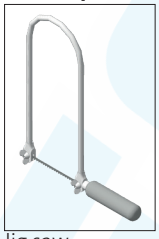
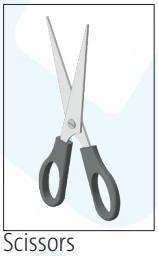
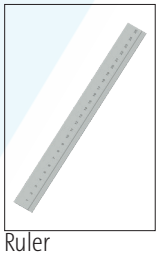
100.803

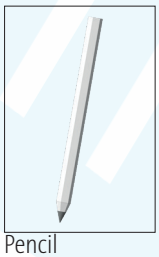
Wind Machine

Tools required:


Jig saw


Scissors


Ruler

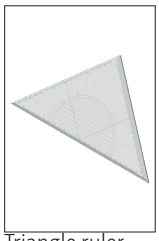

Pencil

Pricker

Craft knife

Pliers

All-purpose adhesive

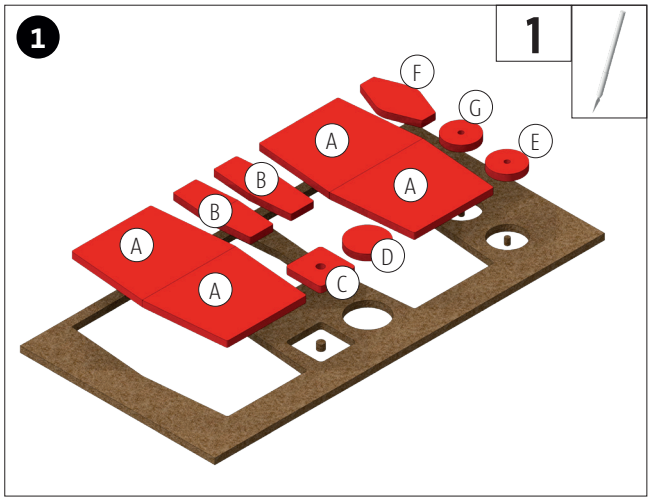

Triangle ruler

NOTE:

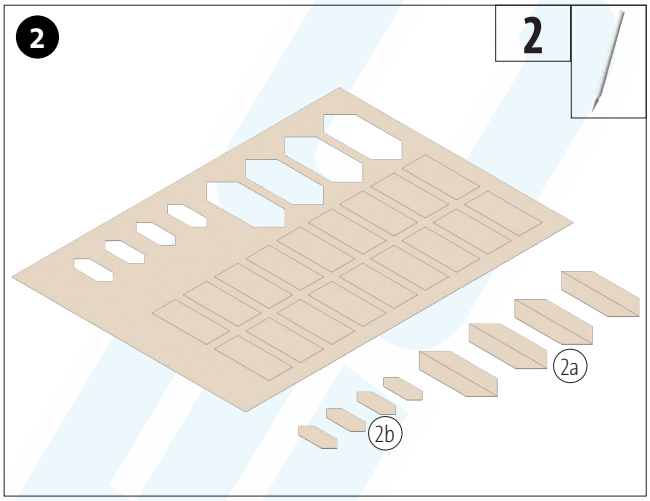
The OPITEC range of projects is not intended as play toys for young children.They are teaching aids for young people learning the skills of Craft, Design and Technology.These projects should only be undertaken and tested with the guidance of a fully qualified adult. The finished projects are not suitable to give to children under 3 years old. Some parts can be swallowed. Danger of suffocation! Not suitable for children under 36 months. Choking hazard!

Part List	Quantity	Dimensions (mm)	Description	Part no.
Cork board (pre-stamped)	1	250x125x4	Pre-stamped parts	1
Coloured card	1	210x150	Forms	2
Card board (pre-stamped parts)	1	195x155	Pre-stamped parts	3
Round rod	6	ø3x300	Round rods	4
Metal eyelet	4	ø4/3	Storage	5
Sandpaper	1		Sandpaper	6
All-purpose adhesive	1		Glue	7
Veneer	1		Wind blades	8
Wooden sticks	1 pck		Wooden sticks	9

