device.

AdventureSmart Trail Specific Safety Video - The Stawamus Chief Trail

- Watch this video until 2 min 50 sec
  - https://www.youtube.com/watch?v=15vwZNsPjFw
- Direct students to notice what the Sea to Summit trail markers look like. Tell students that there are 128 Sea to Summit numbered markers and the distance between each numbered marker is 50m. Ask students to do a quick math check at how far they will be hiking if there are 128 markers at 50 m apart. (128 x 50 = 6400m or 6.4km)
- Review with students the difference between the distance (6.4 km) we will be hiking and the elevation gain (918m). Why are they different? Get students into small groups to discuss and draw their explanations on mini whiteboards.
- Next, review why there is significance in the first 300m of the hike when there is 200m elevation gain.

How to Take a Pulse:

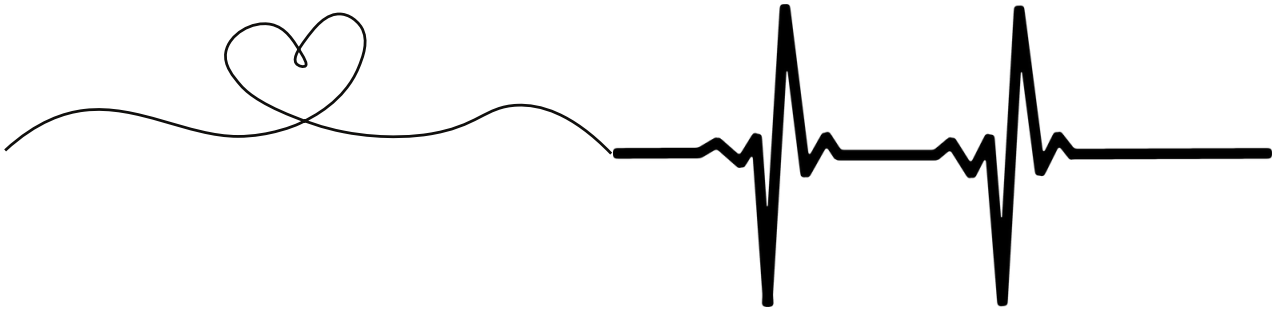
- Students will watch this video and then be instructed to partner up and take each other's pulses (if they're comfortable with this). Students will record their results so they have a baseline for their calm, resting heart rate.

Other resources for teachers to consider:

How to avoid dangerous situations in the Squamish backcountry
https://www.squamishchief.com/local-news/how-to-avoid-dangerous-situations-in-the-squamish-backcountry-5486563

What is the pulse and how do I check it?
https://www.medicalnewstoday.com/articles/258118

Is your child's heart rate healthy?
https://www.childrens.com/health-wellness/is-your-childs-heart-rate-healthy



Review what to do if students encounter any of the following animals:

Canada Wild: What to Do When You Come Across a Wild Animal When Camping or Hiking

- https://www.familyfuncanada.com/canada-wild-what-to-do-when-you-encounter-wild-animals-when-camping-or-hiking/

BEARS:

"Brown bears, also known as grizzly bears are some of the largest and most powerful bears. They want to be left alone and may be upset you are in their area, but it's unlikely they will to eat you. Make an effort not to startle one if you are in brown bear territory. Bear spray, when used properly, is helpful in dissuading them from attacking.

