



SKIING

The word ski comes from the Old Norse word skíð which means "cleft wood" or "stick of wood"

Prehistory

- The ski was invented before the wheel
- Oldest information about skiing is based on archaeological evidence
- Old fragments of ski-like objects
- Rock paintings



Early modern period

- Skis were widely utilized in Central Asia and Europe
- In regular use by farmers, hunters and warriors
- Skiing as transportation



First recorded skiing exercises

- In the 18th century, the Norwegian and Swedish army trained and competed on skis
 - ▶ Downhill in rough terrain
 - ▶ 3 km cross-country skiing with full military backpack
 - ▶ Target practice while skiing downhill



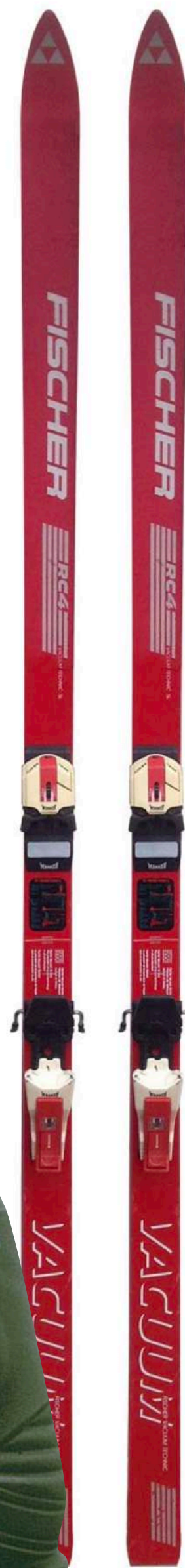
Becoming a sport

- **1850s: Production of thinner, lighter and more flexible skis**
- **1880s: Shift from Nordic skiing (cross-country skiing) to Alpine skiing (downhill skiing)**
- **1908: First ski lift was built in Germany**
- **1924: First Winter Olympics → Nordic skiing**
- **1936: Winter Games in Garmisch-Partenkirchen, Germany
→ Alpine Skiing was included**