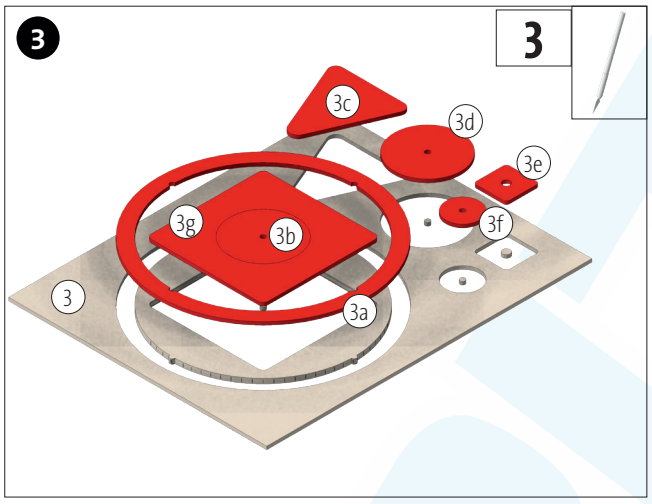
OPITEC



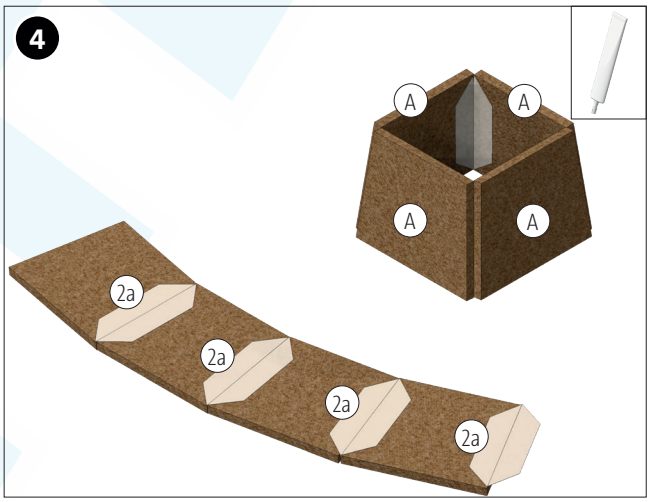
Carefully remove the pre-stamped parts (a-G) from the cork board (1).



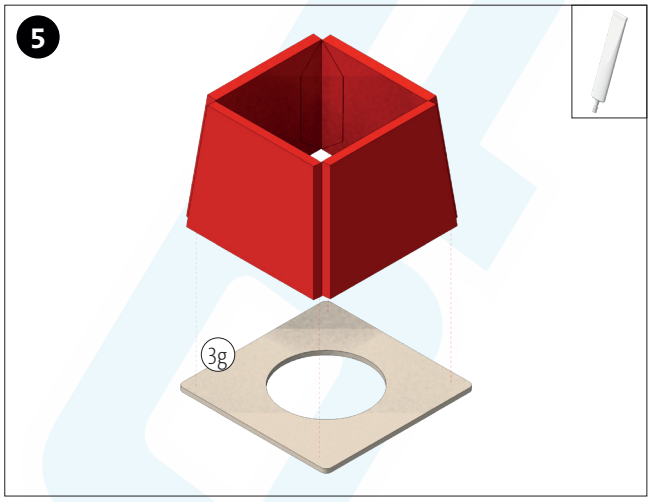
Cut out the cardboard connectors (2a+2b) and score the fold lines with the craft knife.



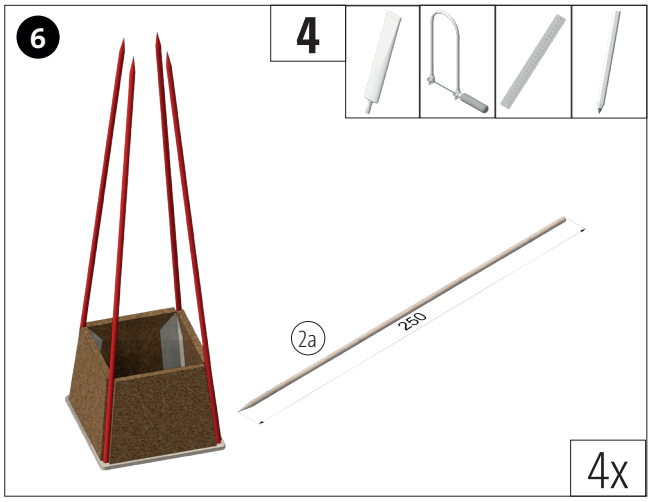
Remove the pre-stamped parts (3a-3f) from the cardboard sheet.