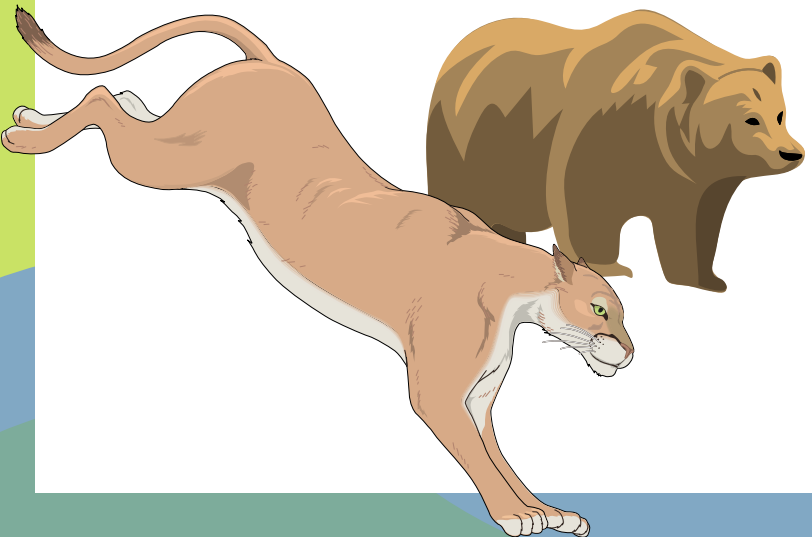
Bear attacks are rare but do happen. When hiking to your campsite, it's a good idea to travel in groups and make noise giving the bear a chance to leave the area so it doesn't feel crowded. Since bears are very protective of their young if you know is a cub in the area, change locations immediately. Never, ever get between a bear and her cubs.

If the bear sees you before you can leave do not approach them, even if they seem calm and peaceful. Also, do not run. If you do, you will look like prey and it will follow you out of instinct. You can't outrun them either, bears can get a speed of 30 mph. Stand your ground or back away slowly from the bear while trying to look larger, yelling, waving your arms and big exaggerated movements. If a bear charges, it is likely a bluff. DO NOT RUN! They will often come within a few feet then veer off at the last second."

COUGARS:

"Due to their small size and erratic movements similar to small prey, children are susceptible to cougar attacks, as are adults crouched, sitting or kneeling... If you ever find yourself face-to-face with one of Canada's most dangerous felines, do not run, as any sudden movement will spark the attack instinct. Back away slowly looking them in the eye and never turn your back on them.

Raise your voice and speak firmly, raise your arms, throw rocks in their direction (not hitting them) to convince them you are a threat, not prey. Also allow them an avenue of escape so they don't feel trapped and attack. Playing dead is not a suggested strategy. If the cat attacks, fight back and don't stop; people have successfully fought off cougars with rocks and sticks. Stay on your feet, or if you fall get back up as quickly as possible. If you have pepper spray or a large stick, use it or anything you can as a weapon to protect yourself."



REMINDERS:

- This is a LONG hike. Remind students to pace themselves and that it is not a race to the top. We will be stopping at many points along the way to monitor our heart rate and take in our surroundings.
- Students should choose a hiking partner that they think will be a good hiking buddy. In other words, students should partner themselves with someone who will want to hike at the same speed as them. Students must stick by their hiking buddy the entire hike. The premise is that students are taking care of each other and will be each other's support systems for the duration of the long trek. Students are encouraged to check on each other and motivate one another to the top.

