

GUIÓN

Electrización por contacto e indución

A gaiola de Faraday

A magnetita (e outras pedras que conteñen mineral de ferro) atraída por un imán.

Materialización das liñas de inducción magnética con limaduras de ferro.

Campo magnético dunha corrente eléctrica rectilínea. Experiencia de Oesrted.

Campo magnético dunha corrente circular; os seus polos norte e sur; disminución de \vec{B} coa distancia.

O timbre eléctrico

Permeabilidade magnética do medio.

Forza magnética exercida por un campo magnético sobre cargas eléctricas en movemento.

Forza exercida por un campo magnético sobre una corrente eléctrica.

Experiencias de Faraday/Henry.

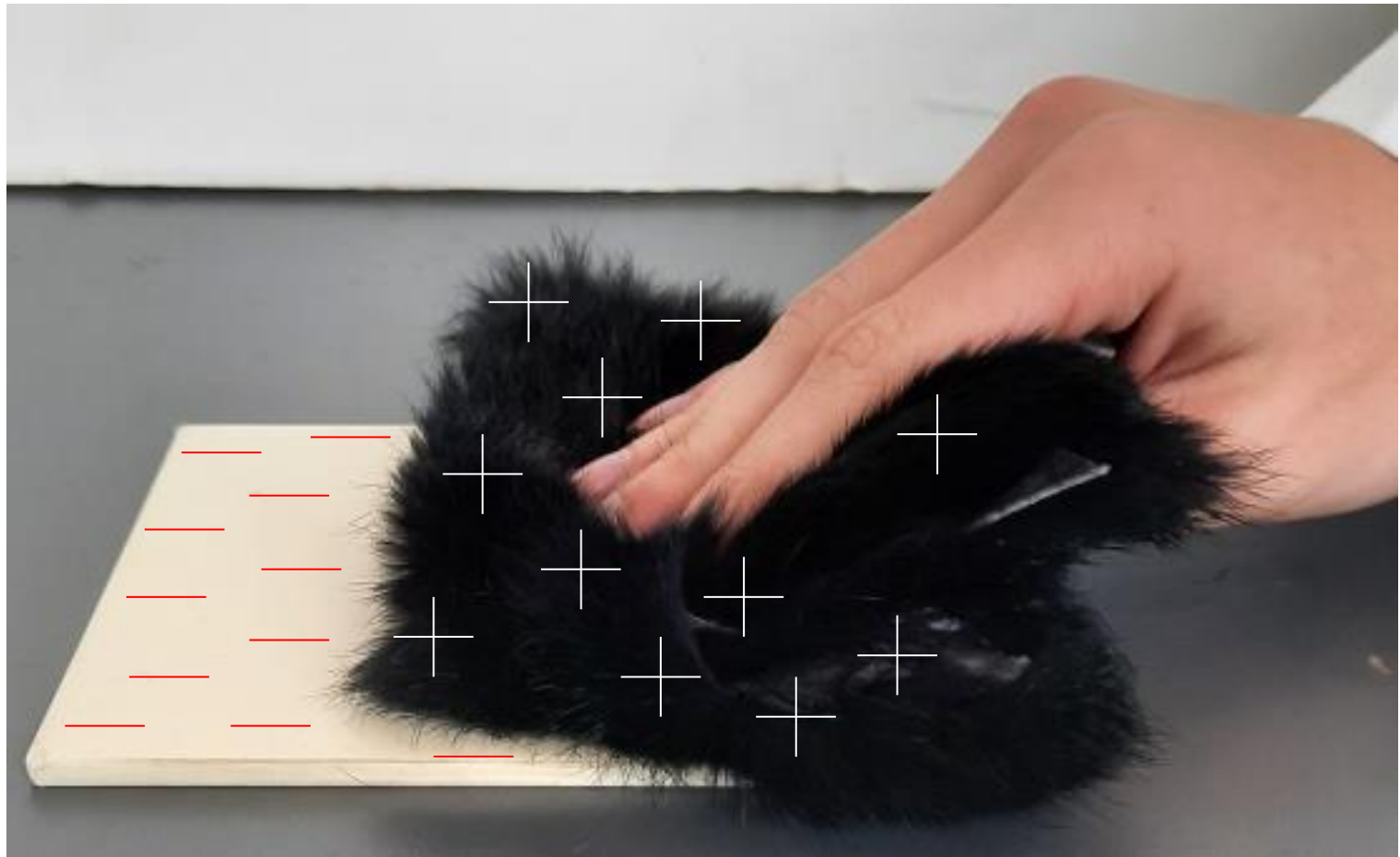
Comprobación da ley de Lenz.