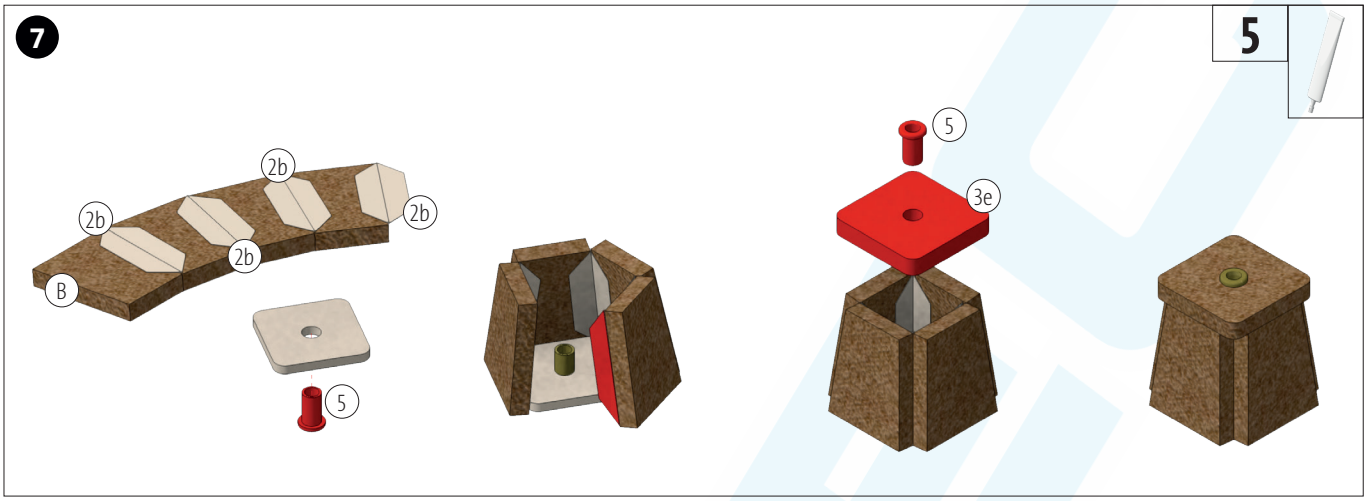
Glue the cardboard connectors (2a) to the cork base part (A) with the superglue. Connect them together as shown.



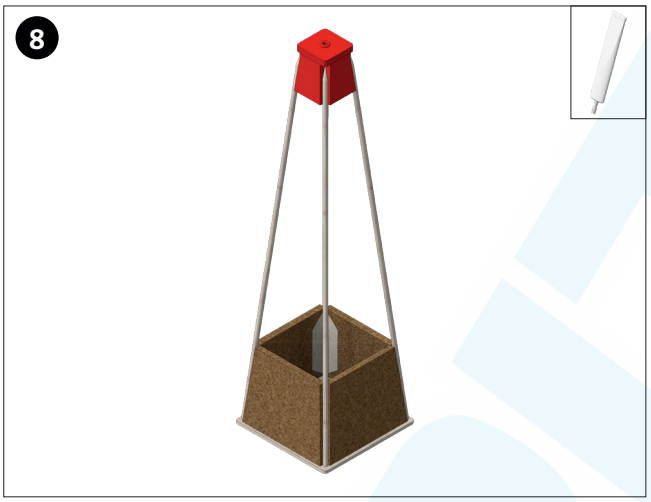
Glue the finished base centered on the cardboard part (3g).



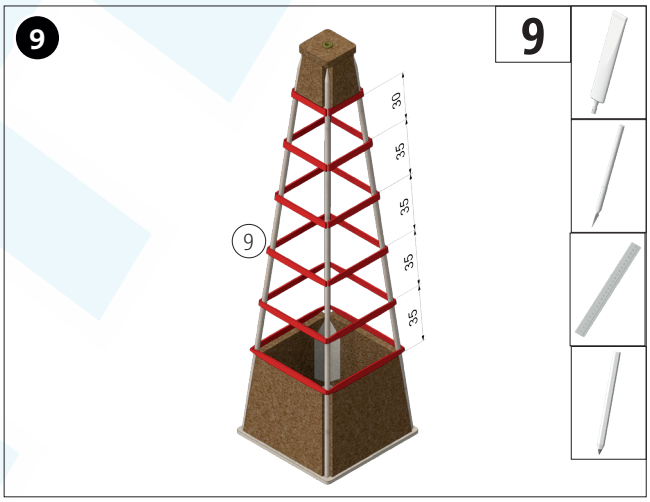
shorten 4 round rods (4) to a length of 250 mm. Then glue into the corners of the base as shown using the all-purpose adhesive provided.
Note: Round bar tip points upwards