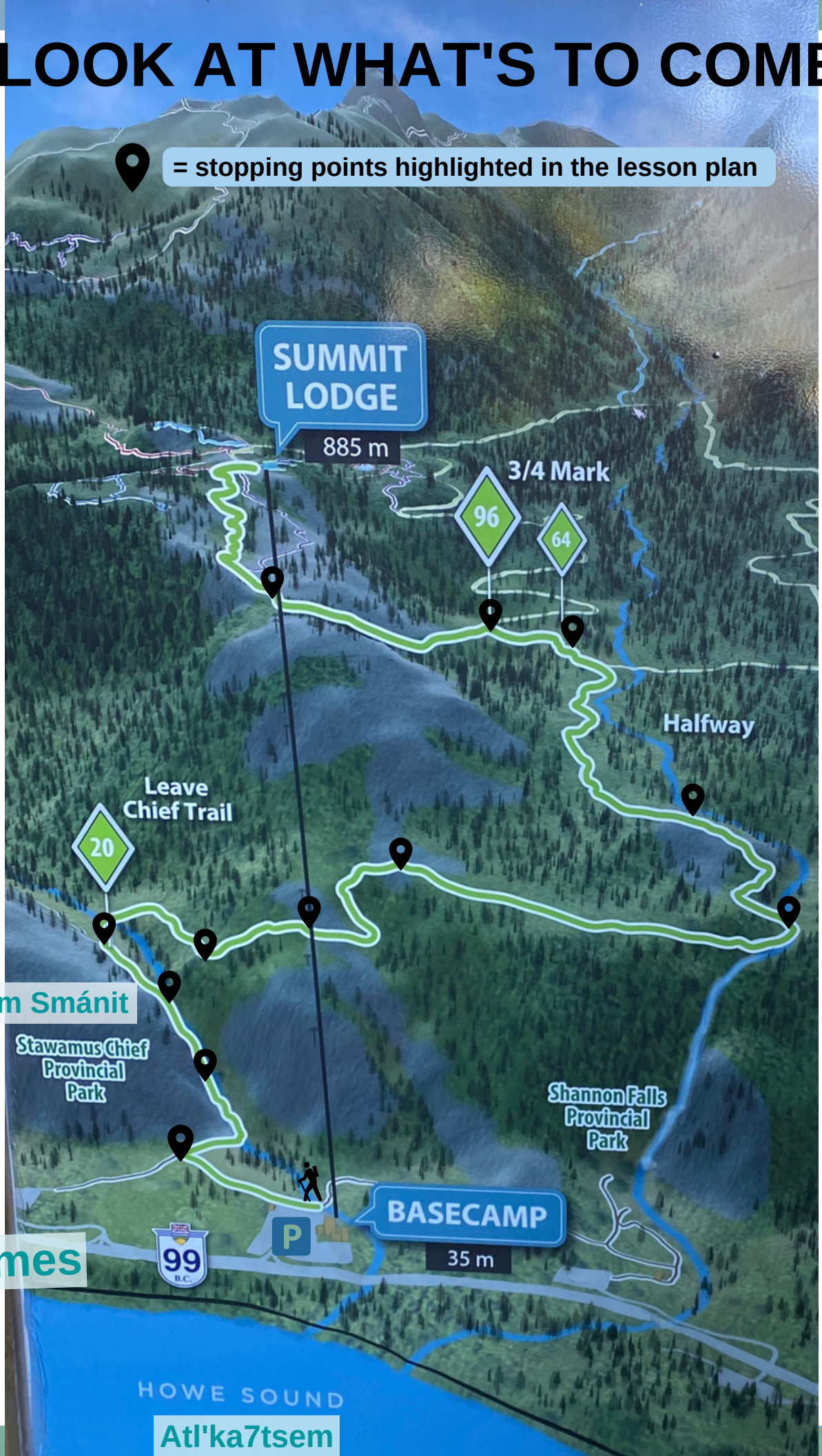
CAUTIONS: ⚠

- This hike is labeled as difficult and students should be aware that this hike will be very long and require them to pace themselves.
- Dogs are permitted off-leash so students with a fear of animals should be aware of the possibility of encountering one.
- Areas of the hike are quite steep.
- Beware of potential wildlife and what to do if you encounter any.
- Parts of the hike require climbing up rocks using hands, chains, and/or ropes. A teacher or parent will be there to help students with any difficult sections.
- Water sources are minimal on the hike and students should pack in more than they think need. Students should also bring their lunches and plenty of snacks with them as there will not be food until the top.
- The gondola down gives quite grand views of Atl'ka7tsem and so, students with a fear of heights should be warned and may want to close their eyes.
- The gondola can feel ride-like in some sections due to the force of gravity and sectioning. It is not very extreme, however, students with motion sickness should be warned. Suggest having a disposable bag with them in case of a throw-up emergency.
- The gondola can also be used for any participating individuals who might not be able to complete the hike due to physical or other restrictions.

