SOGO@Home Level 3 Activities

Week 4: Contour Interpretation
Technical difficulty ★★★☆☆ - ★★★★★☆

Overview
This activity works on contour interpretation. It combines a running workout of many short sprints with a map reading activity where you try and answer a question about the contours of a leg, for example how much climb there is, if the leg is uphill or downhill, or what contour feature the control is on. Ideally, this would be done in a park in your neighborhood. Always follow recommendations about distancing and make sure the park is open. If a park is not available, try to set up in your yard or inside your house (i.e. going up and down a set of stairs).

Skill description
This week works on contours. Being able to look at contour and interpret what they mean is very important for more advanced orienteering. If you are not familiar with contours or want to brush up on some ideas, there is an overview with images at the end of this document.

Plan
Set-up: Print out the maps and the answer sheet that has not been filled in. Get a pen and a surface to write on like a clipboard.

Warmup: 5-10 min warmup jog [this could be from your house to the park], 5 minutes of
dynamic warmup

Main activity: Figure out a loop to run as in the diagram. The brown arrow should be a distance you can quickly run in 5-20s. A longer route would be more tiring but give you more time to read the map.
Start at the white box (this represents the answer sheet). Jog the green section without looking at the map. Run the brown section while reading the map to figure out the corresponding answers to the map (see A, B, C below). When you get back to the answer sheet, stop looking at the map and circle/write down your answer.
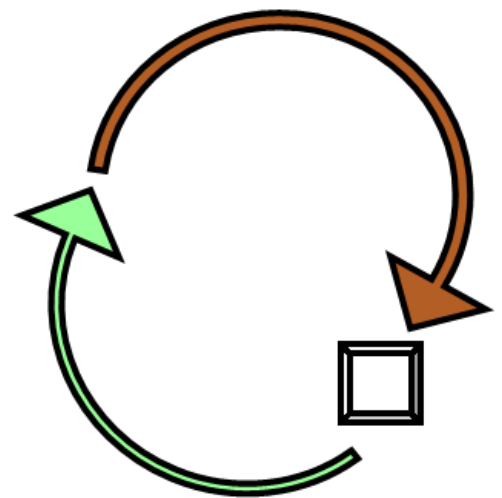
There are three maps with different types of answers (from easiest to hardest):
  A. Does the route go up, down, up then down, or down then up? Figure out, if you were to run along the line between the controls what the profile of land would be like
  B. Is the control on a spur or re-entrant? Determine what the control description should say for the feature in the circle
  C. There are 2 parts, if you're confident you can read the map efficiently enough to do both at once, do that if not do them separately.
      a. Which route has less climb? Choose the route [left/purple or right/red] between the controls that has less elevation gain
      b. How much climb is there? Estimate the number of contours along the line that you would be gaining elevation on. Hint: use index contours, mark as correct if within 2 or 3 contours

Do all of one course, and then take a 2-5 minute rest and repeat with another course. To make this an easier workout, shorten the running distance or do fewer maps. To make it harder, make the runs longer, do all of the courses or add in body weight exercises between legs or courses.

Cooldown: Jog back home and 5 minutes cooldown stretching
Afterwards: Let us know how the exercise went!
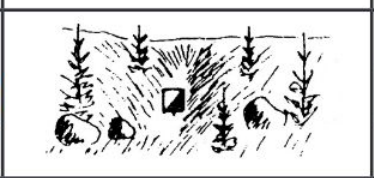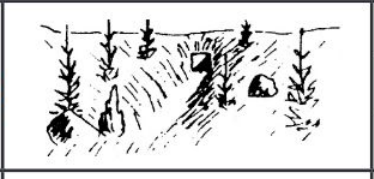
Understanding Contours
  1. Contours (brown lines on orienteering maps) indicate elevation: they are lines at a constant height level.
  2. There is a specific height interval between contour lines, normally 2.5 m or 5 m
  3. A hill is represented by a closed contour circle; a depression is a closed circle with 'tick' marks. Multiple concentric rings indicate a larger hill/depression.
  4. When contours on the side of a hill are closer together, the hill is steeper; when they are more spread out the hill is less steep.
  5. Index contours (thicker contour lines) do not represent a different type of feature in the terrain but indicate every fifth contour, which helps with assessing height differences quickly.
  6. Dashed lines, or "form lines" indicate that there is a contour type feature in the terrain between contours, that is evident in the terrain but smaller than the contour interval.
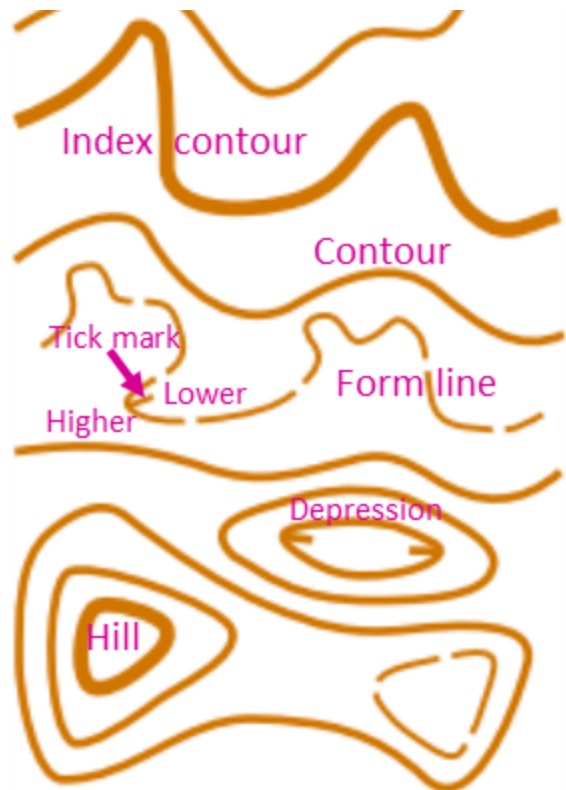
7. Re-entrants and spurs are contour features, generally along hillsides:

Re-entrant	Spur
Small gully or rising, dead end valley that water would run down	Nose in the terrain; land jutting out from a hillside
Control description:	Control description:
Examples of controls on re-entrants:	Examples of controls on spurs:

8. Other landforms are also marked in brown. This includes features like knolls, pits, and earth banks. Try using this online game to practice map symbols and control descriptions for these features. Note that this game gives 8 at a time so there will be different symbols if you play again.
9. There are several ways to figure out which way is up or down on the map
    ● Look for hilltops or depressions
    ● Look for tick marks on slopes [the tick mark points down hill]
    ● Look for ponds or creeks, which will be in low areas.
    ● Re-entrants often have thicker vegetation and spurs are more likely to have open areas
10. If you cross a contour, you are either going up or downhill. If you are moving parallel with a contour, you would be moving along a flat area.