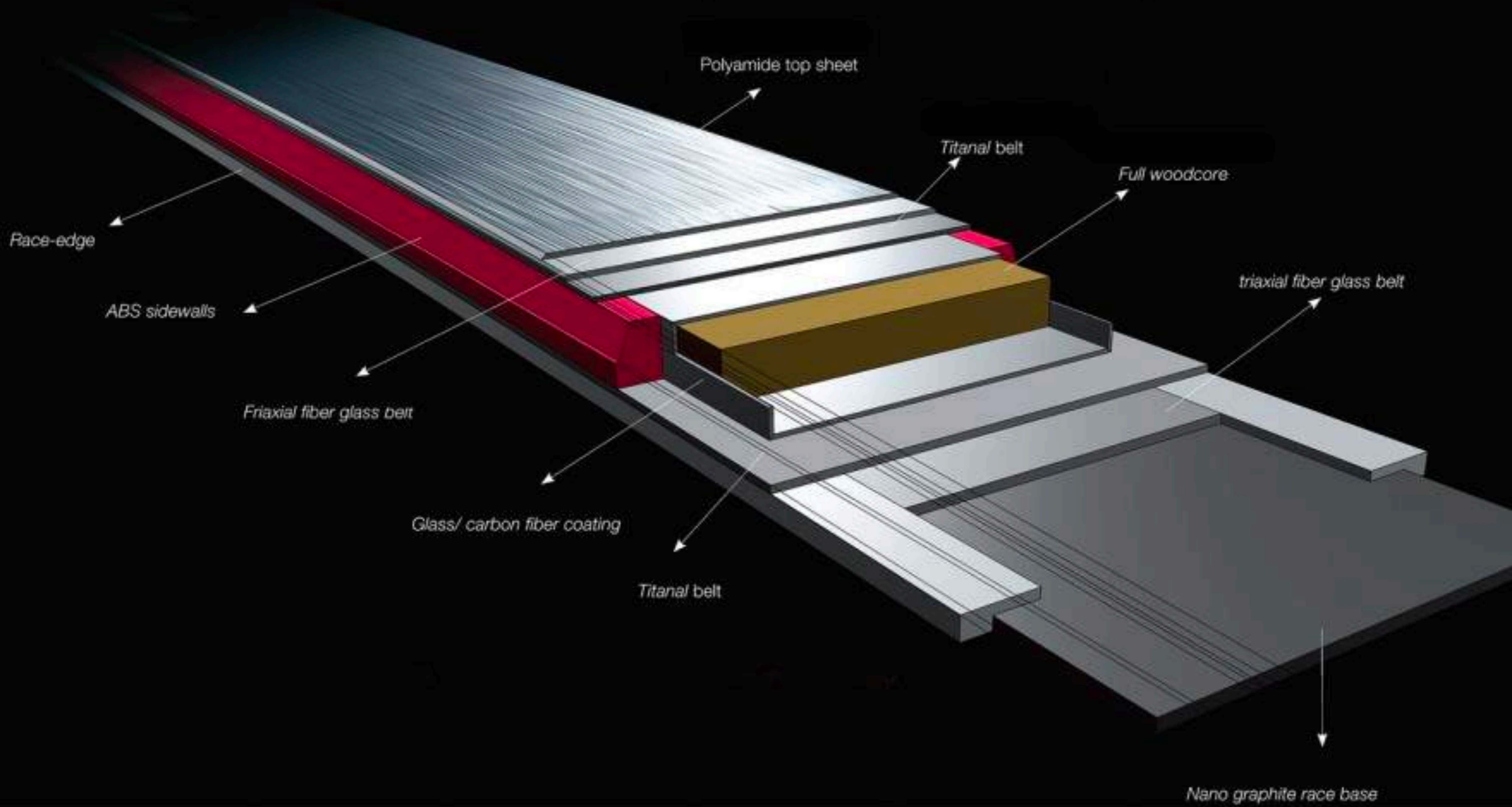
First Chairlift

1936: Sun Valley, Idaho





→ Time



Polyamide top sheet

Titanal belt

Full woodcore

triaxial fiber glass belt

Race-edge

ABS sidewalls

Triaxial fiber glass belt

Glass/ carbon fiber coating

Titanal belt

Nano graphite race base

Types of skiing





Roller skiing



Snowboarding



Skibobbing



Grass skiing



Roller skiing



Snowboarding



Skibobbing



Grass skiing

Freestyle



<https://www.youtube.com/watch?v=MGhCVifDPws&t=124s>