MATERIALS:

- First Aid Kit, including ice, tensor bandages, bandaids, etc. (Teacher)
- Students are encouraged to bring their own band-aids
- Lunch, Snacks, & Water
- Nature Journal and something to write/draw with
- Bear Spray (Teacher)
- Dress for the weather! Layers, layers, layers.
- Hiking shoes/runners are essential for gripping the trail
- A good pair of socks (blisters are not fun for anyone)

A LOOK AT WHAT'S TO COME...



ACTION 

Arrival: (15 minutes)

Parking is free in the gondola parking lot. Students will be encouraged to use the last flushing bathroom they will have access to until the end of the hike. There is one more bathroom opportunity at the base of the Chief trail which is only a 15 min walk away. While students wait for bathroom users, they will be asked to take and record their resting heart rate. Students will be graphing their change in heart rate as a post-activity and should be diligent about recording their heart rate and keeping their journal accessible on the hike. Once bathroom visits are complete, round up students to start with a **land acknowledgement** and tell them where STOP 1 will be. Then head towards the big "Trail Head" sign that is on the East side of the parking lot. The trailhead begins there. You will follow the trail signs and Sea to Summit trail markers. The path veers immediately to the left and will take you to the base of the Chief trail.

STOP 1: Where the Sea to Summit trail meets the Chief trail

- Explain a bit about the Chief: Introduce the Squamish nation stories and where the name of the Chief originated. Refer to this article for information:
  - Copeland, D. (2015, September 24). ***Siyám Smánit: Stories of the chief.*** Squamish Chief. Retrieved June 17, 2022, from https://www.squamishchief.com/local-arts/siyam-smanit-stories-of-the-chief-3344213
- Go over information on the Chief. We will be hiking part of it and it will be something we see on our journey to the top of the summit. Information from Pearce, K. (2022, April 29). ***Squamish and the legend of the Stawamus chief****.* Awecology. Retrieved June 16, 2022, from https://www.awecology.eco/squamish/
  - "The Chief is part of a pluton of a granitic rock (granodiorite) that was initially formed approximately 100 million years ago in the early Cretaceous by the slow cooling and solidification of molten magma deep below the surface of the Earth."
  - "Some geologists speculate that it may be the root of an extinct volcano."
  - "The surface is shaped by glacial erosion, which is responsible for the tall steep walls that define the Chief. Before the glaciers of the last Ice Age started to retreat just over 10,000 years ago, this area was under an ice sheet over a mile thick (it would have been higher than many peaks in the Coast Mountains today)."
  - "The Stawamus Chief is one of the largest granite monoliths in the world (the rock of Gibraltaris considered the highest) and the many crevices in the rock provide important nesting habitat for the Peregrine Falcon."
  - "The unique geological features of this giant monolith make it renowned worldwide as one of the best places in the world for rock climbing, slacklining canyons, and BASE jumping."
- Remind students about the activity we did in class to assess the difficulty of the first 300m we are about to hike up.
- Remind students that this is the last washroom available until the top.
- For whoever would like, they can have a friendly race up the wooden stairs. **WARNING** these stairs are extremely steep and the hike ahead is long. Pace yourself, this is only the beginning! Review where students must stop and wait for the rest of the group. (See STOP 2)

STOP 2:

About 20 meters past the top of the wooden stairs please stop. There is a little pool of water to the right where there's some space to wait off the main staircase.

- Students can look at the river and pond but remind them "DO NOT cross the wooden fence to go to the water!". Look for the sign "No Access" and the fencing that separates the main trail from the running water.
- Get students to record their pulse after this intense workout!
- Drink water! Then carry on once students are able to.

