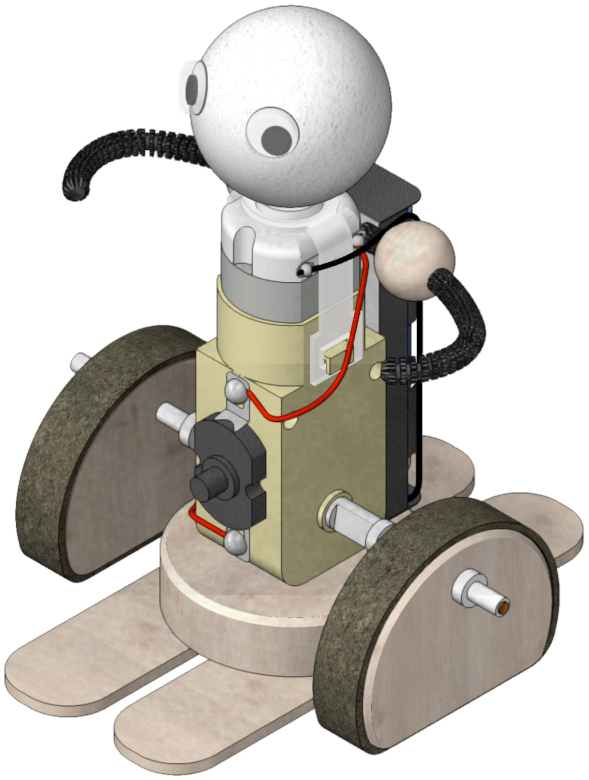
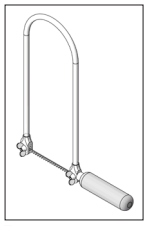
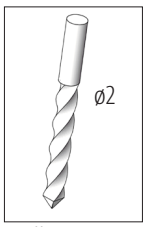
# 122.913