Speedskiing

Nordic skiing

Cross-country skiing



Biathlon



Telemark skiing



Ski touring

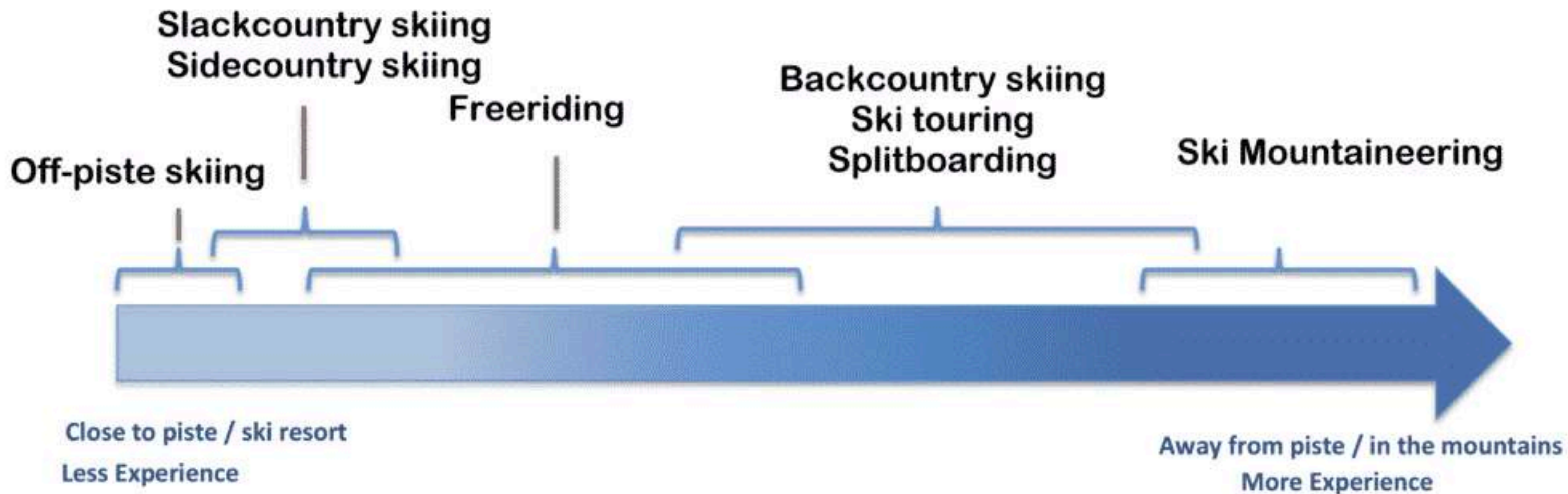


Ski jumping

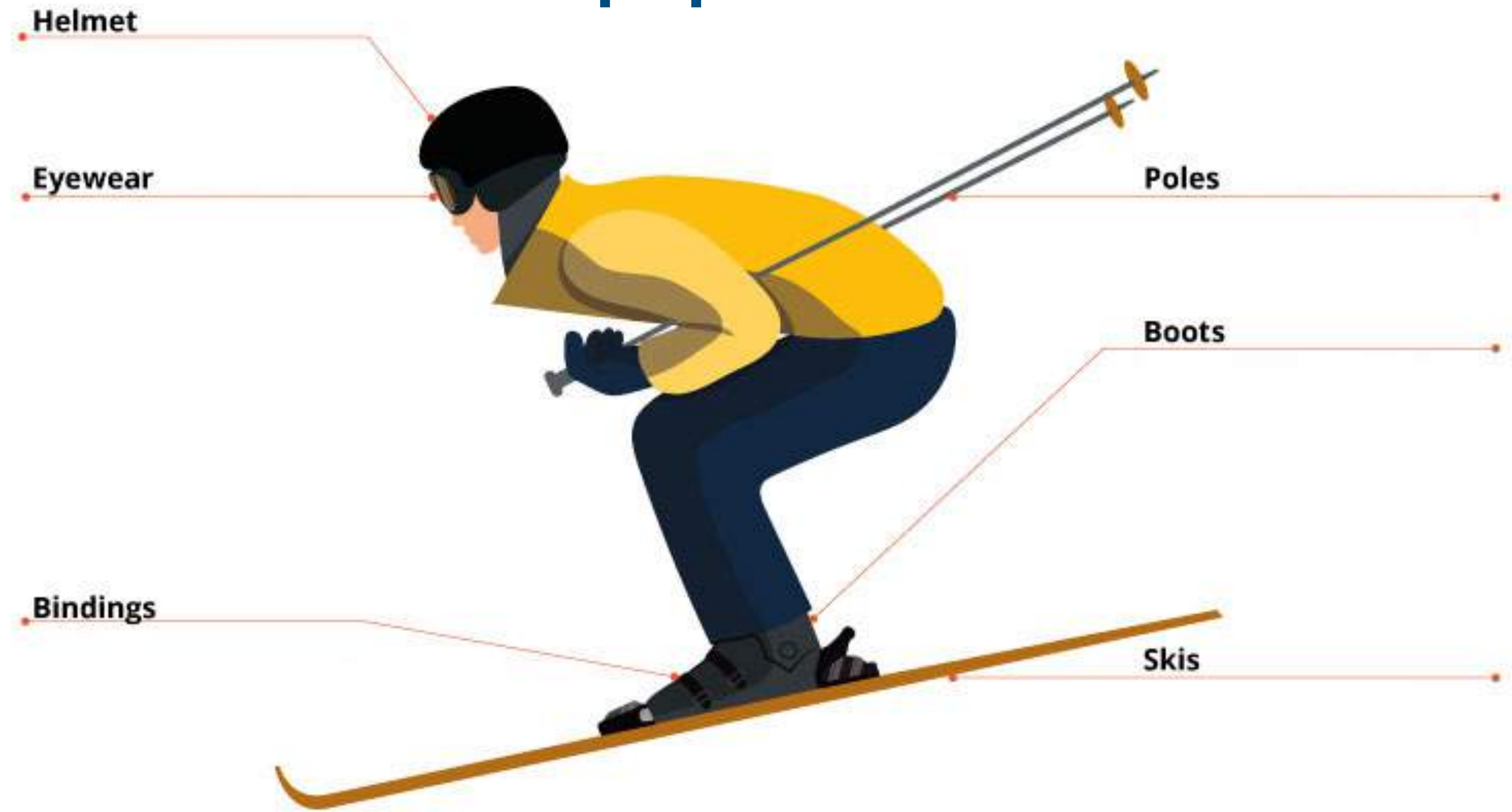


Alpine skiing (downhill skiing)

- Fixed-heel bindings
- Most alpine skiing at ski resorts with ski lifts
- Snow is groomed, avalanches are controlled and trees are cut to create trails
- Many resorts use snow making equipment
- Alternative in less controlled environments: backcountry skiing (off-piste)