STOP 3: Where the trail starts to move away from the water: Sea to Summit trail marker 16

- Students should record their heart rate.
- Drink more water!
- Pose these questions to students:
  - How many meters have we hiked considering we are at marker 16 and each numbered marker is 50m apart?
  - Are these steps manmade? How do you know this? How do you think this staircase was built and maintained (If they agree it was manmade)?
  - Reference: Ludwig, C. (2017, September 11). *What goes into building and maintaining a hiking trail?* Vancouver Trails. Retrieved June 21, 2022, from https://www.vancouvertrails.com/blog/trail-building-maintenance/
  - This, along with the following poem, will be used as post-hike reading activities.
- Read them the poem by former Squamish resident Lauren Joy Patar titled **Sweet Stawamus**

Her beauty wanes
Shedding decades of her weary vein
She unfolds
Cascading formations of past
Releasing pressure and stress
Unrelenting passion of present
Making room for new
Embracing change
Challenging nothing
Exercising privilege to release
Honoring the process
Now, in this breath, fearless
She renews, she frees herself
In this moment, sharing rebirth
This precious process
Years of fatigue take their toll
Preserved by the experiences of past
Solidified in the knowing of now
The journey continues
We are honoured, we are grateful

Resource: Patar, L. J. (2021, October 7). *Letter: A poem for the Stawamus chief*. Squamish Chief. Retrieved June 16, 2022, from https://www.squamishchief.com/opinion/letter-a-poem-for-the-stawamus-chief-4495194

STOP 4: The Chief and Sea to Summit trails separate

- Students should record their heart rate and drink water.

- Pose these questions to students:
  - Signs of humans? Garbage? Cut down trees? Signs? Trail markers? Small trees? Etc.
  - Signs of animals? (Count the birds you see)
  - How have we impacted this space?
- Tell students that the next little bit is on a somewhat flat path and we will be stopping at the sign that warns of steeper terrain ahead.

STOP 5: 1.5km along the trail: Sea to Summit marker 25

- Warn students of what's coming for the next 20 min. One really narrow and slippery spot: one person at a time with the teacher's help! Around Sea to Summit marker 32.
- Direct students to look out for a cool tree after marker 32. Ask them to hypothesize why it grew that way on the big rock.

- They can continue to a big open area under the gondola. They must wait there but can not explore off the path because of sudden drop offs. See picture for warning sign.

STOP 6:

Under the gondola (20 min)

- Record heart rate on arrival
- Lunch/snack break #1
- Water break
- Record heart rate before leaving

After the gondola, there is thinner forest and a slow incline until you hit the creek/water which gets crossed.

- Follow the trail markers as the path is not super obvious.
- Warn students we will be going up a large incline and they will need their hands, everything should be in their backpacks.
- Don't rush and do not pass anyone as the trail is narrow.
- Let students go one-by-one because rocks are semi lose.

- Teacher should be at the front to lead students and help them up a hard part! This will slow the group down as it will be a one-by-one person scenario.
- Tell students to wait and begin journalling after this difficult spot. (See STOP 7)

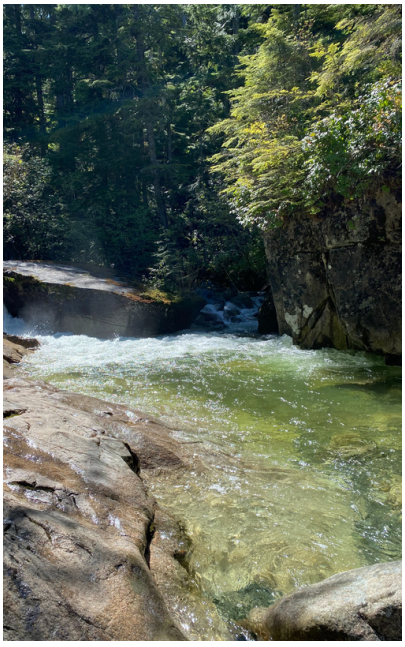
STOP 7: Between rocks (Do not pass Sea to Summit marker 43)

- Tell students not to pass Sea to Summit marker 43.
- Record heart rate.
- Instruct students to pull out their journals: Sound journal/ reflection time. **(15 min)**
  - Things to prompt thought: What do you hear? Do rocks act as a sound barrier? Yes or no and why? Look at the water on the rocks and moss. Where does it come from?
  - Reflect on your hiking journey so far. How are you feeling? What is going well? What do you wish you could change?
- Discuss the burl in the tree growing on the rock.