# Opitec-Hopper

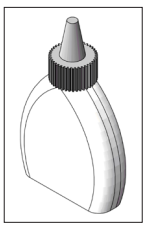


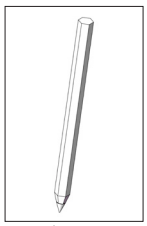
**Required tools:**

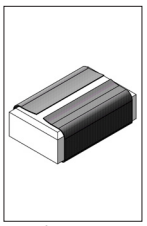

Fretsaw or scroll saw

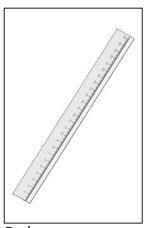


Drill

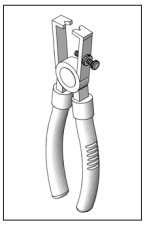

Wood glue


Pencil

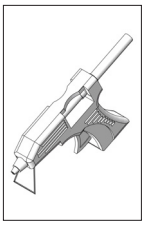

Sandpaper

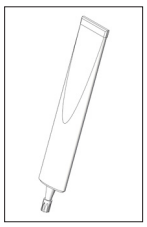

Ruler


Side cutter

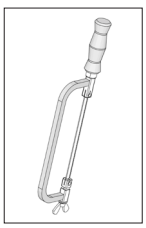

Metal saw


Soldering iron


Hot glue gun


Superglue


Scissors


PUK Saw

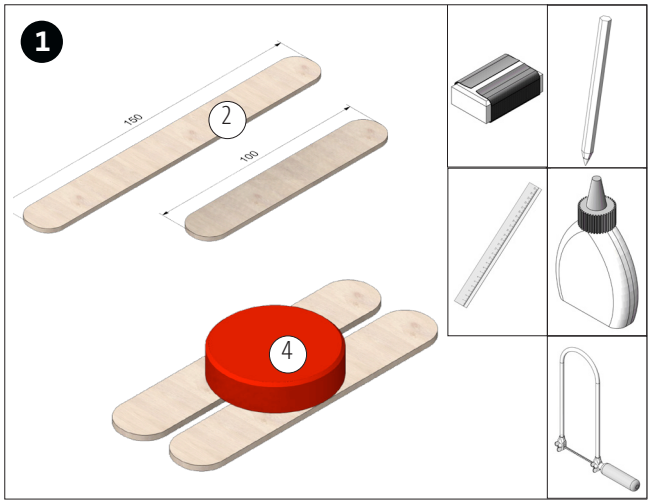
***Note***

After completion, the OPITEC work kits are not articles with toy character of a generally commercial kind, but teaching and learning aids to support educational work. This kit may only be built and operated by children and young people under the guidance and supervision of competent adults. Not suitable for children under 36 months. Danger of suffocation!

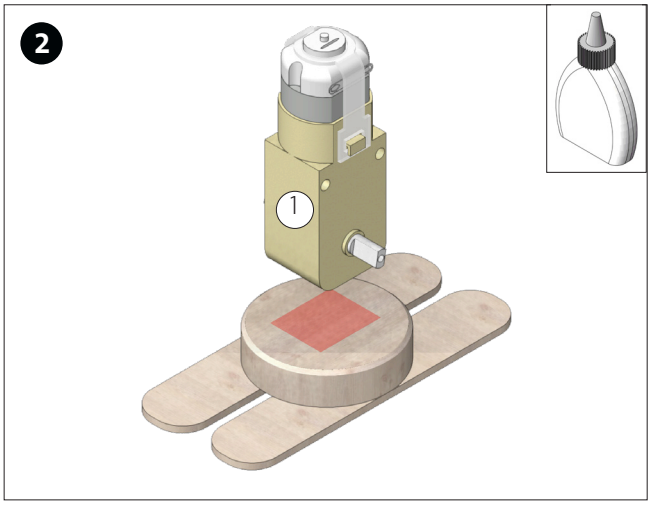
| Parts list | Number of pieces | Dimensions (mm) | Description | Part no. |
|---|---|---|---|---|
| Gear motor | 1 | | Drive | 1 |
| Wooden spatula | 2 | 150x18x2 | Feet | 2 |
| Styrofoam ball | 1 | ø30 | Head | 3 |
| Wooden wheel | 3 | ø40 | Side wheels | 4 |
| Foam rubber | 1 | 992x956x2 | Wheel profile | 5 |
| Welding rod | 1 | ø2x100 | Wheel axles | 6 |
| Reducer | 4 | 3/2 | Fastening axle wheel | 7 |
| lexible plush | 1 | approx. 8x500 | Arms | 8 |
| Wooden ball | 2 | ø12/4 | Arms | 9 |
| Pressure switch | 1 | | Switch | 10 |
| Battery Holder | 1 | | battery | 11 |
| Wiggly eyes | 2 | | Eyes | 12 |