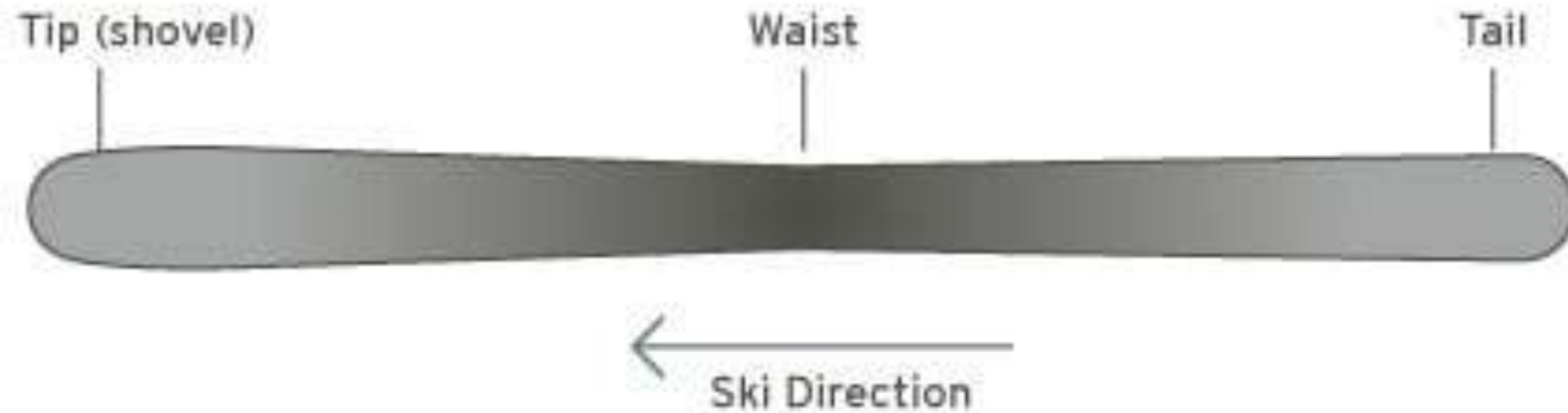
Equipment







Downhill skis



Downhill skis

All-Mountain Skis (Carver)

Best for groomed terrain
(all levels, including moguls)



All-Mountain Wide Skis

Best for groomed runs and powder



Powder Skis



Camber vs. Rocker



- Camber → traditional ski
- Only the tip and tail sections touch the ground
- Good grip and traction at high speeds
- Ability to carve turns
- Con: Easier to catch an edge in deep powder

