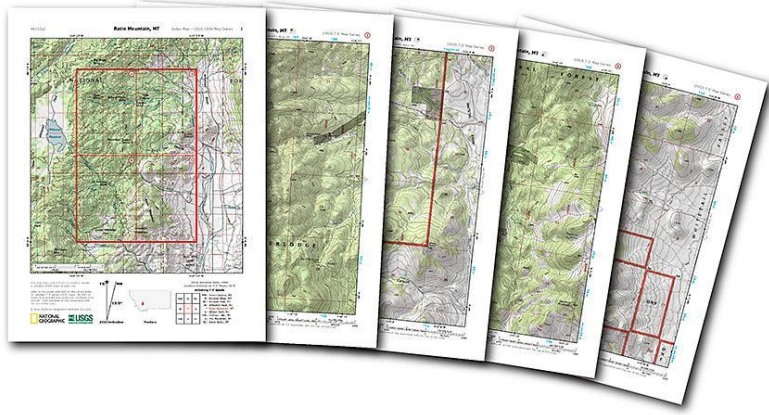


WILDERNESS NAVIGATION

Finding Your Way Using
Classic & Advanced Techniques



Wilderness Navigation

Trails - Tracks - Gaia

What do you do when they disappear or become unreliable?

Navigation:

- Local Terrain Features, Transition Points & Landmarks
- Altitude
- Bearing
- Time
- Horizon

Takeaways:

Conceptualize what to do without a trail. Be confident in these skills to the point you are independent of other trails or persons tracks in any weather.

Practice in places under 3k ft where the ecosystem can handle it.

Allows for built-in redundancy.





Tools

- Topo Map
(waterproof)
- Compass
w/ adjustable declination & base plate
- Barometric Altimeter
- Pencil

Specialized tools/Emergency Tools:

- GPS Device
- PLB

Reduce distractions & time spent navigating. Practice single-hand methodology for safe traveling.

GPS Devices



Gaia

- Offline Maps
- Create Routes, Find Shared Public Maps, Track
- Mountaineers: 1 year free subscription
- Compare Maps: Gaia/Nat GEO/ USGS/Satellite
- Cons: backup power cells + charging cords, app updates, annual fees, satellite/service reliability, water resistance, time consuming



Handheld GPS Devices & PLB's

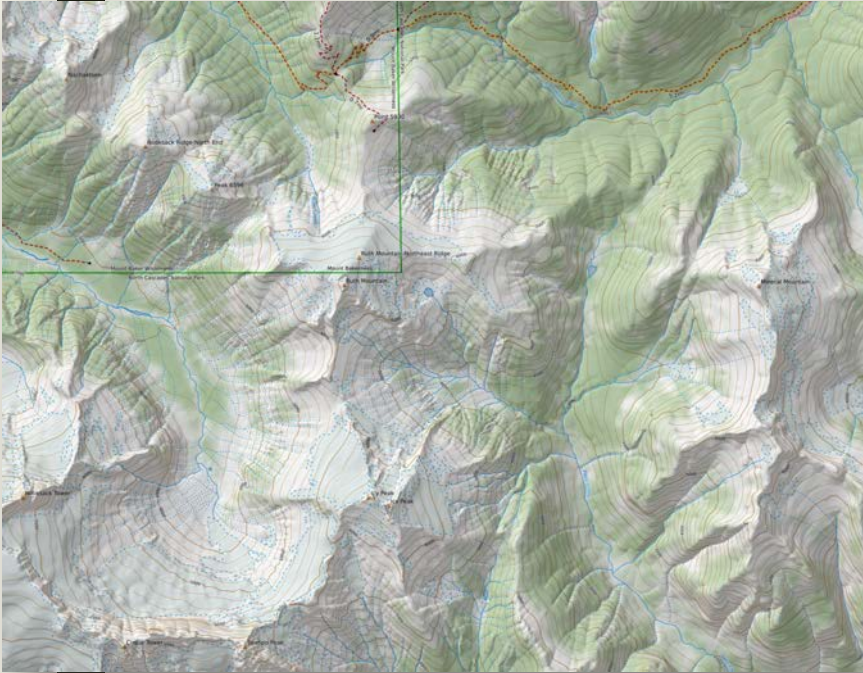
Garmin, Inreach, SPOT, etc

- 4 accidental SPOT triggers in 2018
- Important to communicate details, party experience & medical problem...not just location
- Cons: initial costs + annual fees. Some require phone pairing.

Physical Maps

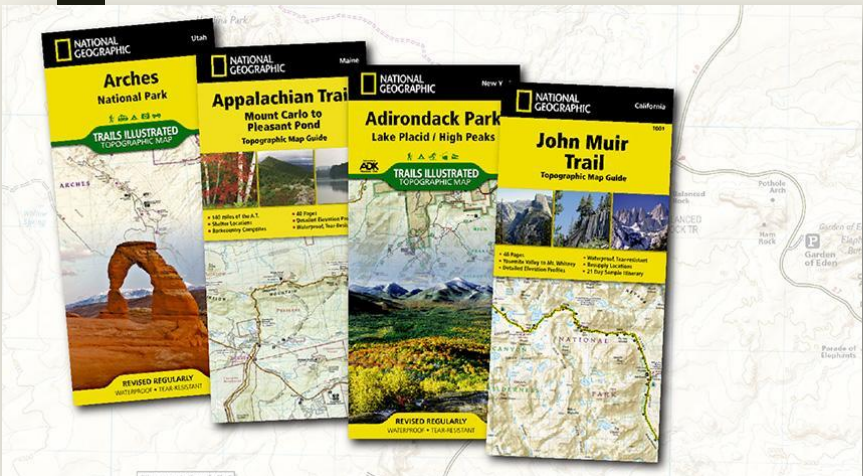
Downloadable

- [Caltopo.com](https://www.caltopo.com)
- [GaiaGPS.com](https://www.gaiaGPS.com)



