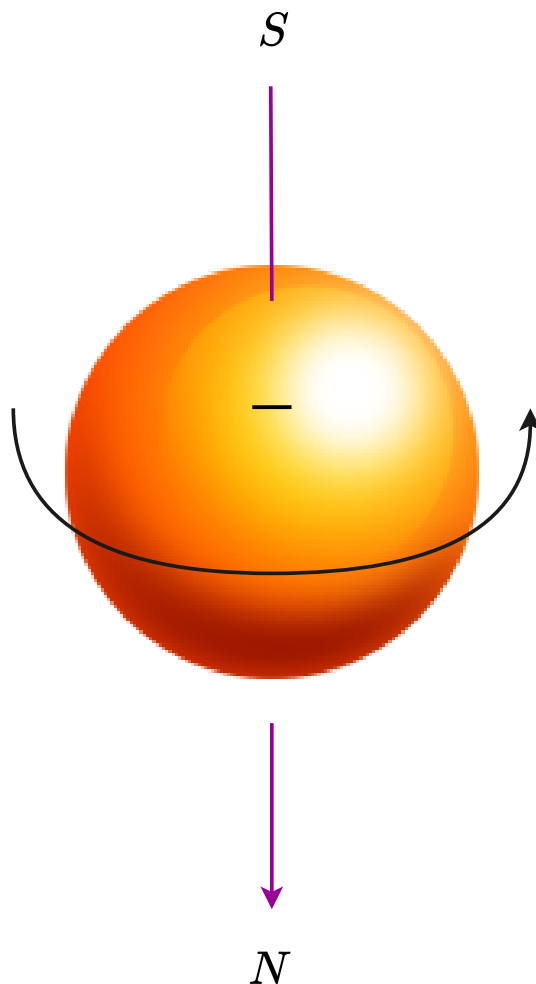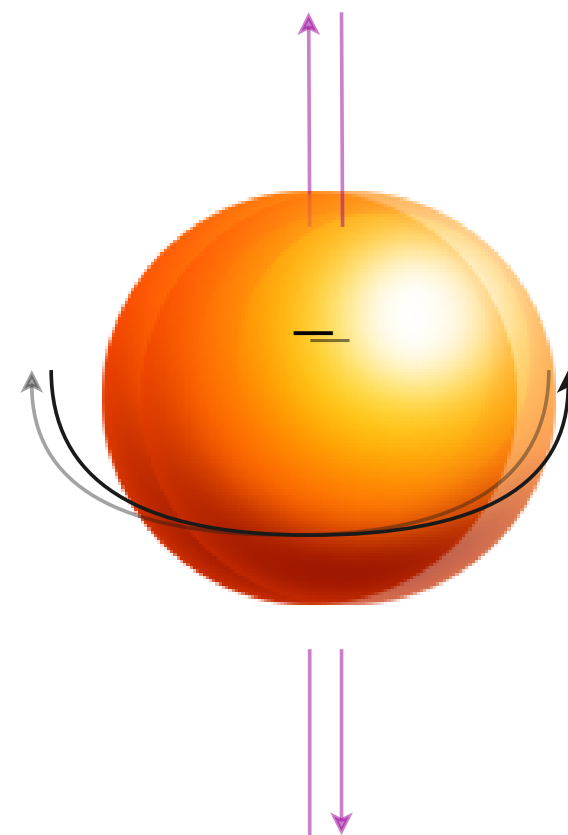Spin Up

$$|\psi\rangle = |0\rangle$$

Spin Down

$$|\psi\rangle = |0\rangle$$

Superposition

$$|\psi\rangle = a|0\rangle + b|1\rangle$$