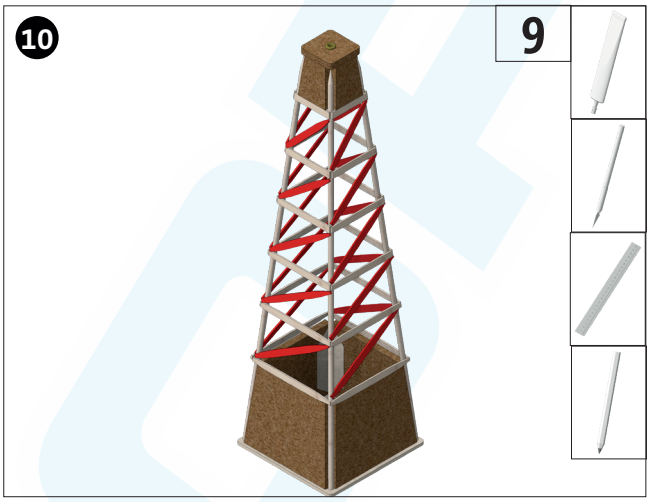
Glue the cardboard connectors (2b) to the cork parts (B) with glue as shown. Glue a metal eyelet (5) into the cardboard part (3e), glue the cork walls around the cardboard part (3e) and join them together. To finish, insert a metal eyelet (5) into the cork part (C) from above and glue in the centre.



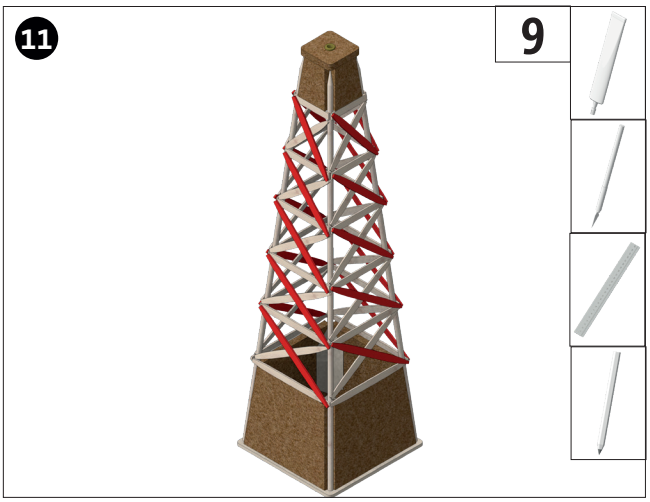
Glue the finished tower top between the round bars as shown. n.



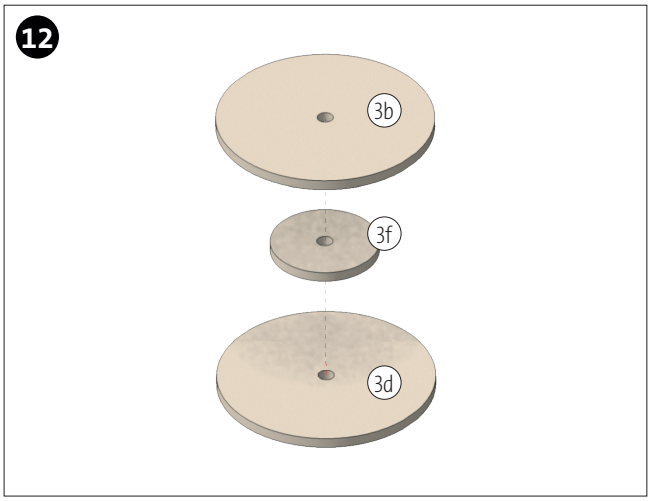
Glue the craft sticks (9) horizontally to the rods according to the dimensions shown. **Note:** Measure and cut lengths in stages.