Camber vs. Rocker

Camber



Reverse camber



Camber vs. Rocker

Camber



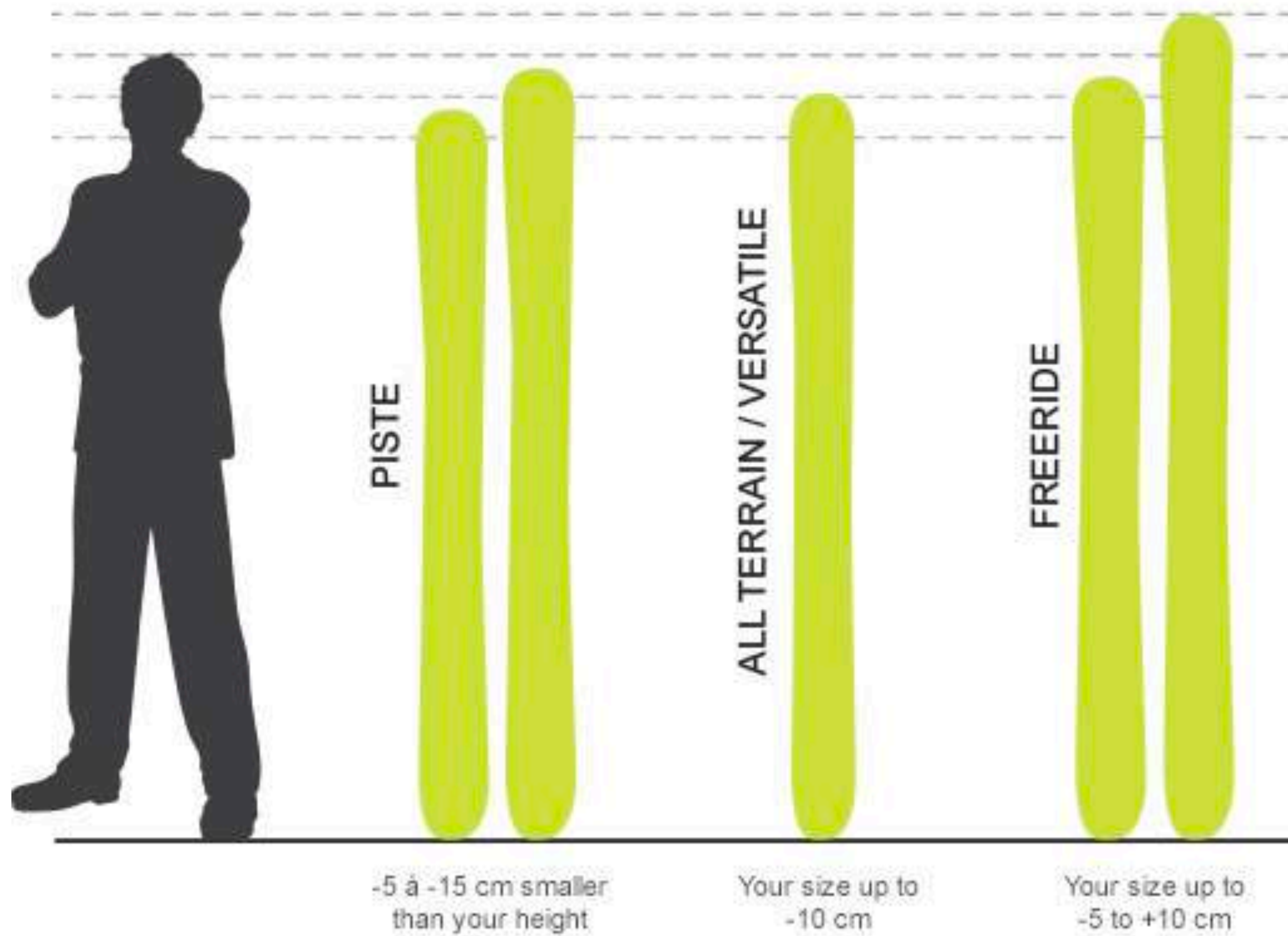
Reverse camber



Rocker (Tip-Rocker)