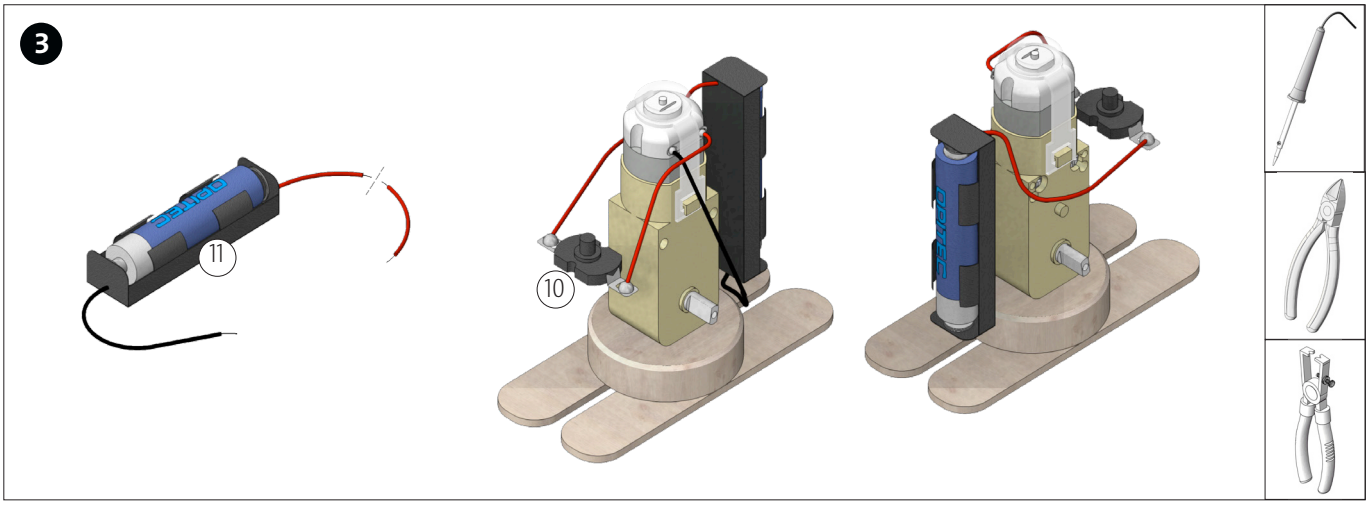
OPITEC



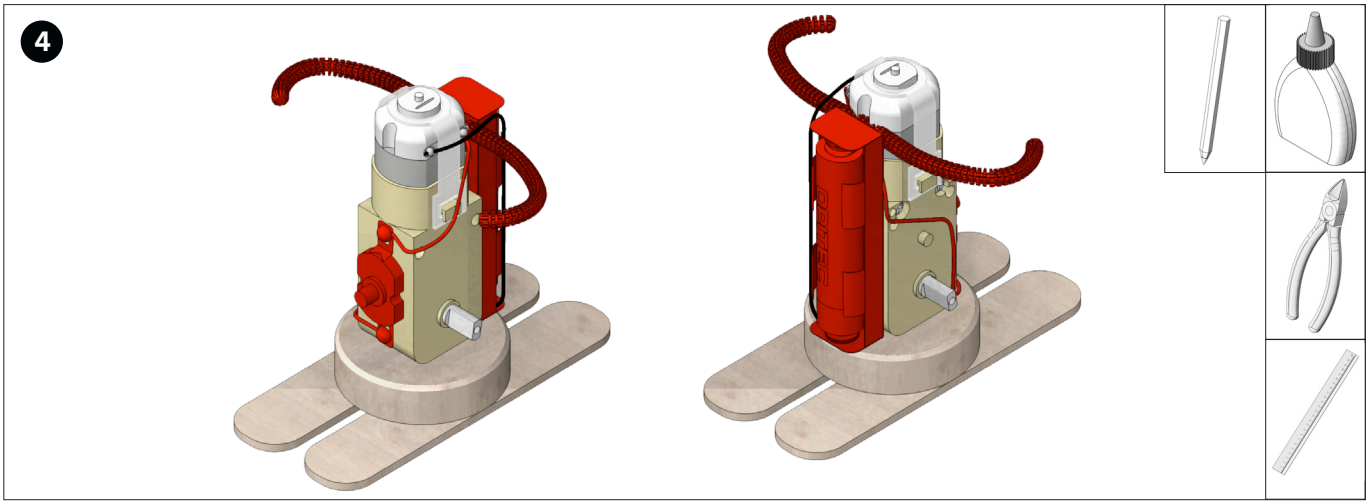

Shorten the two wooden spatulas (2) to 100 and round off the saw cuts. Then glue the wooden wheel (4), centered on the two wooden spatulas, as shown.