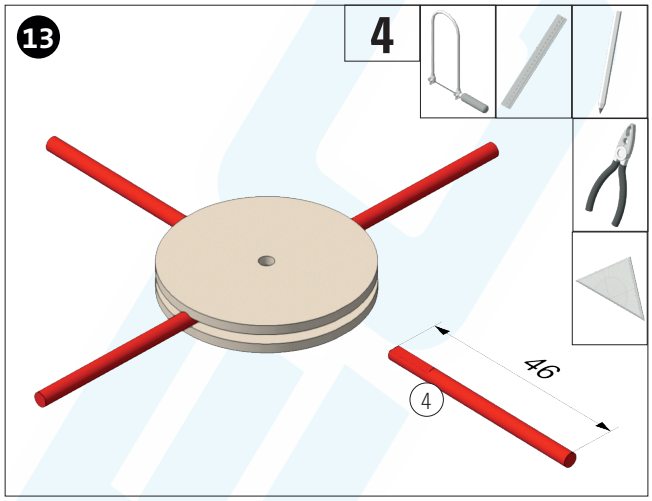
Then glue diagonal sticks between the horizontal sticks as shown above.
NOTE: Measure and cut lengths in stages.



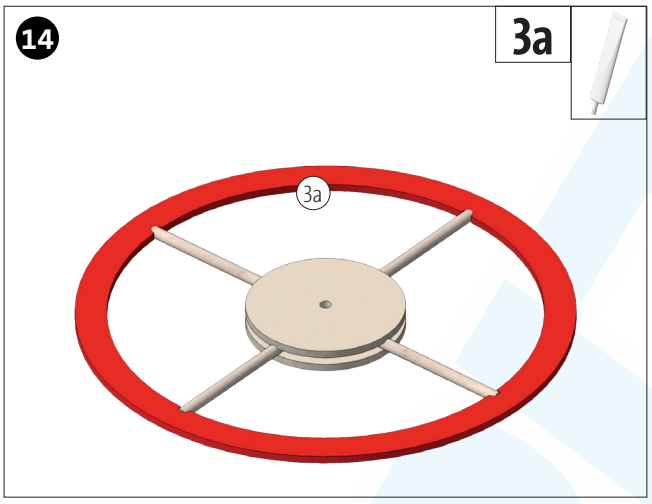
To finish the truss, glue on further craft timbers (9) rotated by 90°.
NOTE: Measure and cut lengths in stages.



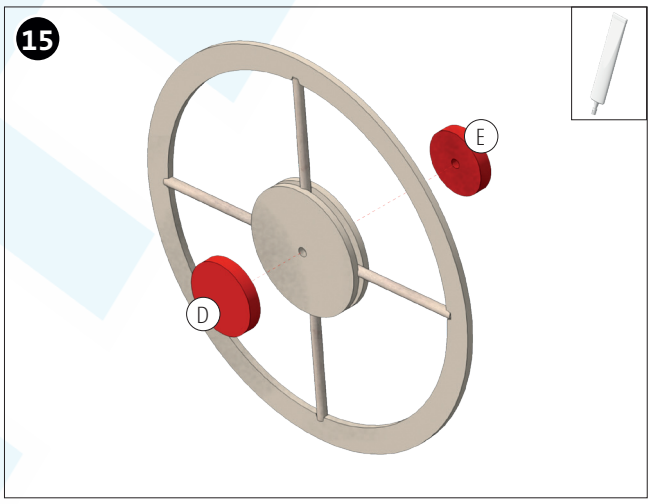
Glue the three cardboard discs (3b, 3d and 3f) on top of each other as shown, so that the holes are exactly aligned.



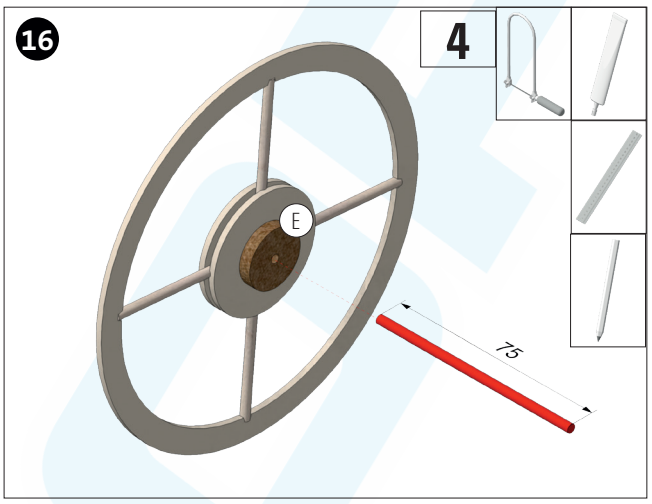
Cut four pieces of equal length (46 mm) from a round bar (4) and clean the saw cuts. Use pliers to flatten the ends of the round bars before inserting them between the discs. Then glue flush to the intermediate disc, offset by 90° as shown.