Ski length

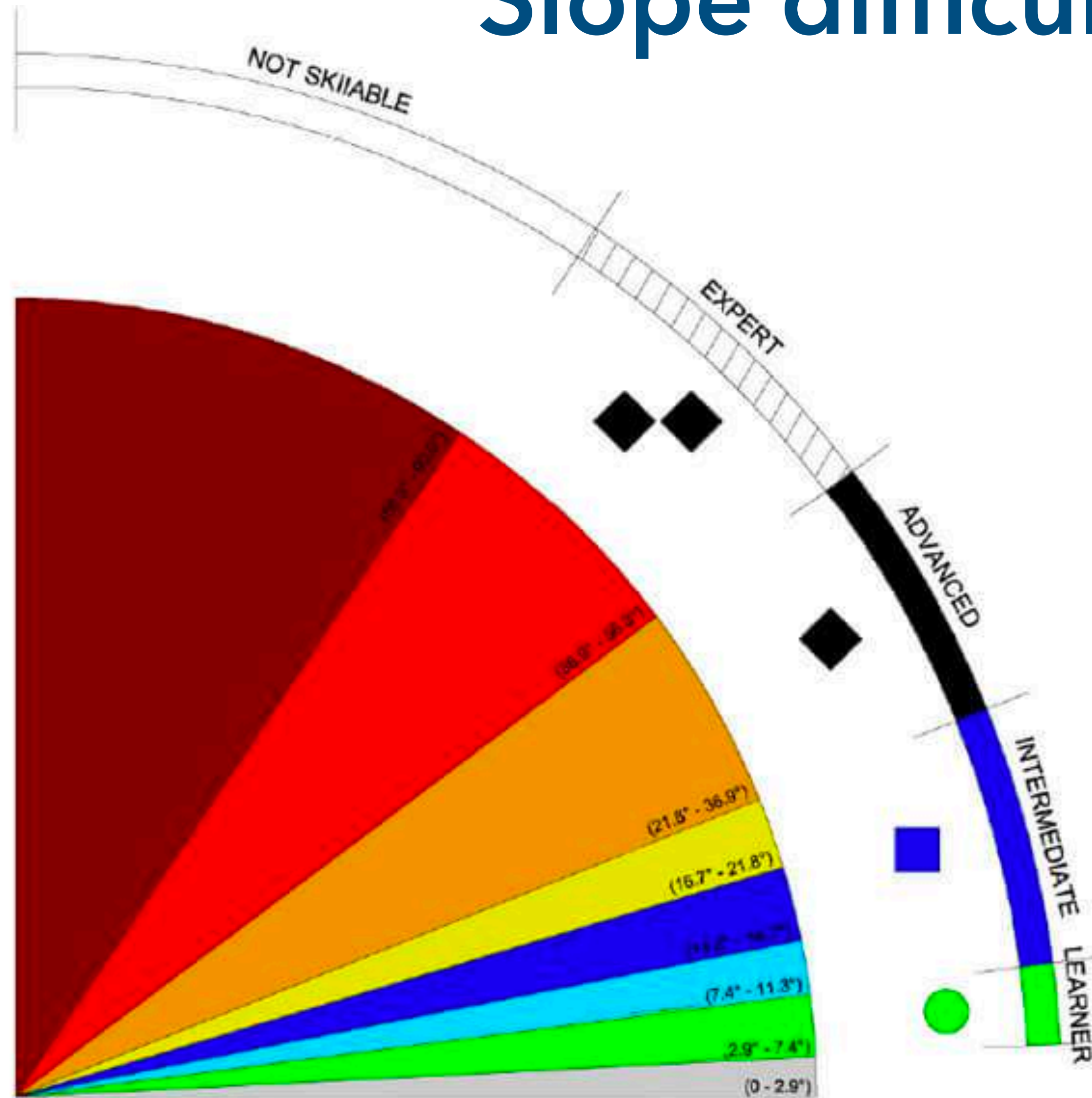


Ski resorts



ZONE LUDIQUE <i>Fun zone</i>	TÉLÉSKI & TAPIS <i>Magie carpet</i>	POSTE DE SECOURS — INFORMATION	RESTAURANT D'ALTITUDE <i>Mountain restaurant</i>	BASCULE 3 VALLÉES <i>3 Vallées Liaison</i>
LUGE	TÉLÉSIÈGE <i>Chairlift</i>	WIFI FREE	TABLE DE PIQUE NIQUE <i>Picnic area</i>	BASCULE & SOMMET MYTHIQUE DES 3 VALLÉES <i>3 Vallées Mythes & Icônes Book</i>
TRÈS FACILE <i>Very easy</i>	TÉLÉCABINE <i>Cable car</i>	3 VALLÉES SELFIE	SALLE HORS SACS <i>Special picnic room</i>	SOMMET MYTHIQUE DES 3 VALLÉES <i>Iconic 3 Vallées</i>
FACILE	TÉLÉPHÉRIQUE <i>Cable car</i>	TOILETTES PUBLIQUES <i>Public toilets</i>	TABLE D'ORIENTATION <i>Map stand</i>	
DIFFICILE <i>Difficult</i>	TYROLIENNE <i>Zip line</i>			
TRÈS DIFFICILE <i>Very difficult</i>				