Autoindución.

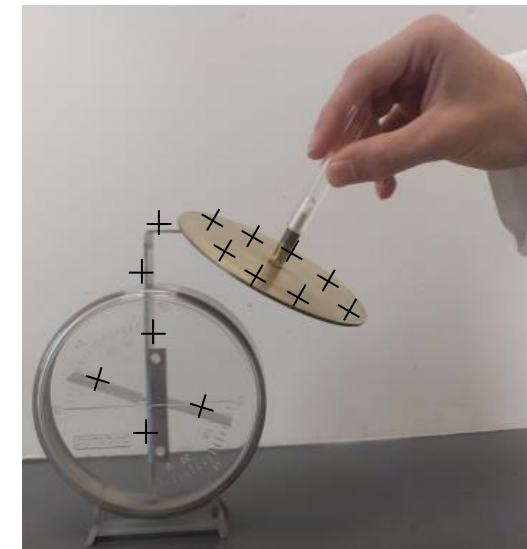
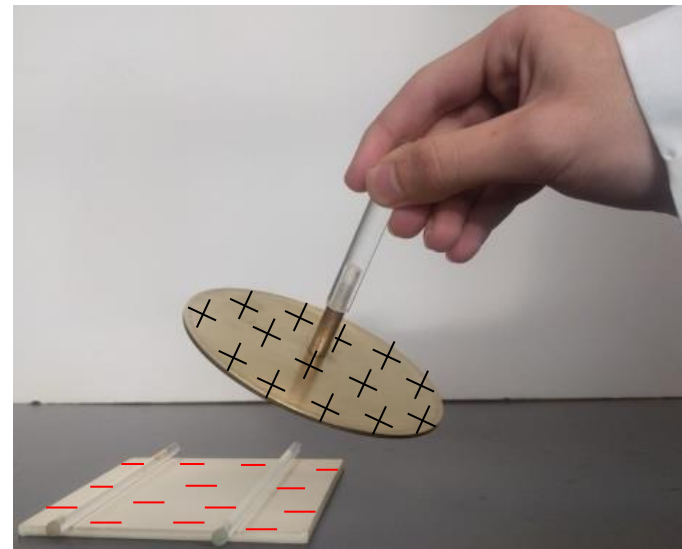
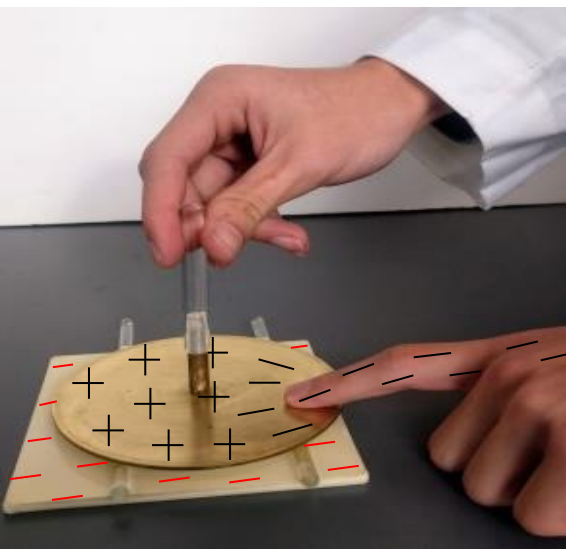