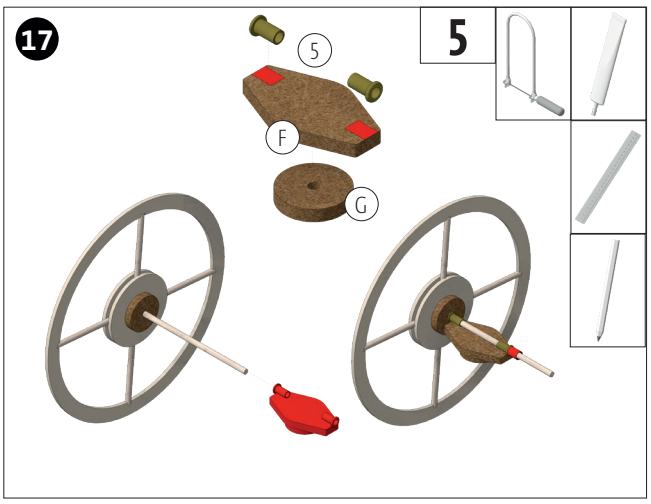
Glue the discs with the rods in the cardboard part (3a) in the recesses provided.



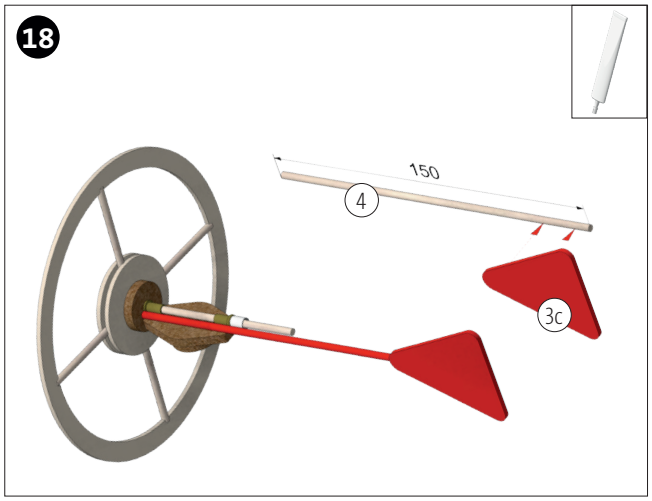
Glue the two cork discs (D+E) centered on the wheel from both sides.



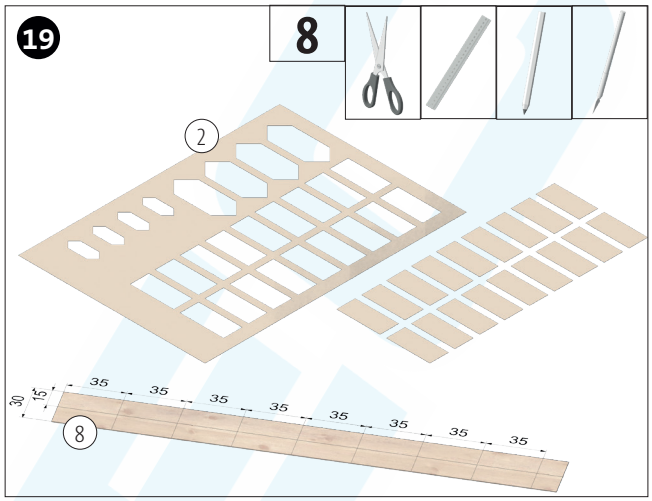
Cut a piece (75 mm) to length from a round bar (4). Clean the saw cuts and then glue them into the hole in the cork disc (E).



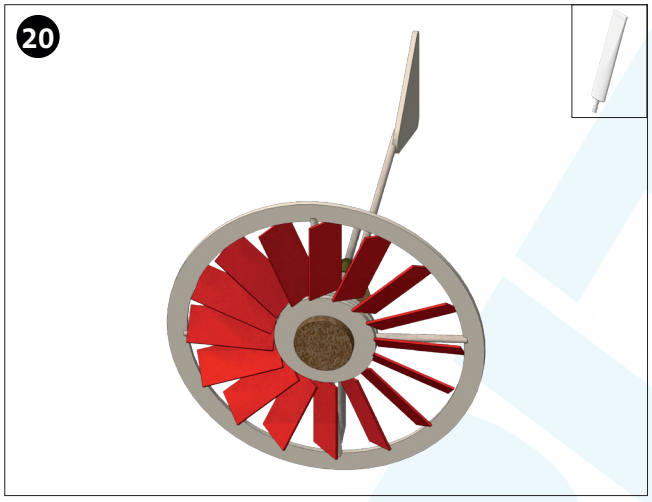
glue 2 metal eyelets (5) onto the cork part (F). Then glue on the cork disc (G), centred from below. Attach the finished bracket to the round rod as shown. To fix the wind turbine axle, glue a strip of paper approx. 5 mm wide and 60-80 mm long around the end of the axle.