Store Bought

- National Geographic
- USGS Topo

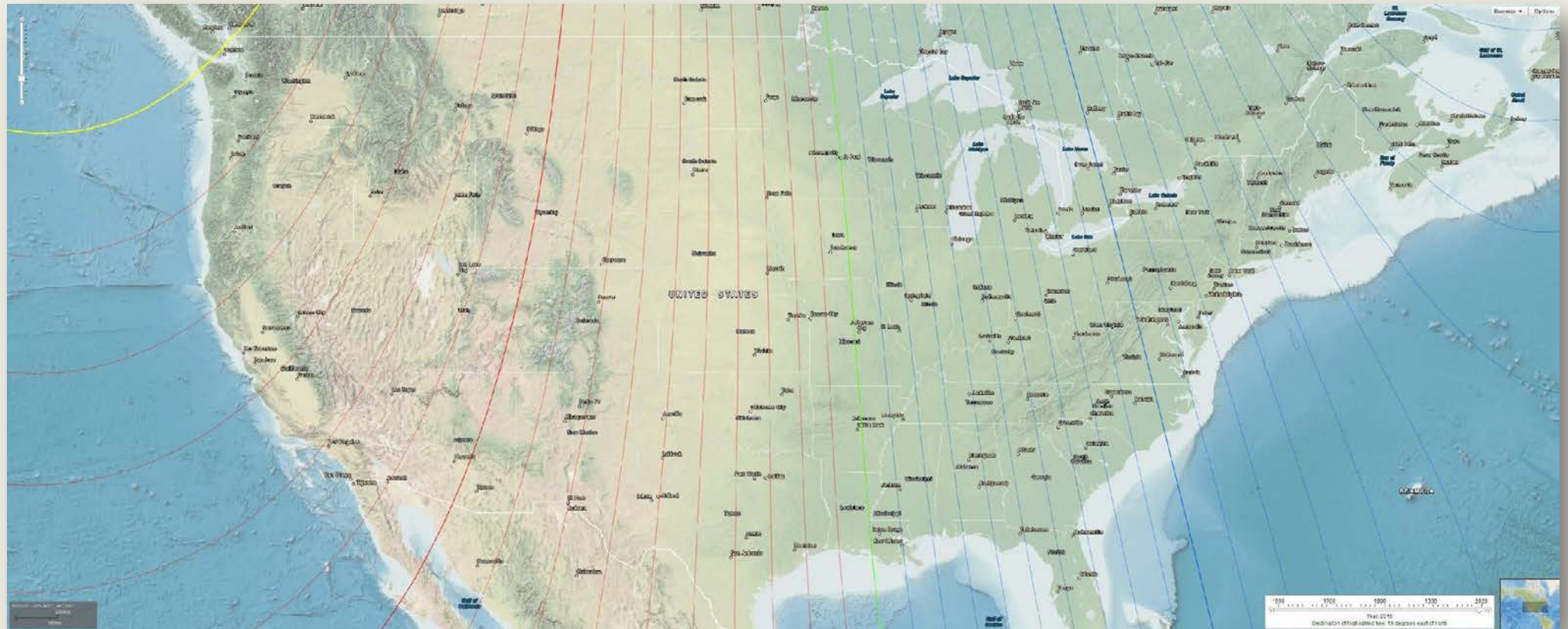


Key Map Concepts

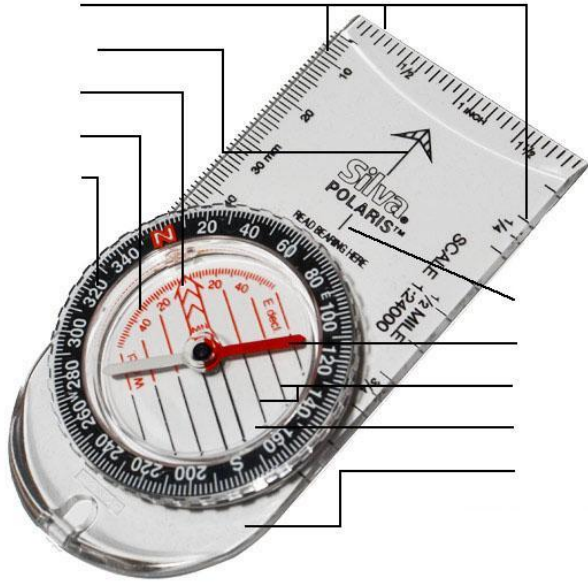
- Baseline
- Intermediate Objective
- Handrail
- Intentional offset
- Gully vs Ridge
- Micro Terrain (Fundamentals)

Adjusting Declination

- True vs Magnetic North
- [Declination Map of the US](#) & [Magnetic Field Calculator](#)



Exercise 1: Compass Basics



Complete Questions 1-13

- Magnetic needle
- Orienting
- Arrow
- Index Line
- Meridian Lines
- Bezel
- Direction of Travel Arrow
- Transparent Baseplate