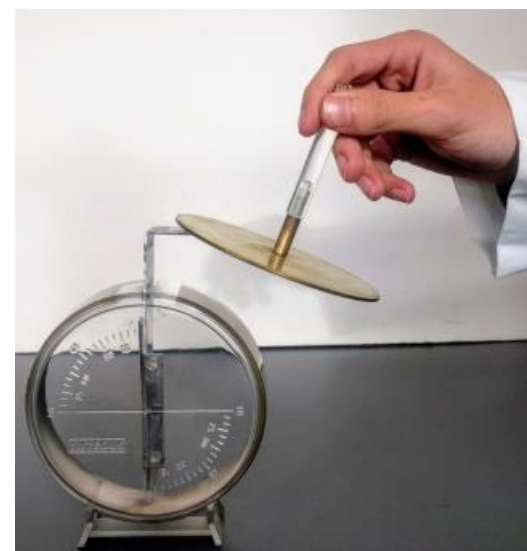
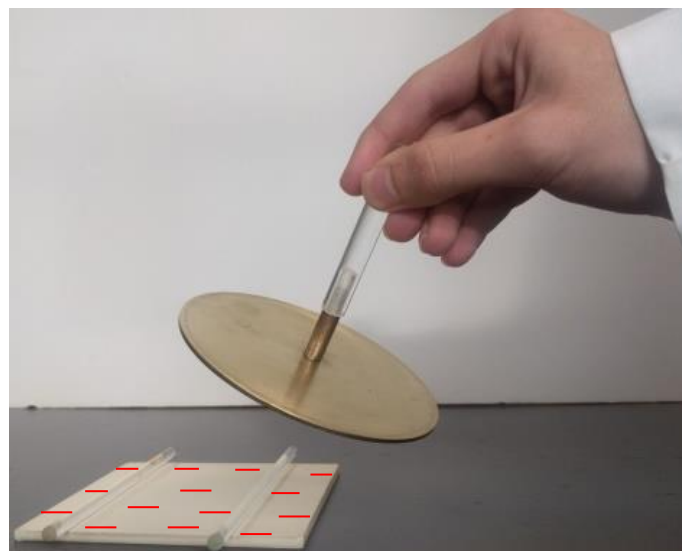
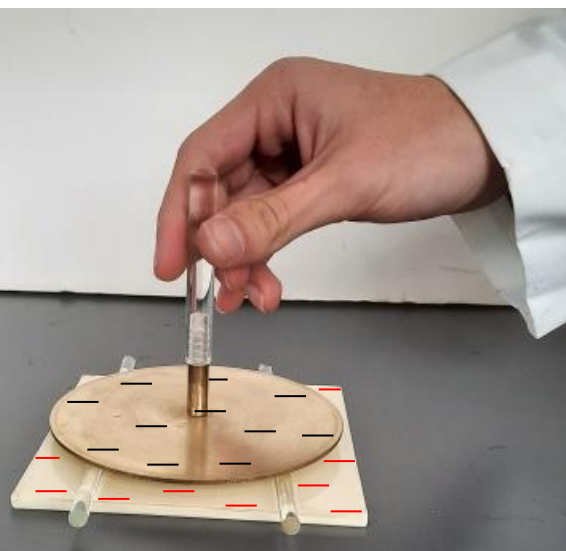
Visualización da tensión eléctrica nun osciloscopio.