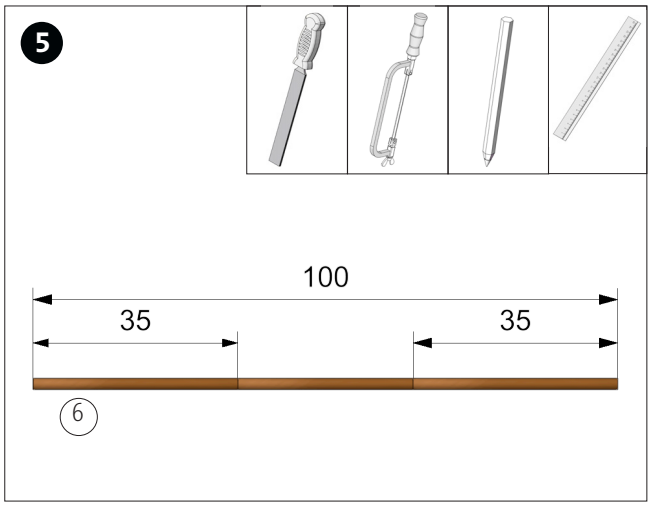

Glue the geared motor (1) centered on the wooden wheel (4). Let the glue dry well.



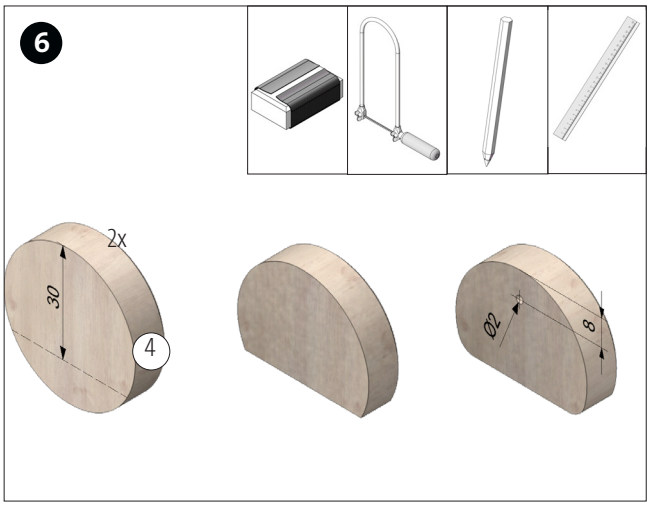

Cut the red wire from the battery holder (11) in half and strip all ends. Solder the red wire from the battery holder to a switch terminal (10) as shown. Solder the red piece of wire to the other switch connector and to the right transmission connector. Connect the black cable from the battery holder to the left transmission connector. Check function!