*Special Exercise:
Take a bearing outside*



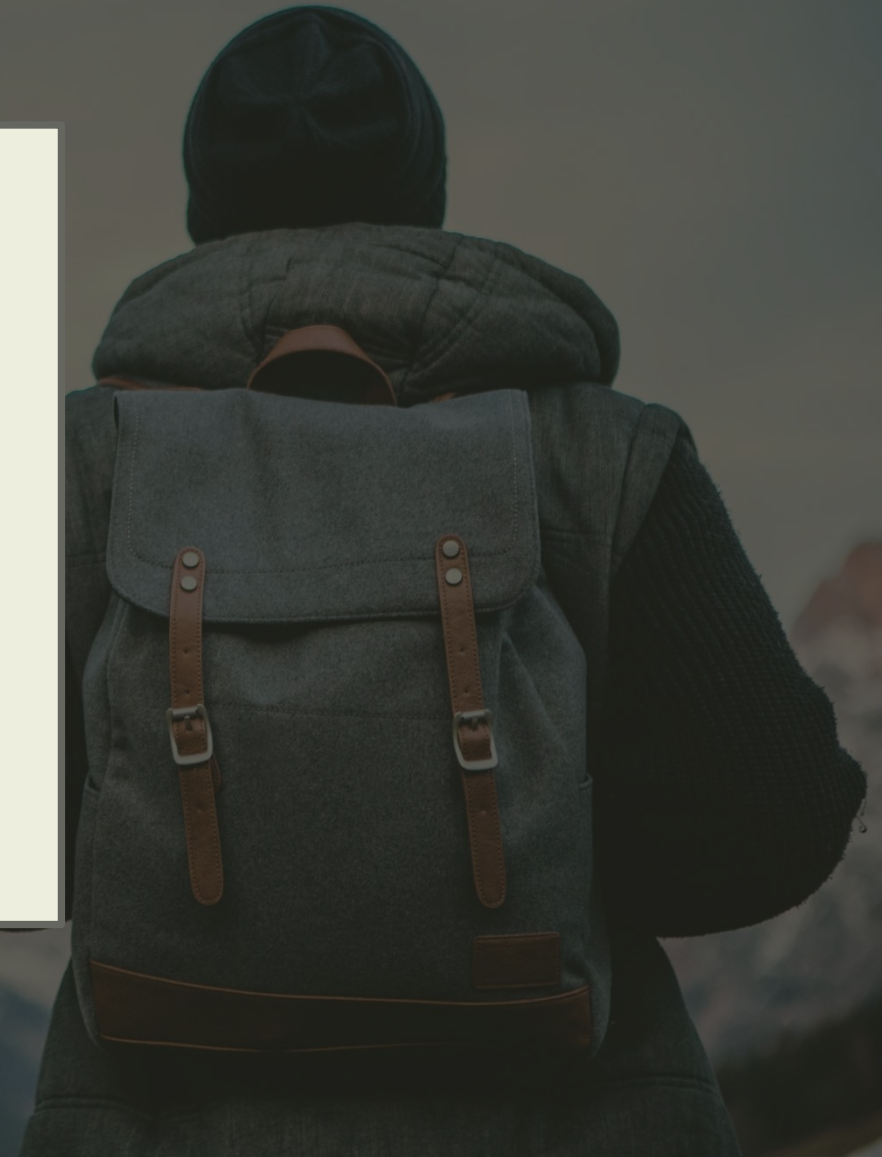
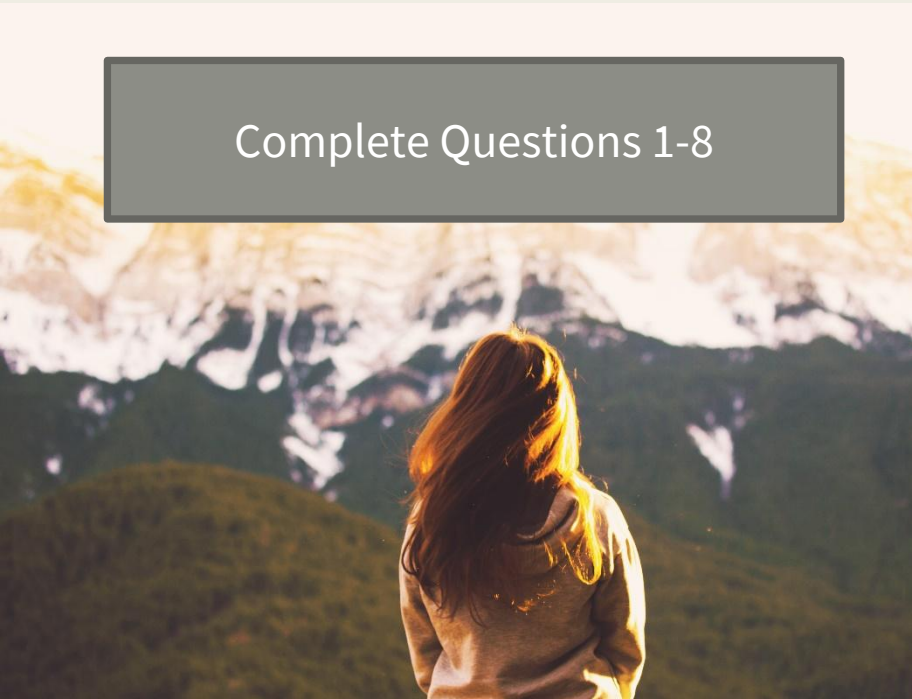


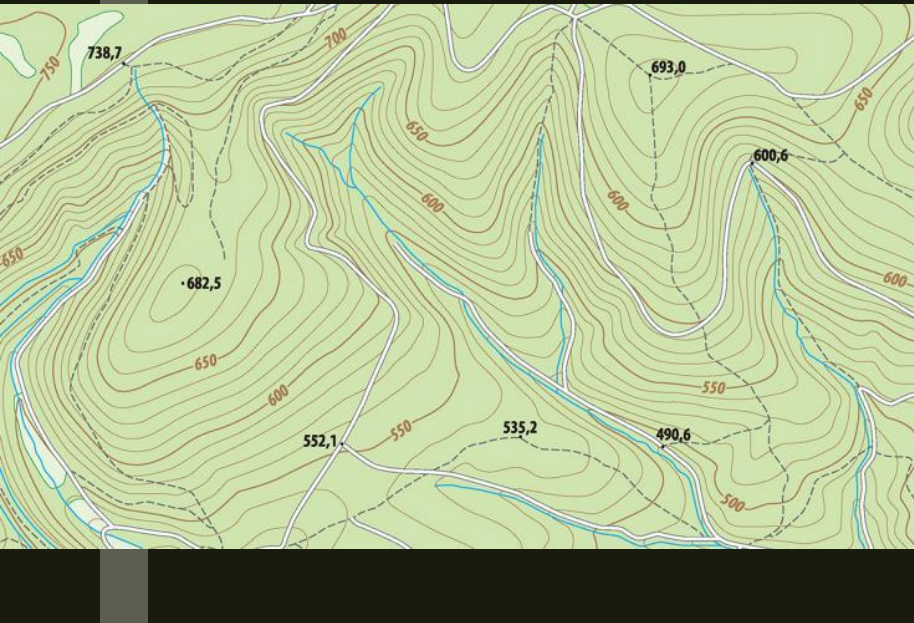
Exercise 2: Map Margins, Scales, Colors, Grids

