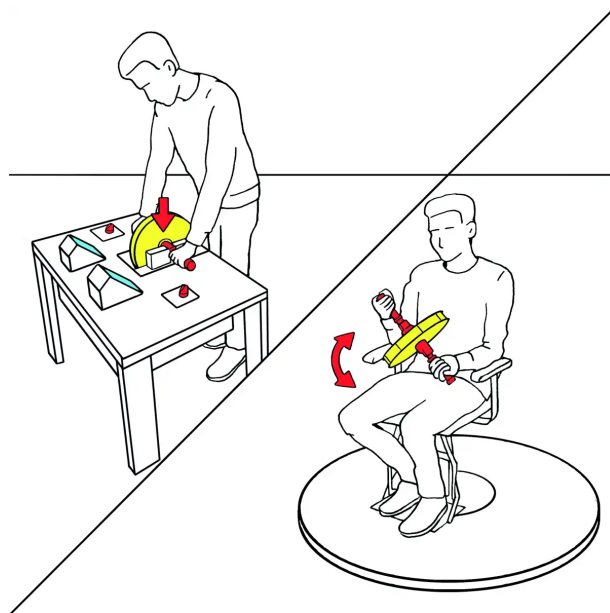


# Drehstuhl mit Kreisel

What happens when you sit with the rotating gyroscope on the swivel chair?



Use the two switches to set the same rotational direction for both discs of the gyroscope for your first attempt.

Press down on the double gyroscope sitting in its holder, in order to rotate it.

Take the double gyroscope out of its holder with both hands, sit down in the chair and tilt the double gyroscope to one side or the other.

Set opposite rotational directions and repeat the experiment.



Like any rotating solid, the gyroscope has a rotary motion, which is called angular momentum. It runs in the direction of the axis of rotation. Rotating solids resist a change in their angular momentum. When holding the rotating gyroscope in a horizontal position while sitting in the chair, together with the fast-moving gyroscope you have an angular momentum of zero – at least in relation to the axis of rotation of the chair. When tilting the gyroscope to the side, the axis of rotation of the chair and the gyroscope are parallel to each other. The angular momentum of the gyroscope must be balanced out by an opposing angular momentum – the chair rotates counter to the gyroscope's rotation.

If you set different rotational directions for the gyroscope, the effect disappears – the angular momenta of both gyroscopes, which have the same mass and the same rotational speed, cancel each other out.