

Compass Activity 4: “The Quicksand”

Aim:

To accurately plot and follow a safe course through ‘quicksand’, using your knowledge of bearings and locating position.

What you need:

Orienteering compass
Pen and paper

Tape measure (30m)
Markers, for example short sticks

Scenario:

A child is trapped on the far side of an area with quite a bit of quicksand. Bearings of the quicksand areas are known from two fixed points on the rescuers’ side of the field (the rescuers have talked local oldtimers into giving them this information!). The rescue involves finding a safe course across the field.

Instructions:

Using the list of bearings (these will be in pairs for each quicksand area) draw a rough sketch of the field and the estimated position of the quicksand pits. The field will be set out with one marker for the child on the far side and two fixed markers for you on the rescuers side. When reading the bearings, the first one given will be read from the left hand rescue marker and the second from the right hand rescue marker. You will notice that this means they always intersect at the location of a quicksand pit.

Now use the orienteering compass and any other equipment you have to travel to the nearest quicksand pit. Place a marker at its location. You will need to think about how you can best accomplish this.

Are the two bearings enough information?

Would it help to know some of the distances?

Can you calculate any of the distances?

Once all the quicksand pits have been located, you can plot a safe course to rescue the child with bearings and distances recorded accurately for later work

On the next page is a sample field. The bearings are listed in pairs on the right-hand side of the page.



Distances along the triangle sides will depend on the width between the two rescue markers. The figures given beside the angles are for a width of 20m between the markers and are approximate (to one decimal place). 'The child' will be a little over 35m away.

You may decide to find the perpendicular distances to the quicksand pits from the base line and proceed from there with Pythagoras Theorem, for a right triangle the sum of the square of the two sides is equal to the square of the hypotenuse, $X^2+Y^2=Z^2$.