- Quadrangles
- Traditional lat long (DMS)
- Reading Map Scale
- UTM
- Colors & Contour Lines

legacy info

Complete Questions 1-8



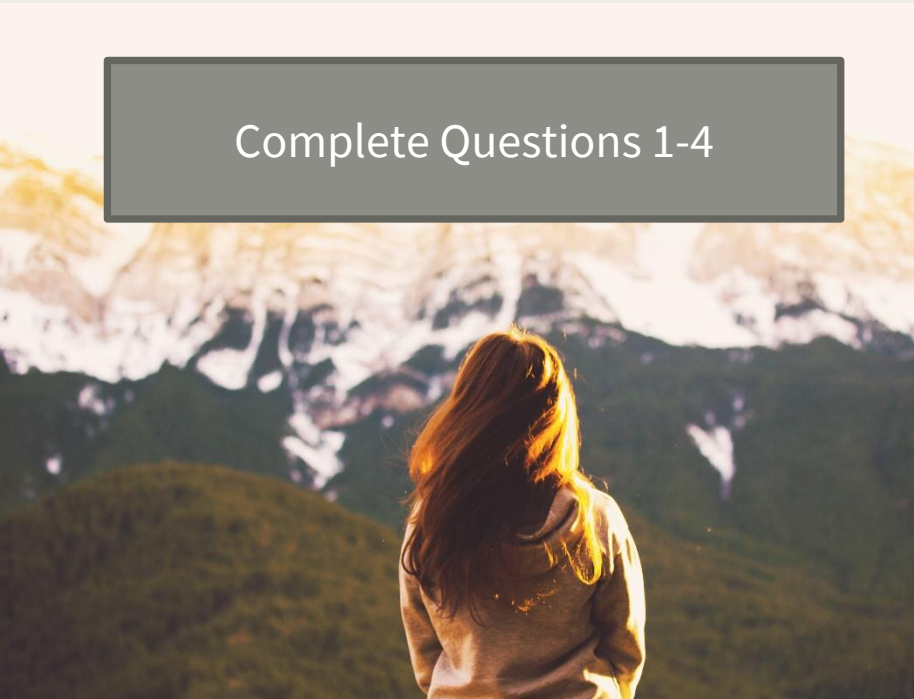


Exercise 3:

Estimating Elevation Gain, Trail Length, Map Orientation

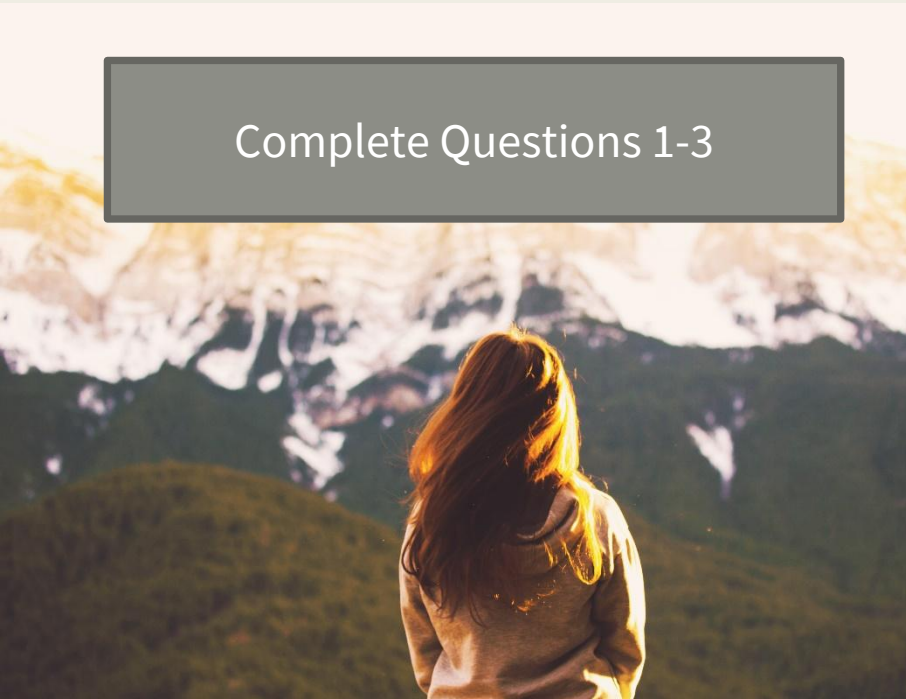
- Distance
- Elevation Gain
- Hiking Time Estimate
- Terrain Features
- Orientation