A corrente alterna varía en valor e en sentido.

El generador eléctrico como motor eléctrico.



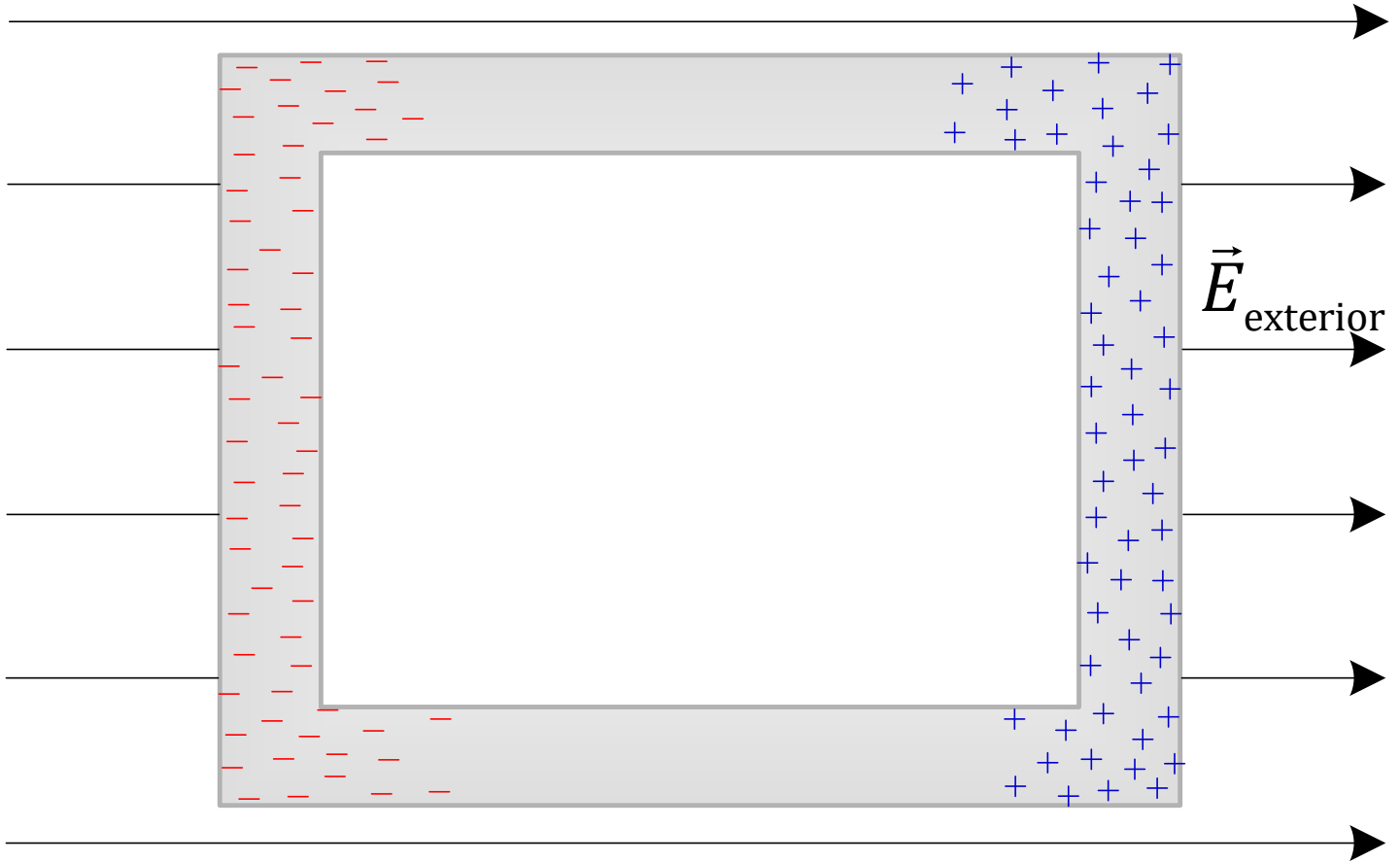
