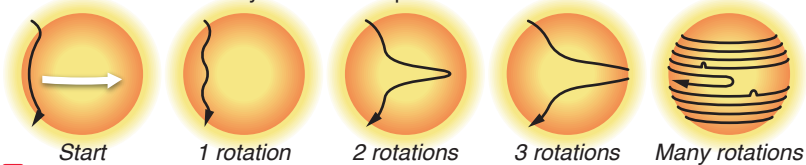


Sun's magnetic field set to flip upside down

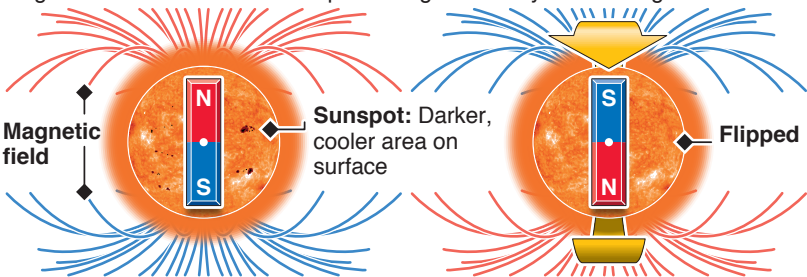
1 HOW SUN'S MAGNETIC FIELD WORKS

Magnetic field lines change as sun rotates, becoming progressively wrapped around it. Frenetic activity creates sunspots and solar flares



2 POLARITY REVERSAL

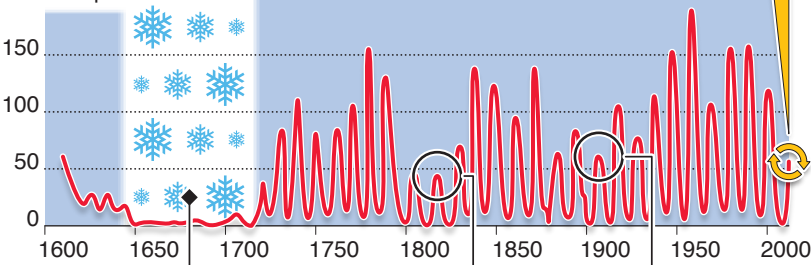
Sunspots grow in number until sun's tangled magnetic field flips polarity and magnetic field lines return to simpler configuration. Cycle starts again



3 TRACKING SUN CYCLES, 1610-2012

Sun's magnetic field flips approximately every 11 years

200 sunspots



1645-1715: Sunspots become very rare – period known as **Maunder Minimum**. Coincides with **Little Ice Age**, when Europe and North America experience bitterly cold winters

Gleissberg Cycle: Theory that 11-year cycle could be part of larger cycle that tapers every 100 years. One school of thought thinks we are due another Maunder Minimum-type event