Complete Questions 1-4





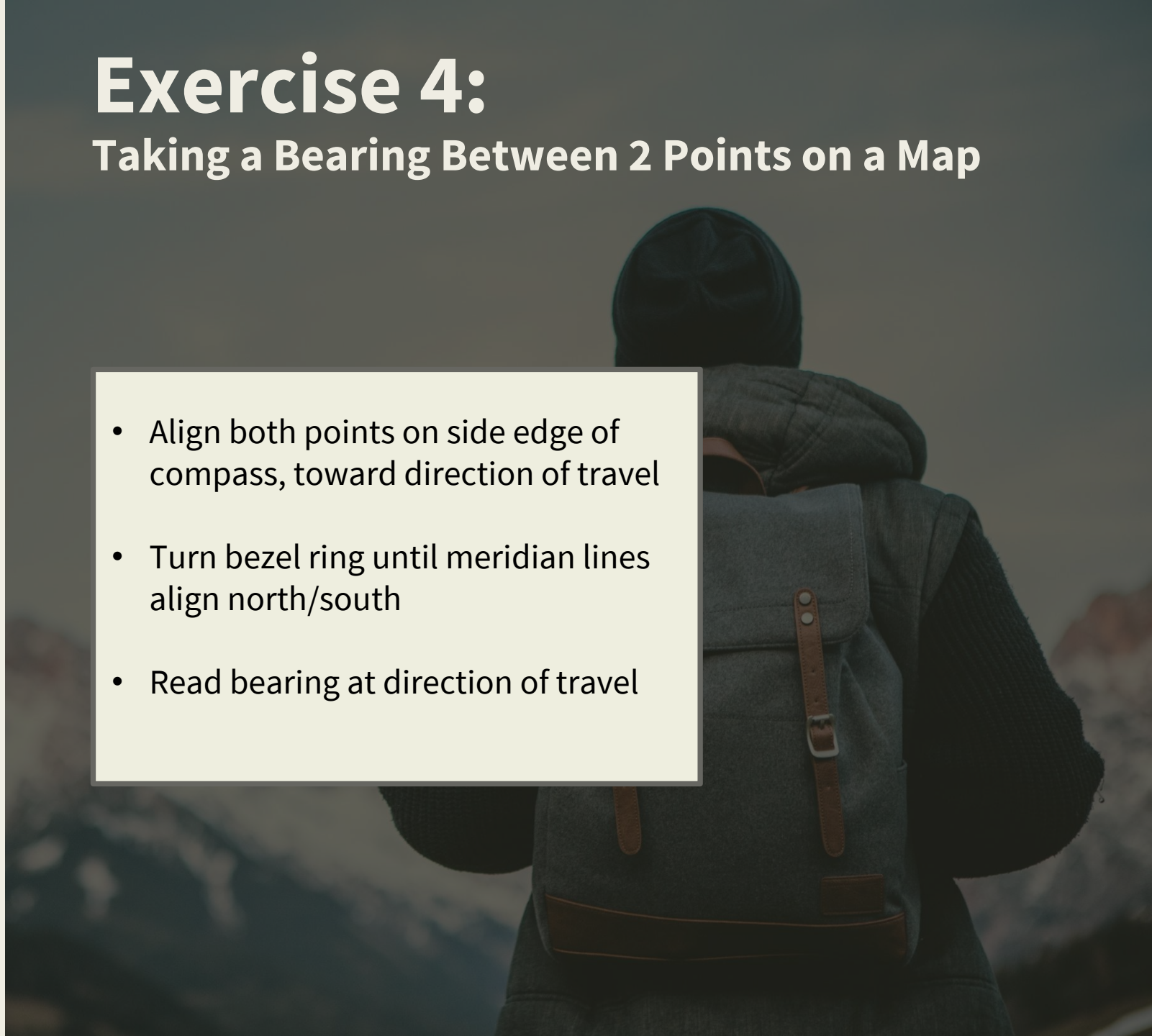
Complete Questions 1-3



Exercise 4:

Taking a Bearing Between 2 Points on a Map

- Align both points on side edge of compass, toward direction of travel
- Turn bezel ring until meridian lines align north/south
- Read bearing at direction of travel

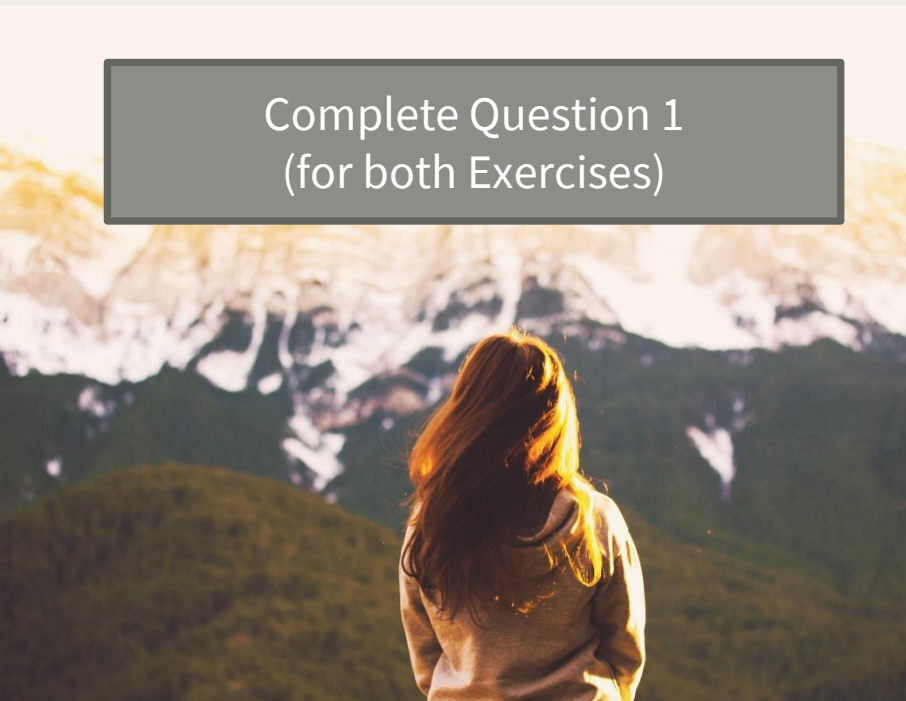


Exercises 5 & 6:

Location Identification via Single Features

- Identify your line & point location by taking a bearing on a known feature
- exercise is tentative dependant on time*

Complete Question 1
(for both Exercises)