The rest of the hike will not involve stopping for reflective or prompted purposes. The stops will be designed to allow students time to record their heart rates, rest, hydrate, take in the views and allow other students a chance to catch up on the trail. There should be a reminder that students should take in their surroundings and continually be checking in on their hiking buddy in this second half of the hike. The students may really start to feel fatigued and should be monitoring their physical exertion levels. Before the next stop there is a section which involves using ropes/chains to scale some rocks. Warn students and tell them to stop once they get to the waterfall. BEWARE: fast moving water. Signs alert dog owners to leash up their dogs because of the strength of the water pull. Tell students not to get close to the water.

STOP 8: Waterfall (15 min)

- Students should not get closer than where the trail stops next to the waterfall. No pushing! Take turns seeing the view.
- Allow students time for pictures , to record their heart rate and have some water.



Next up: hike up to the first major viewpoint. There are more ropes involved. BEWARE: cliffs, stay away from any edges. No pushing or shoving.

STOP 9: View of Atl'ka7tsem (20 min)

- Record your heart rate
- Lunch/snack break #2
- Time to take pictures and enjoy the view
- This will be the last long break until we reach the summit.
- Record heart rate before we leave again.

STOP 10: "Stay on track for your safety"

Students should be in single file for the walk over the rock face.
Up ahead students can spot the end of the hike. Still a bit of a climb to go! Prompt students to look up for bird nests.

STOP 11: Where the Sea to Summit Trail Ts with a gravel road.

- Record your pulse
- Hydrate

The next bit is flat before the final 2.5 km ascent to the top.

STOP 12: Up Up and Away! ~ Marker 110

The next time we cross under the gondola, students will have to climb up rock face using ropes and chains. This is an exciting part of the hike but can be slippery depending on weather conditions. Inform students to go one at a time with only 2 students on the rock face at once to ensure no one falls and knocks another over.

Students will be encouraged to continue the final ascent to the top after this point. It is the long home stretch!

CLEAN SWEEP

Students are encouraged to hydrate, record their final pulse, stretch and begin journalling at the top while they await the rest of their peers to finish. They should be reflecting on:

- How they paced themselves
- How they worked with their partner
- How they monitored their physical exertion
- How they responded to feeling tired
- Nature they noticed along the trail
- Questions that came up along the trail
- How they feel after the hike
- Would they hike this again?
- Did accomplishing this hike inspire them to accomplish a different life goal?
- What do they want to remember the most about this hike?

At the top students will have **30 minutes** to use the washrooms, reflect and explore the facilities before our journey down the gondola.

Congratulations you made it!

2022 SEA TO SKY GONDOLA SCHOOL RATES

GONDOLA TICKETS	YOUR RATE (INCLUDES GST)
Adult (19+)	$39.00
Senior (65+)	$35.00
Youth (13-18)	$14.00
Child (6-12)	$14.00
Under 6	FREE*
Download Only	$20.00

OTHER ACTIVITIES	YOUR RATE (INCLUDES GST)
Junior Rangers	$5 per student
Junior Engineers	$5 per student
Backcountry Leadership	$5 per student
Guided walk/ Snowshoe tour	$5 per student
Tube Park	$5 per person
Snowshoe Rental	$10 per person

*Maximum of 4 complimentary under 6 tickets per paying adult

The Sea to Sky Gondola offers the following complimentary admission policy for teachers and supervising adults when booking one of our educational programs or guided tour. If your student count changes, then your corresponding complimentary admissions will also change:

- ***Kindergarten-Grade 3**: 1 complimentary adult admission per 6 students*
- ***Grade 4-12**: 1 complimentary adult admission per 10 students*

Education programs & guided tours do not include the gondola ticket. Supervising adults do not pay the $5 fee to accompany students on an education program or guided tour.