Slope difficulty ratings



North American



Beginner



Intermediate



Expert



Expert Only

European



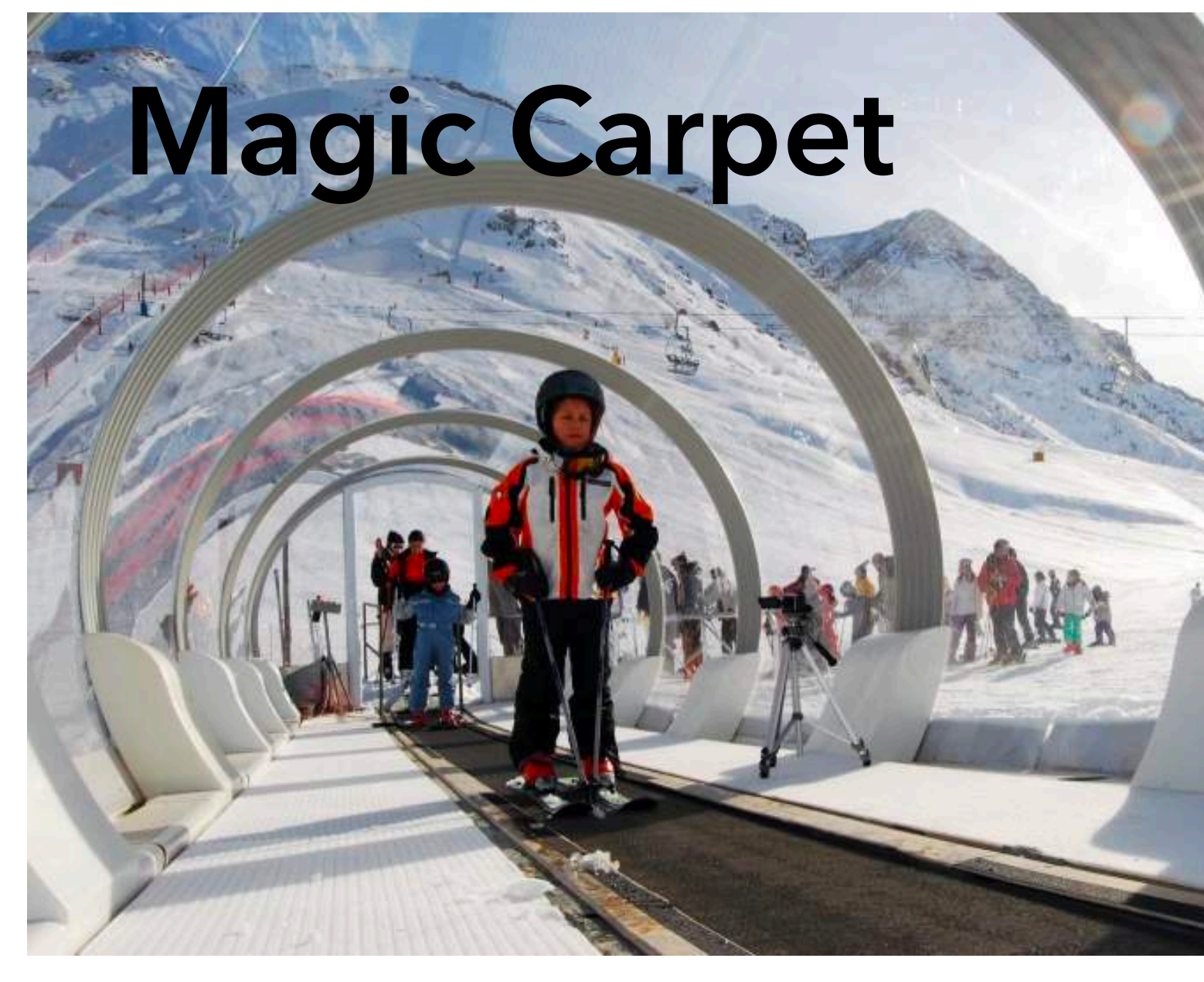
Beginner



Intermediate



Expert



Detachable chairlifts

 Doppelmayr®



<https://www.youtube.com/watch?v=fwsuBkrcMLE&t=19s>

...smashing chairs and **flinging**
skiers into the air

Heli-skiing



Whistler Blackcomb

Blackcomb Mountain

Whistler Mountain

- **Largest ski resort in North America**
- **One of the most popular ski destinations outside of Europe**

Whistler Blackcomb

- **Opened for the first time in Jan 1966**
- **Joined physically with the Peak-2-Peak gondola in 2008**
- **37 lifts**
- **>250 km skiable (includes avalanche-controlled but ungroomed terrain)**

The Three Valleys (Les Trois Vallées), France

- World's largest ski area
- 7 connected ski resorts
- > 600 km ski runs
- > 180 ski lifts