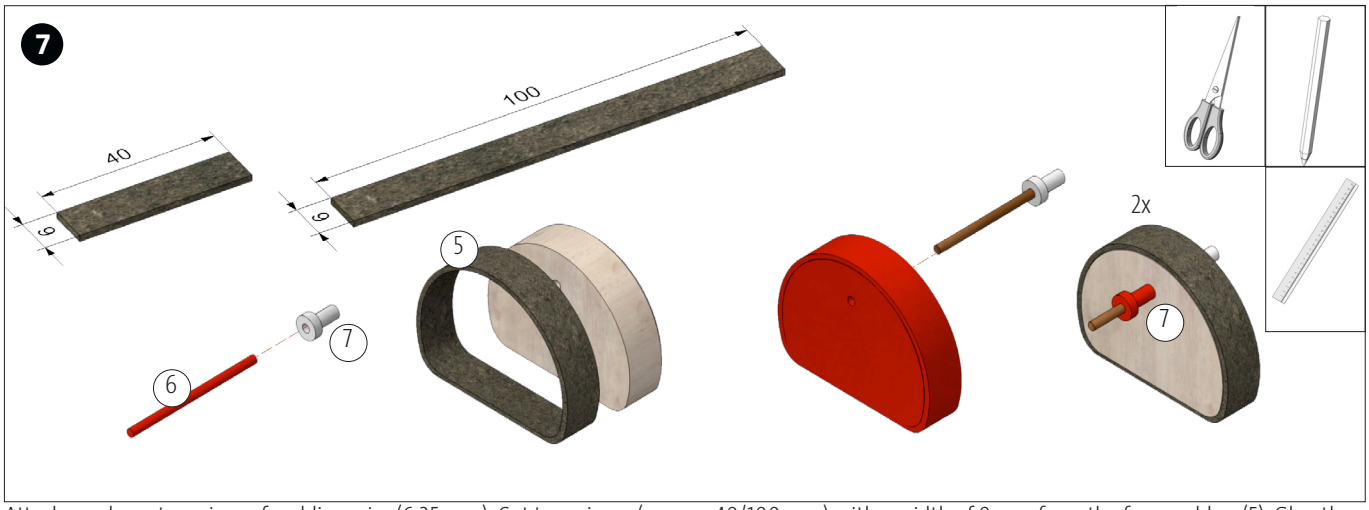

Cut the red wire from the battery holder (11) in half and strip all ends. Solder the red wire from the battery holder to a switch terminal (10) as shown. Solder the red piece of wire to the other switch connector and to the right transmission connector. Connect the black cable from the battery holder to the left transmission connector.



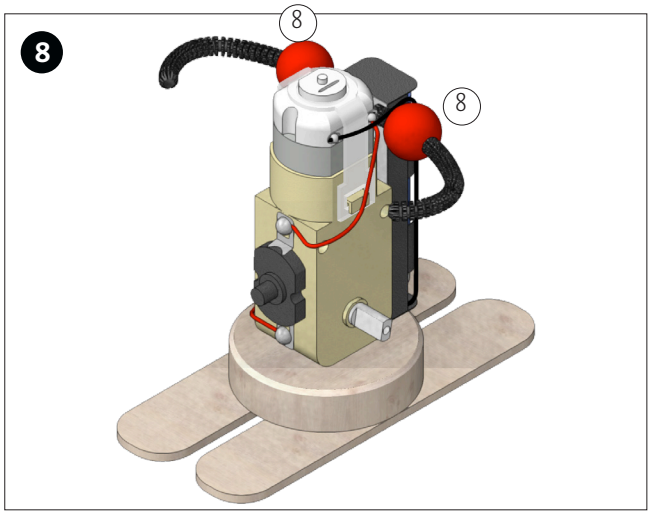

Cut two pieces of 35 mm each from the welding wire (6) and deburr the saw cuts.



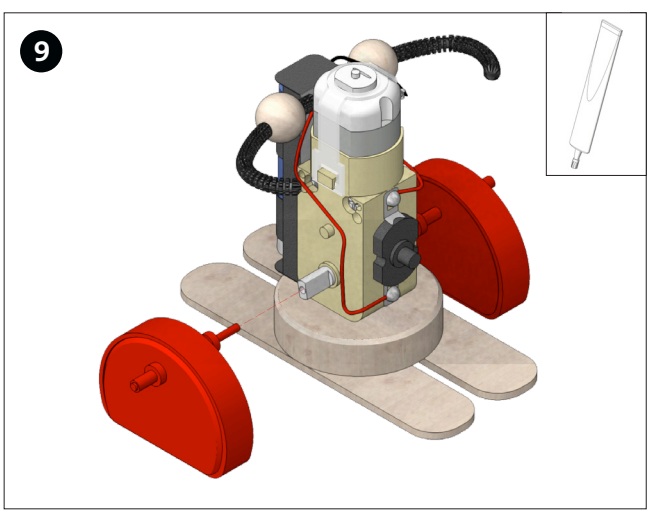

Saw off the two wooden wheels (4) as shown. Mark and drill a ø 2 mm hole. Then round off the bottom corners slightly.



