## You will need:

- Around $20 \times 100 \mathrm{~mm}$ cable ties
- $6 \times 60 \mathrm{~cm}$ length garden canes (ideally with one spiked end)
- 50 cm length clock chain
- Garden wire
- Electrical tape
- Ruler or tape measure
- Hack saw
- Wire cutters

Instructions:

1. Make a mark at 15 cm and a second at 30 cm down from the flat end of each garden cane.

2. Create an angle of $50^{\circ}$ between two of the canes at the 15 cm mark and cable tie them together at this point to make an $X$ frame. Repeat this for the other two canes.
3. Take your fifth cane and cut it with the hacksaw to make two 19 cm lengths.
4. Cable tie one of these lengths so that they straddle the 230 cm marks on your $X$ frame. The internal width should be 15 cm . Repeat this for your second $X$ frame.

5. Take a length of clock chain and cut a 50 cm length of it.

6. With the cross supports on the outside of the frames, cable tie the clock chain (looping the tie into one of the chain links) between the two frames at the 15 cm markers.

7. Take your final garden cane and cut it to a 53 cm length. Make permanent and clear marks at $1.5 \mathrm{~cm}, 11.5 \mathrm{~cm}, 21.5 \mathrm{~cm}, 31.5 \mathrm{~cm}$, 41.5 cm and at 51.5 cm from one end.

8. Cable tie this final cane to the same join where the chain meets each side of the frame, going off the 1.5 cm mark at one end and the 51.5 cm mark at the other. This should stabilise the whole quadrat frame. Trim the ends of all cable ties to make them safe.
9. Snip a 40 cm straight length of garden wire. Wrap electrical tape thickly around the end 5 cm of one end of the wire and create a $90^{\circ}$ turn. This is your point dibber.

10. The point dibber can be used to measure the height of plant life in 10 cm intervals (using the marked points as a guide) along the horizontal frame. Smaller intervals can be surveyed by adding additional markers onto the