Skiing near Vancouver



WHISTLER

Whistler-Blackcomb

Grouse Mountain

Mt Seymour

Cypress Mountain

VANCOUVER

PORT COQUITLAM

SURREY

MISSION

CHILLIWACK

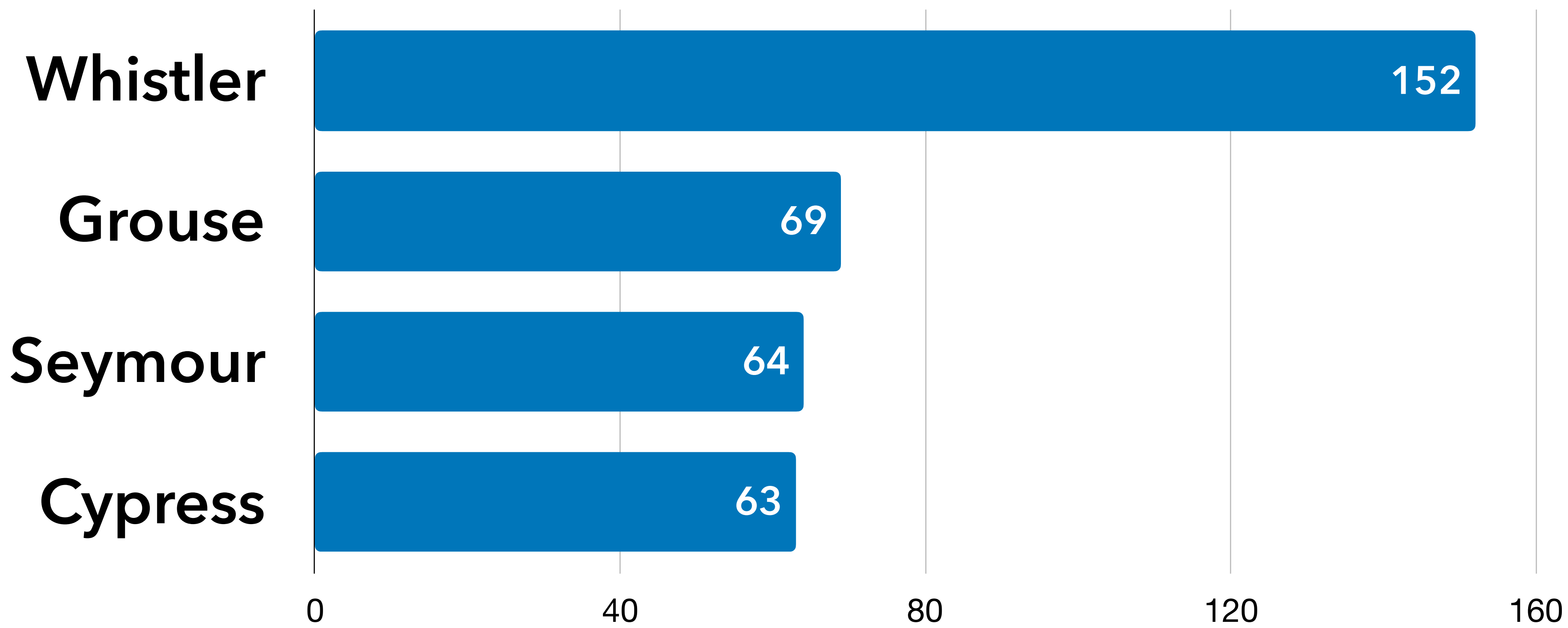
HOPE

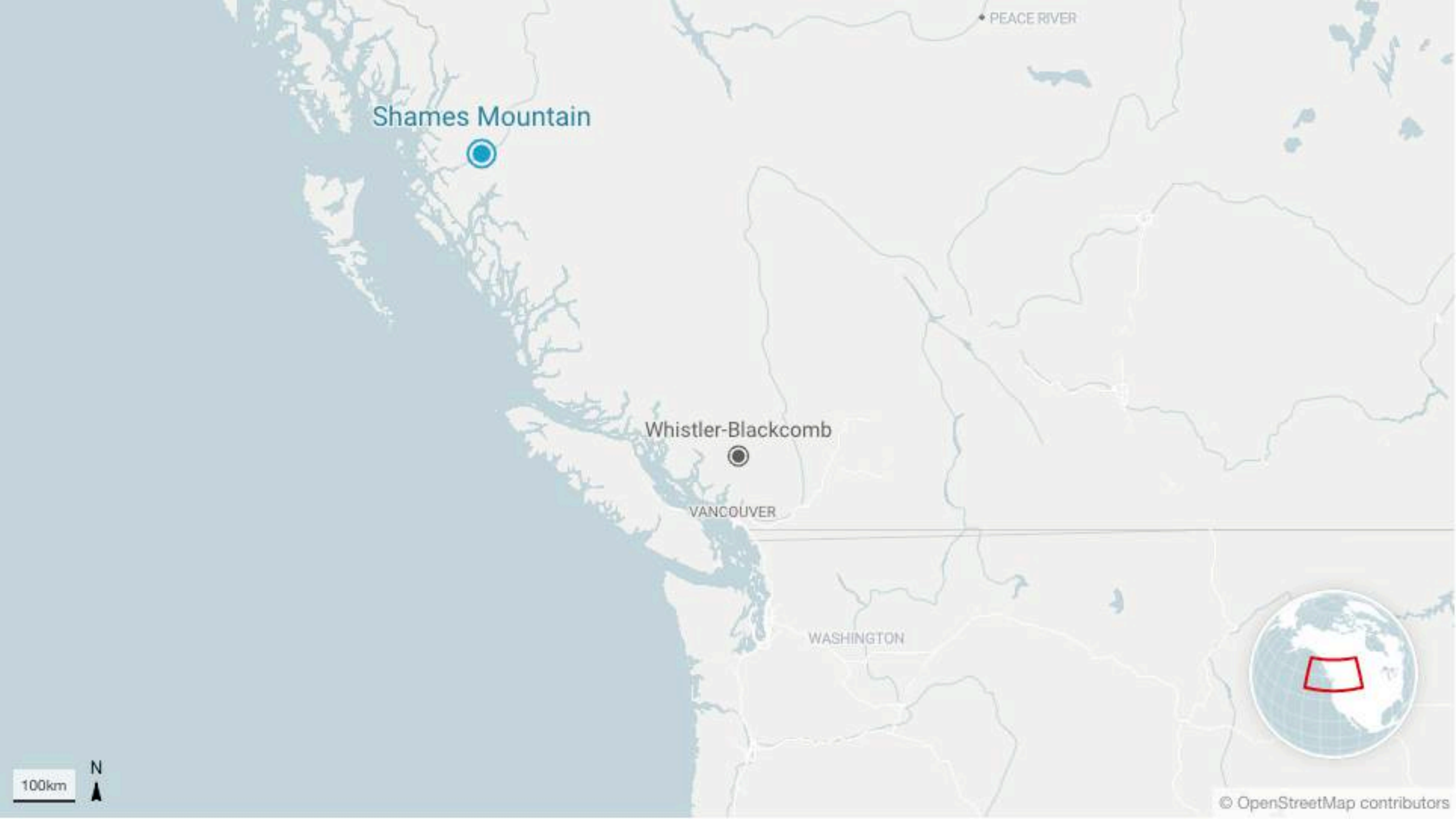
NANAIMO



10km

Lift tickets (day pass in CAD)





Shames Mountain

PEACE RIVER

Whistler-Blackcomb

VANCOUVER

WASHINGTON

100km



© OpenStreetMap contributors

Shames Mountain



Shames Mountain (Terrace, BC)

- First co-op ski resort in Canada
- 12+ metres of annual snow fall
- 2 lifts
- 57 CAD per day
- Warm up for backcountry and heli-skiing

Shames Mountain



Whistler-Blackcomb

VANCOUVER

WASHINGTON

PEACE RIVER





Competitive alpine skiing

4 primary disciplines

Slalom



Giant slalom



Super G



Downhill



→ Speed



<https://www.youtube.com/watch?v=3EdaClq6xG4&t=90s>

HERMANN MAIER
**COMPETES IN HIS FIRST
OLYMPIC DOWNHILL FINAL**

Ski cross





Ski Dubai





Kitzbühel, Austria

Opening day: Oct 13, 2018



Snow farming



Snow farming







<https://www.youtube.com/watch?v=-aYLqAhTTms>



Thank you!