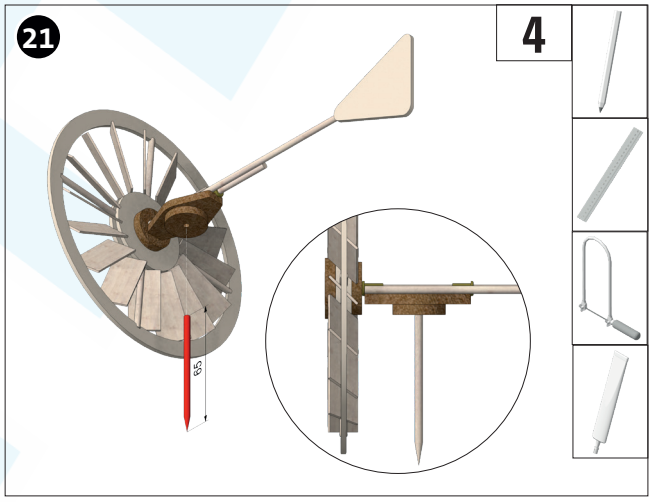
Cut a 150mm long piece of round rod (4) to length and glue it to the centre of the wind blade (3c) as shown. Place the rod with the wind blade on the wind turbine holder with adhesive.



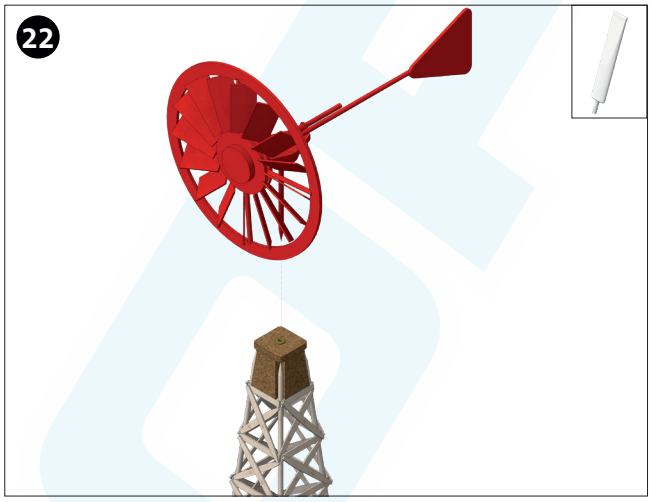
Cut out the wings from the cardboard template (2) or transfer the dimensions to the wood veneer (8). Then carefully cut out the veneer with a craft knife.



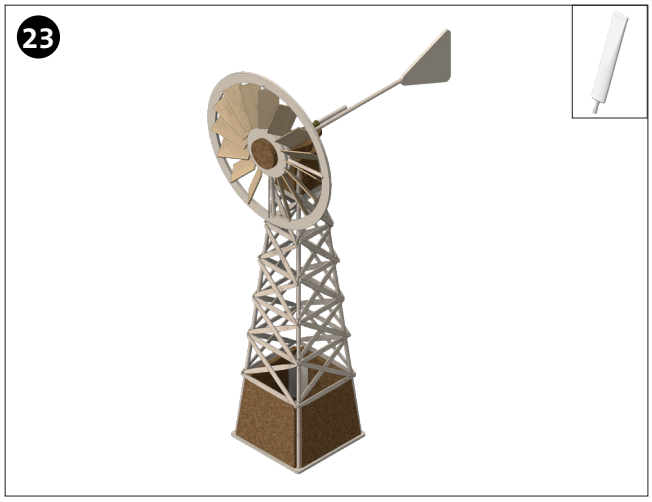
Glue 16 blades (depending on the version) into the wind wheel as shown.



Finally, glue a 65 mm long piece of round rod (4) into the hole in the cork part (G) from below, as shown.



Insert the finished wind turbine into the upper part of the tower as shown.



Done!