To book your next visit to the Sea to Sky Gondola please submit a request ONLINE or email sales@seatoskygondola.com and provide us with as much of the following information as you can:

School name:
Arrival date:
Phone number:
Contact Name:
Grade Level (for education programs)

Lunch: BYO or Pre-Ordered
Transportation:
Students requiring special care:
Base arrival & departure time
Number of students & teachers/chaperone

ALTERNATIVES

It is quite likely there will be students in your class who are unable to hike up this difficult hike. The great part about this location is students are able to meet us at the top because of the gondola access (wheelchair accessible).

The Sea to Summit offers a variety of activities for students at the top of the mountain including *Junior Rangers, Junior Engineers, Backcountry Leadership* and *Guided Walks*. See below information taken from the Sea to Summit website.

Junior Rangers:

GRADE 5-6: THE ROCK CYCLE
It is easy to see how amazing the local landscape is! Everywhere you look there is a rock feature of some kind but how did they get there and how did they form? Together the students will discover the incredible qualities of the rocks all around them.

GRADE 7-8: ADAPTABILITY OF PLANTS AND ANIMALS IN THE SUBALPINE
The subalpine is home to some of British Columbia's most fascinating wildlife and interesting plants. The guide will lead students in discovering the ways in which these plants and animals adapt to meet the challenges of finding food, avoiding predators, and surviving the changes of the seasons. Students will ponder natural selection and the characteristics of life with specific reference to the subalpine environment.

Junior Engineers:

GRADE 5 - 6: SIMPLE MACHINES - HAVING A MECHANICAL ADVANTAGE
Have you ever wondered how engineers help us travel faster, more efficiently and more comfortably? In this course we look into the mechanical advantage of simple machines including the lever, wedge, wheel and pulley and compare the advantages and disadvantages of various simple machines for different tasks. Students will examine the different ways in which the Sea to Sky Gondola uses simple machines and will experiment with building their own machines to move objects around a space.

Backcountry Leadership
GRADES 5 - 12
LEARN HOW TO EXPLORE THE BACKCOUNTRY SAFELY

Hiking 101: Imagine you are heading out for a hike in the backcountry. How do prepare? Learn about planning and packing for a safe and enjoyable day hiking in the backcountry.

Route Finding: So, you have packed a compass in your hiking kit but do you know how to use it? Learn the parts of a compass, discover how to walk on a bearing and understand how various maps and apps can be of use when finding your way.

Wilderness First Aid: *Your day in the backcountry has been going great until one of the group falls and is now injured! Learn to treat a medical situation which could occur while enjoying time in the great outdoors. Build and use an improvised stretcher to carry your friend to safety.*

Shelter Building: *Even with the best intentions things in the backcountry don't always go to plan! Explore the skills and techniques needed to build a good shelter. Will your shelter keep you warm and dry, or will you be wet and cold as the rain comes in?*

Please Note:

- *A minimum of 3 hours is needed to cover two topics*
- *4-5 hours is required to cover 3 topics*

Students who were unable to hike can still partake in an educational day at the top of the summit. Students will be encouraged to share what they learned with each other as a debrief activity back at school.

BRANCHING OUT

- Students will share a few stand out experiences and learnings with the entire class
- Students will reflect on their physical literacy and feelings about hiking for physical and mental health.
- Students will look into other ways that backcountry trails get built (ADST lesson)
- Students will analyze the poem that was read out during the hike (English language arts lesson)
- Students will chart their recorded heart rate on a graph to see how it fluctuated throughout the hike (Math lesson)

This lesson plan was originally developed by Hannah Patterson as a part of Summer 2022 in EDUC 452 at SFU. It was edited by Marlee Hamilton and Hannah Patterson. Our collection of lesson plans is intended to help educators and students become more connected with the local communities, environment, and other-than-human beings of Átl'ka7tsem / Howe Sound located on the traditional, unsurrendered, and stolen lands and waters of the Sḵwx̱wú7mesh (Squamish), səl ̓ilwətaʔɬ (Tsleil-Waututh), and xʷməθkʷəy̓əm (Musqueam) peoples.