# Experiment 2 – Make a motor turn

## Construction task

Build the model Direct current motor with change of direction without the plug-in gearbox. This allows us to see the worm gear of the motor.

## Topic task

Connect the motor to the battery holder:



Motor

Battery holder

## Experimental task

1. Switch the current on using the switch. What happens?
2. Try to brake the silver *worm gear* of the motor using your fingers. Feel how powerful the motor is.
3. Push the switch on the battery holder in the other direction. The motor will keep running. What do you observe?
4. Now, connect the motor to the plug-in gearbox. We will leave out the snap-in adapter with the red flag. Ensure that the small toothed gear interlocks cleanly with the worm gear, to keep the motor from getting jammed. The plug-in toothed gear on the top also needs to be firmly snapped into place.   
   Now, let the motor turn. Try again (now on the last black axle) to brake the motor using your fingers. What do you observe?
5. Now, insert the rest of the parts with the red flag. You can easily see what happens when you push the slide switch in the other direction. What happens if you instead exchange the plugs on the battery holder or motor?
6. Compare the rotational speed of the red “flag” with the rotational speed of the motor observed in 1. and 2. What do you find?