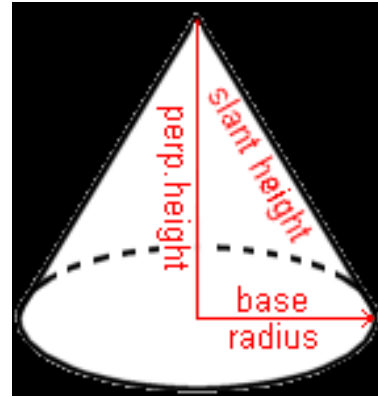
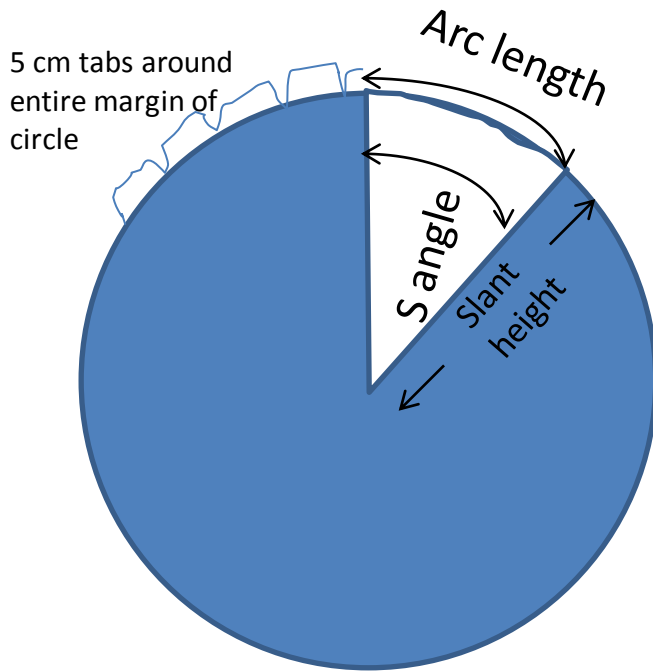


Appendix: Rain shelter construction



The perpendicular height of your cone should be approximately 30 cm. The base radius should be at least 10 cm greater than the radius of your experimental bromeliads.

Step 1. Draw a circle on your plastic sheet with radius = slant height. The slant height can be determined from the perpendicular height and base radius using the cone calculator at: <http://www.cleavebooks.co.uk/scol/calcone.htm>

Step 2. Draw a circle at least 5cm larger than the size of the rain shelter circle to make “tabs” to secure a wire circle to the base of the cone. These tabs will wrap around the wire and be fastened with glue/staples/thread to the inside of the cone.

Step 3. Remove and discard a triangular wedge (pie slice) from this circle. You can find the size of this wedge either by using the S angle, also calculated at: <http://www.cleavebooks.co.uk/scol/calcone.htm>

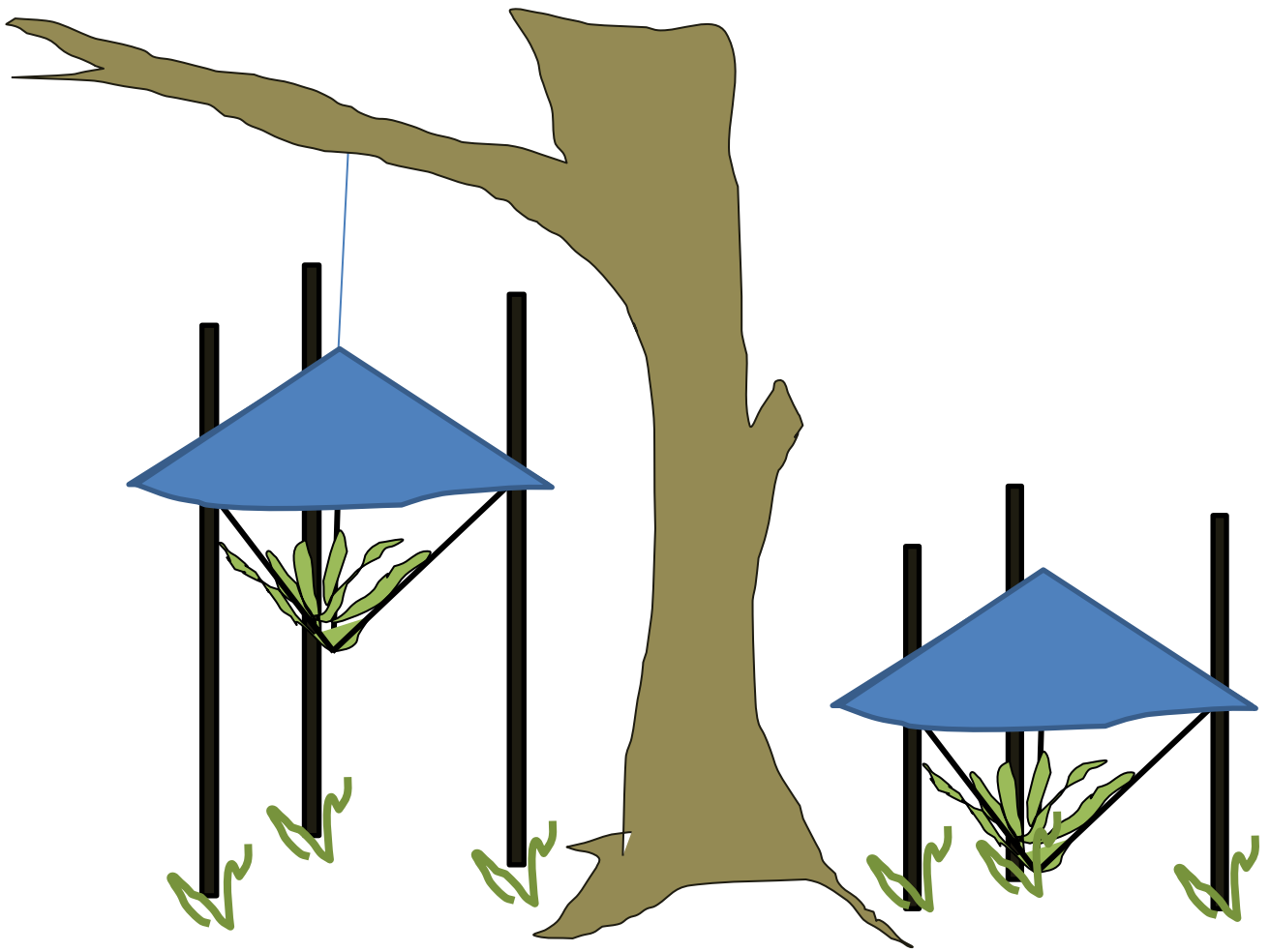
Or the arc length:

<http://www.easysurf.cc/circle.htm#caltorr> (use “Calculate Circle Arc Length given radius and central angle in degrees”)

Step 4. Glue cone together.

Step 5. Make wire circle, with radius = base radius, and secure to bottom of cone with tabs.

Example: In Costa Rica, our bromeliads are about 40 cm radius so we made the base radius of our rain shelter to be 50 cm. The slant height was therefore 58.3 cm, the S angle was 51 degrees and the arc length of the discarded piece was 51.9cm.



Epiphytic bromeliad
design

Terrestrial bromeliad
design

Bromeliads should be hung or planted about 10-20 cm under the base of the rain shelter.