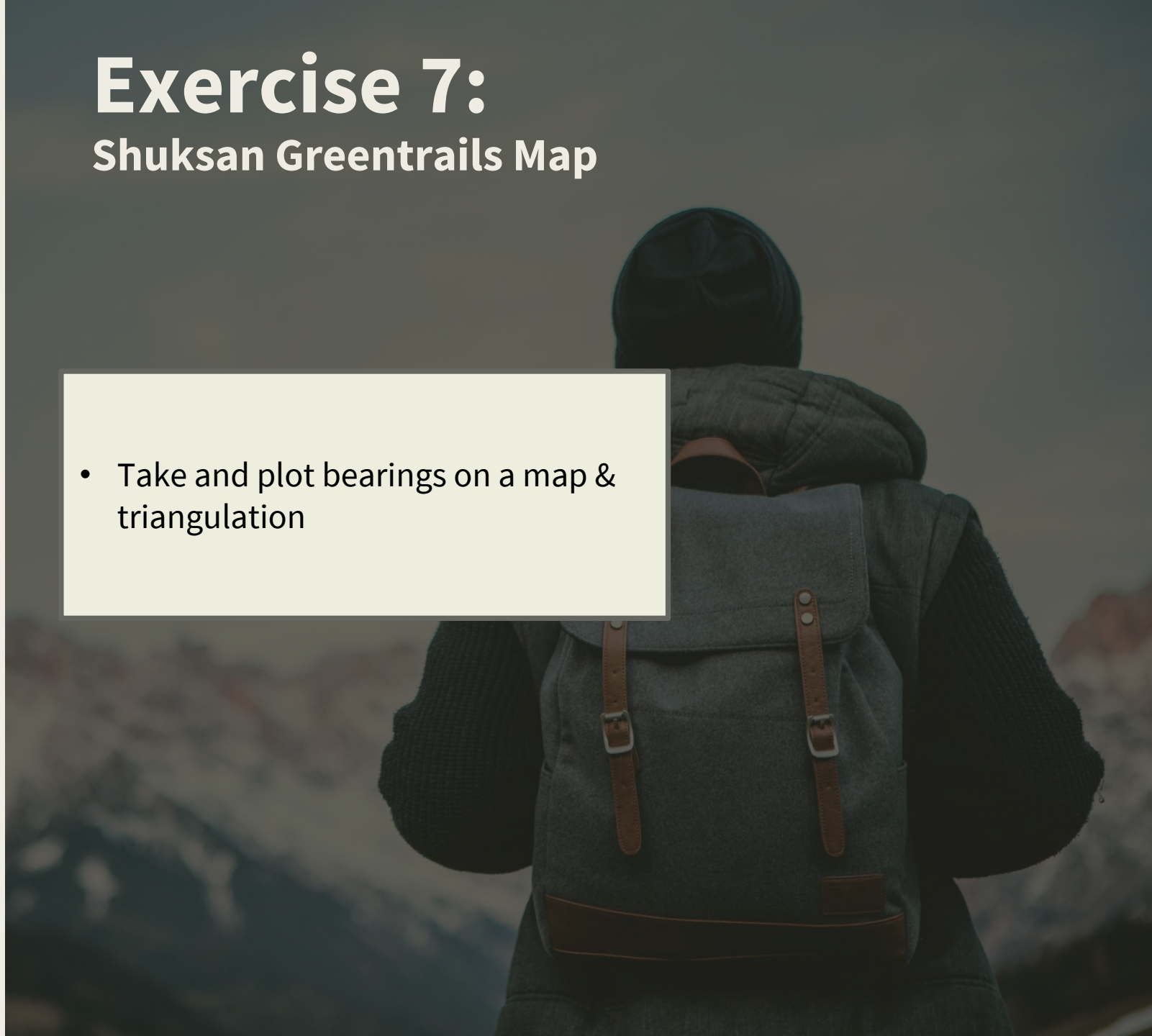
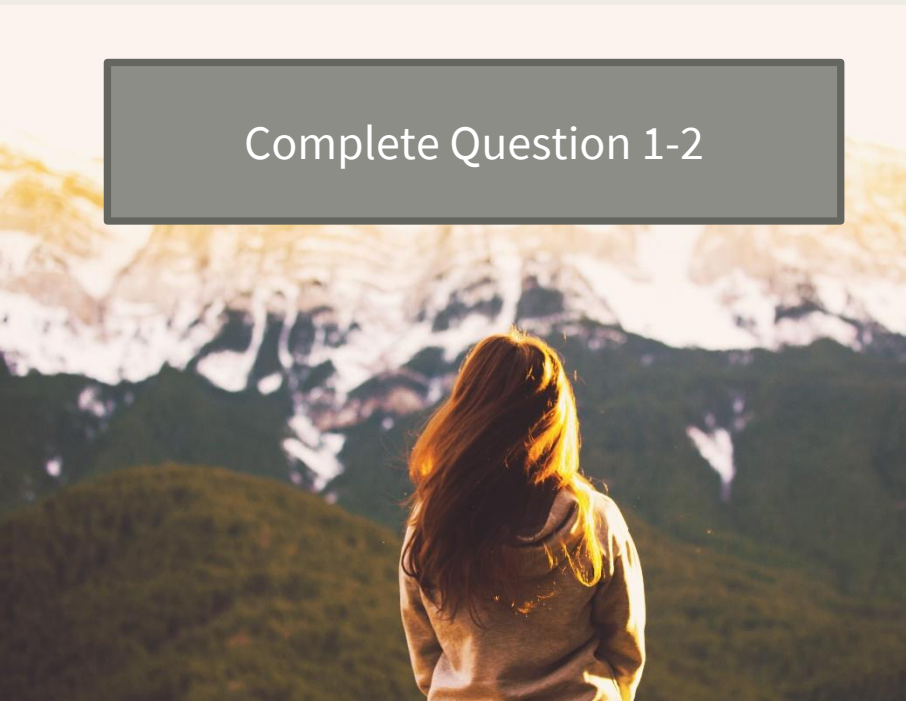


Exercise 7:

Shuksan Greentrails Map

- Take and plot bearings on a map & triangulation

Complete Question 1-2



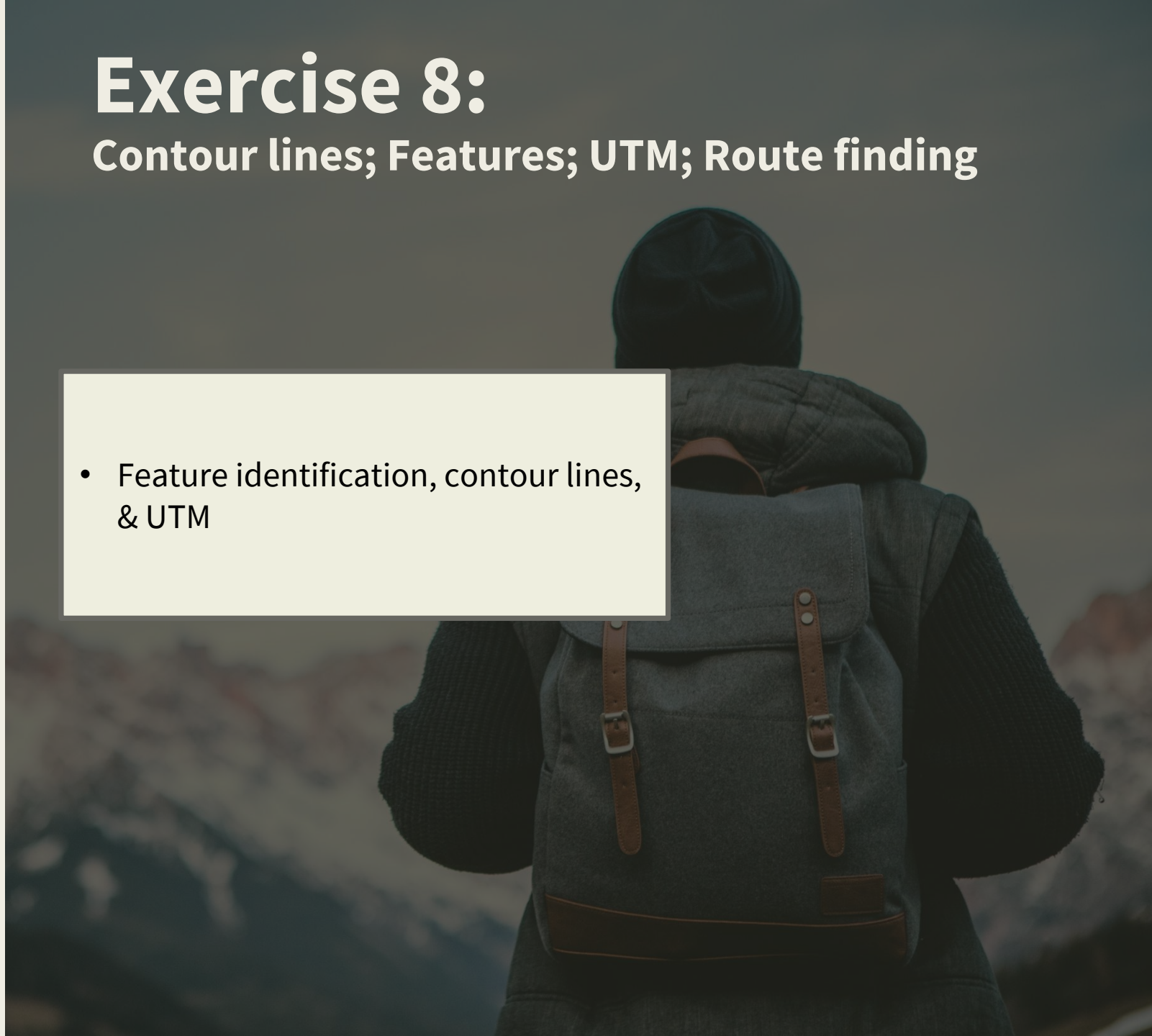
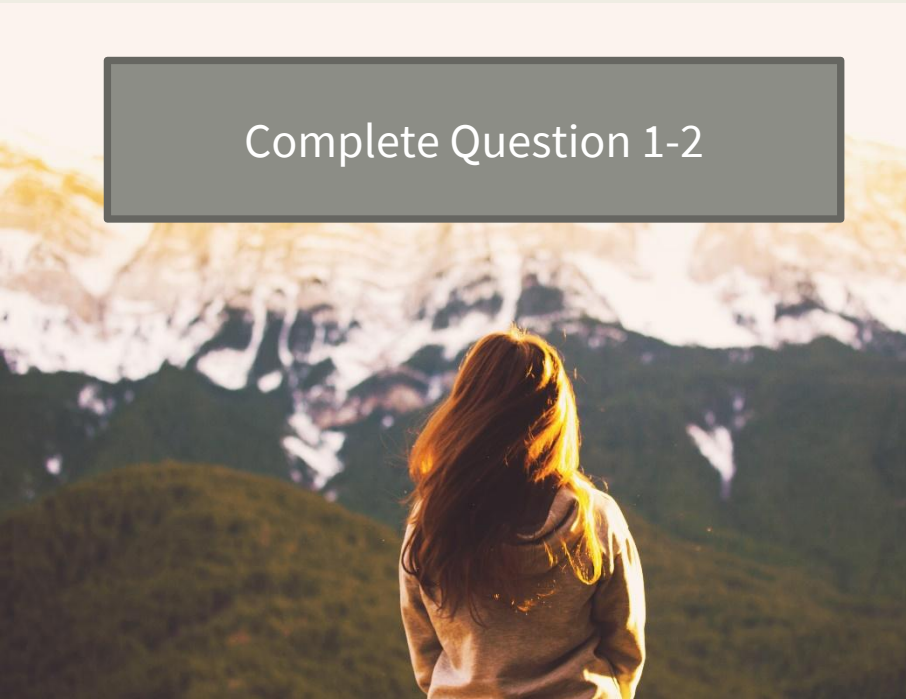


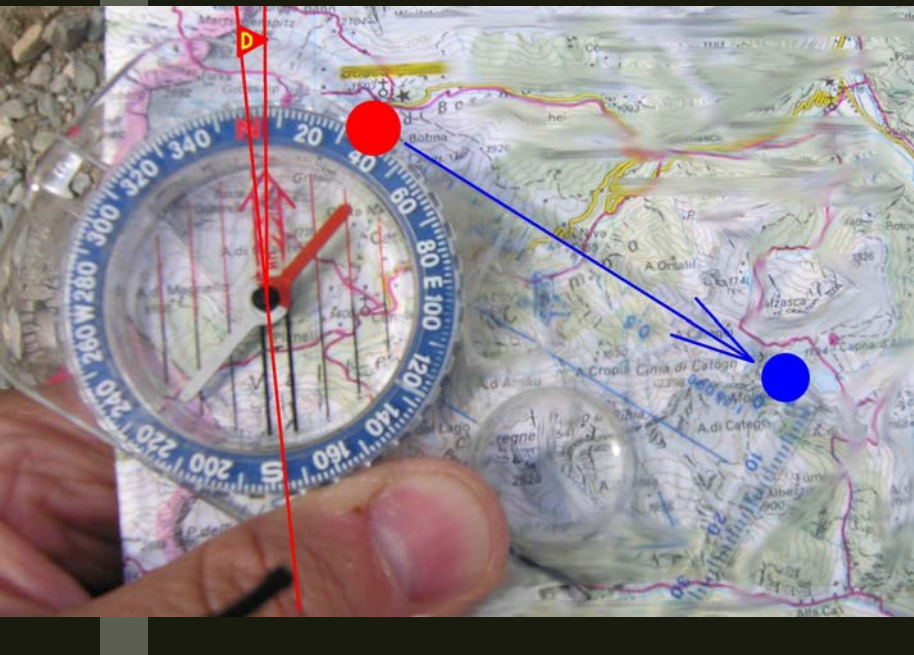
Exercise 8:

