**Mapping Station Request and Justification Form**

Mapping Group Name:­­

Mapping Group Members:

Mapping Day #:

*For each day of virtual mapping, please plan a mapping route, select mapping stations from the available list, calculate route distance, describe your working hypotheses, provide written justification of your station selections, and create a sketch map for your route. Use the following criteria (see following page): 1) Physical access, 2) Outcrop exposure, 3) Geological reasoning, and 4) Safety. For the first day of mapping, plan your route mostly on physical access, outcrop exposure, and safety. After the first day of mapping, also plan your route based on previous mapping, geological reasoning, and hypothesis testing.*

Selected mapping stations (in order of mapping route):

Distance (in miles) of mapping route (start and end at trailhead):

Working hypotheses and plans to test them:

Written justification of mapping route and station selection to test hypotheses:

Sketch map of route and selected stations:

**Route Planning and Mapping Considerations**

1. Physical Access
   1. Roads, trailheads, and trails
   2. Ridges and Valleys
   3. Ease of physical access:
      1. Hiking distance, elevation, and elevation change
      2. Maintained trail vs off-trail “Bushwhacking”
   4. Use informational Resources
      1. Topographic, satellite, and trail maps
2. Outcrop Exposure
   1. Streams may expose outcrops at the bottom of a valley
   2. Ridges may also expose outcrops at their crests (caused by resistant lithologies)
   3. Topographic high points (peaks/ridges) may provide informational views and geological insight to the surrounding mapping area
3. Geological reasoning
   1. Build on yesterday’s mapping
   2. If you have a hypothesis, plan to test that hypothesis through mapping
   3. Explore if geological patterns may extend across the mapping area
   4. If these geological patterns change, then perhaps some contact or structure is present
   5. Iteratively plan and map based on newly available data
4. Safety
   1. Weather
      1. Sunburn and dehydration
      2. Lightning and wind on ridges
      3. Flash floods in valleys
   2. Topography and Terrain
      1. Avoid precipitous ridges and cliffs
      2. Avoid unstable footing such as scree fields, wet river rocks, or slippery clay
      3. Avoid dangerous river crossings
   3. Getting Lost
      1. Map with a buddy
      2. Always know where you are on the map, and stay within the mapping area
      3. Pay attention to time (and difficulty of route ahead)
      4. Return to meeting spot on time (or early)
   4. Other
      1. Rattlesnakes
      2. Vehicle traffic at roadcuts
      3. Use safety glasses with rock hammers
   5. Mental/physical wellbeing
      1. Talk about and be aware of each partner’s comfort, experience, and ability
      2. Plan together and make sure you and your partner BOTH agree on your plans
      3. Be flexible