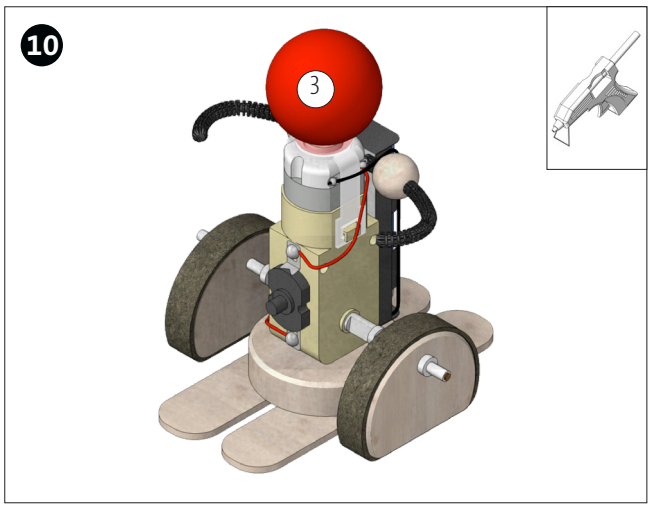

Attach a reducer to a piece of welding wire (6-35 mm). Cut two pieces (approx. 40/100 mm) with a width of 9 mm from the foam rubber (5). Glue the foam rubber pieces around the cut wheel as shown. Then insert the welding wire with the reducer through the hole. Fix on the opposite side with another reducer (7). Assemble the second wheel in the same way.



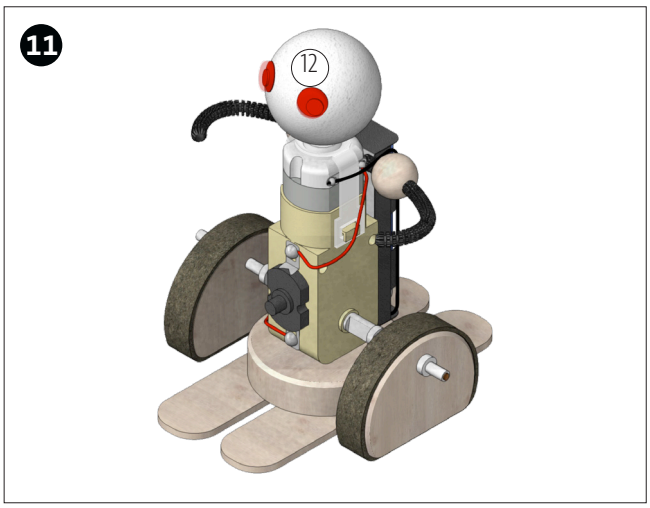

Push a wooden ball (8) onto each arm from both sides.



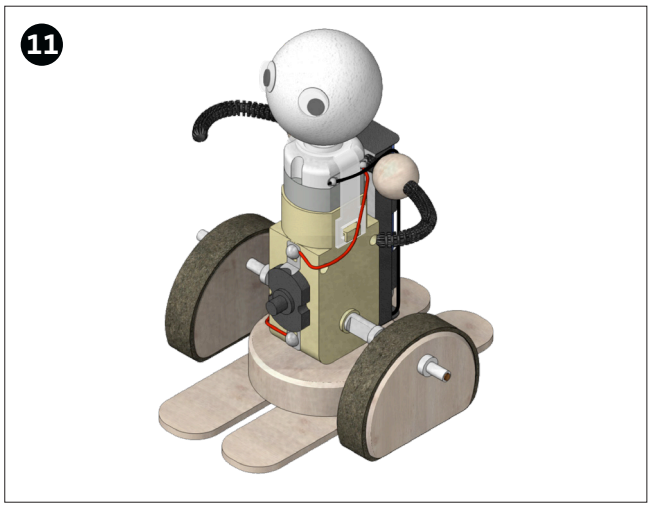

Insert the axle of the two wheels into the bores of the gear axles as shown and fix with superglue.




Glue the head (3) to the gear motor with hot glue.




Glue the wobbly eyes (12) to the front of the head (3).




Finished!