Contour lines; Features; UTM; Route finding

- Feature identification, contour lines, & UTM

Complete Question 1-2

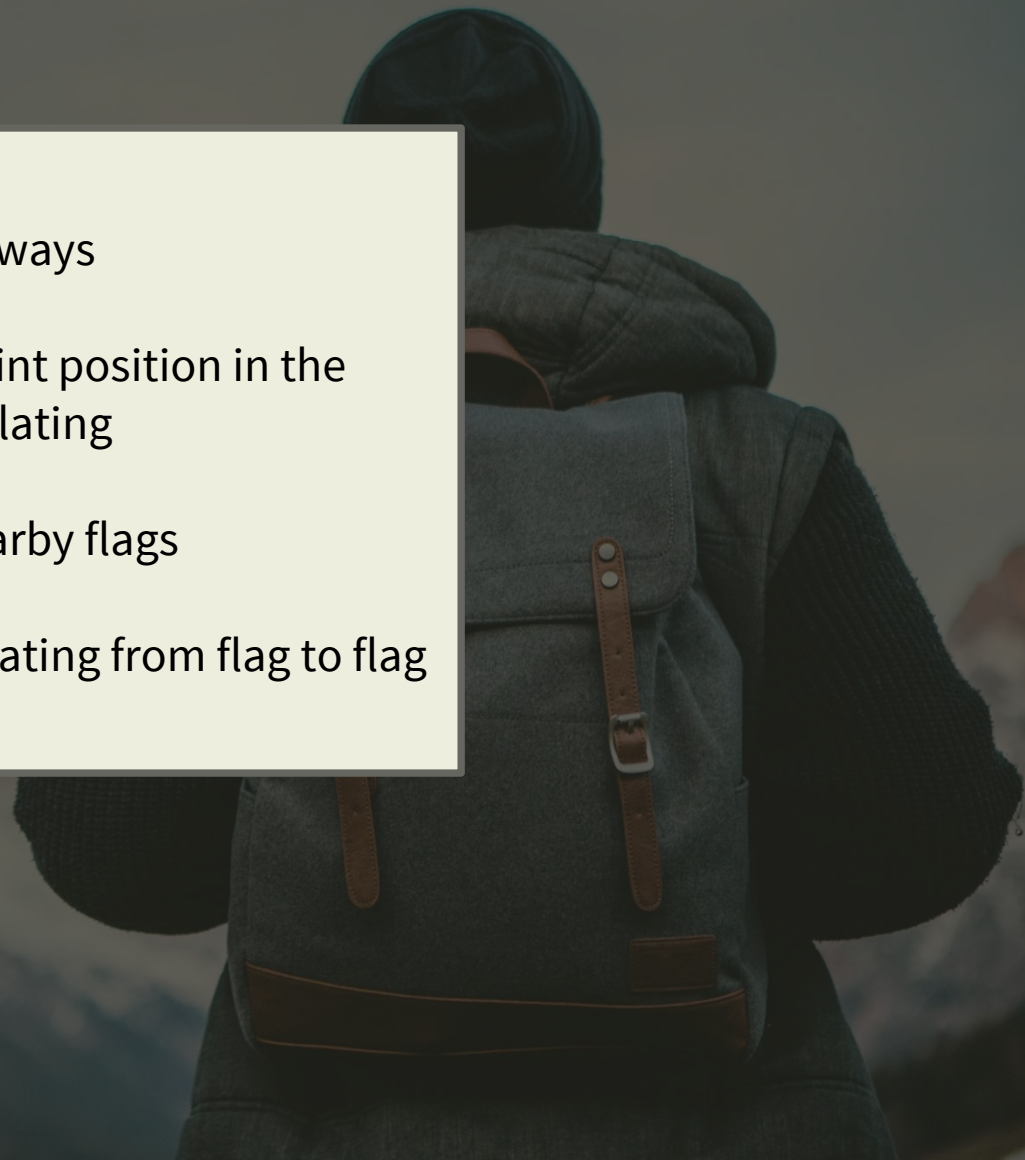
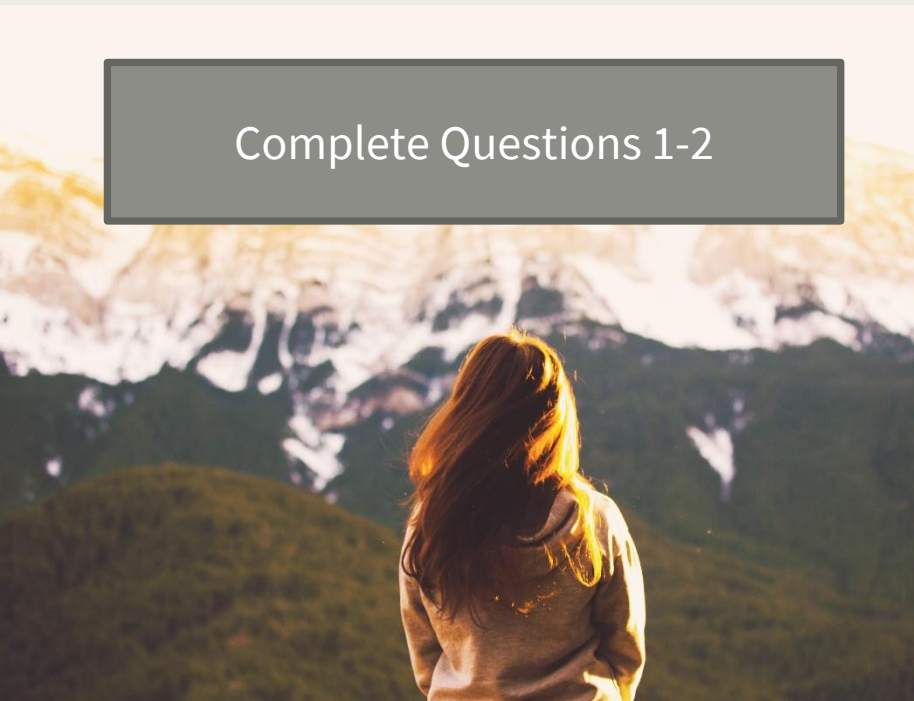




Day 2 Objectives: County Shop Field compass course

- Orient a Map 2 ways
- Locate your point position in the field by triangulating
- Navigate to nearby flags
- Continue navigating from flag to flag

Complete Questions 1-2





THANK YOU!

Practice Often
to help with skill retention