Carga por contacto



Carga por inducción



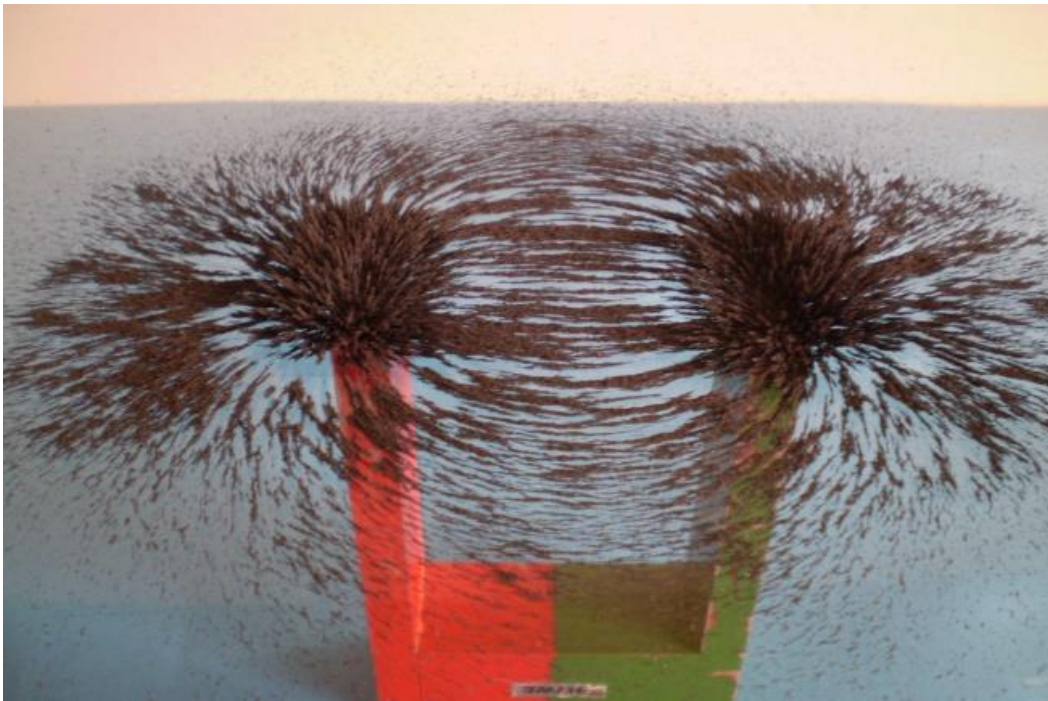
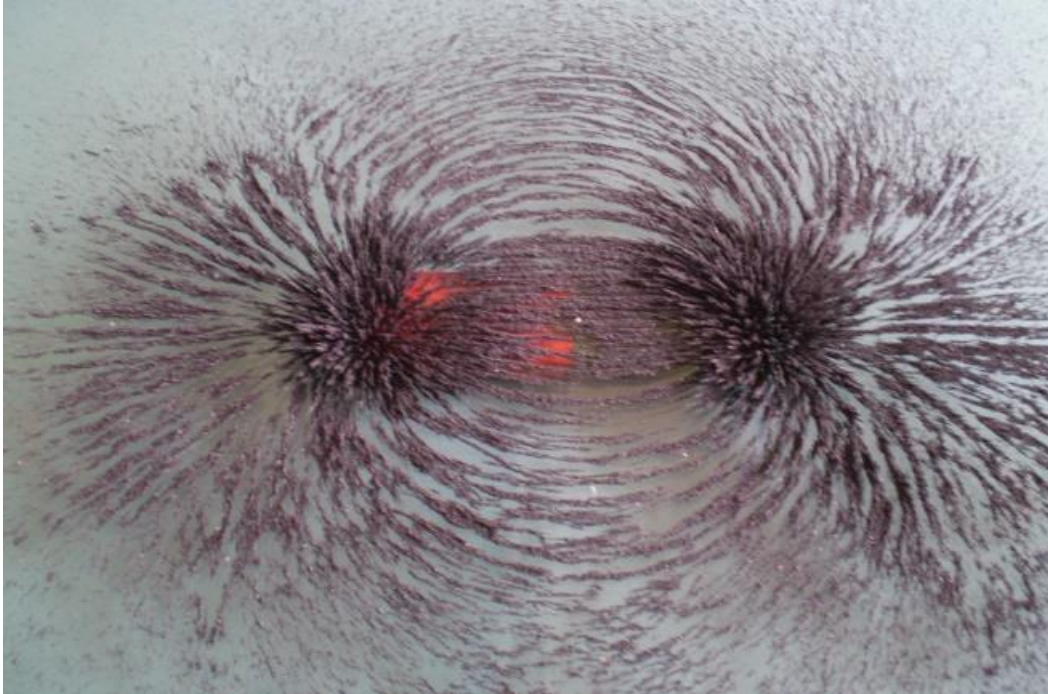
A gaiola de Faraday



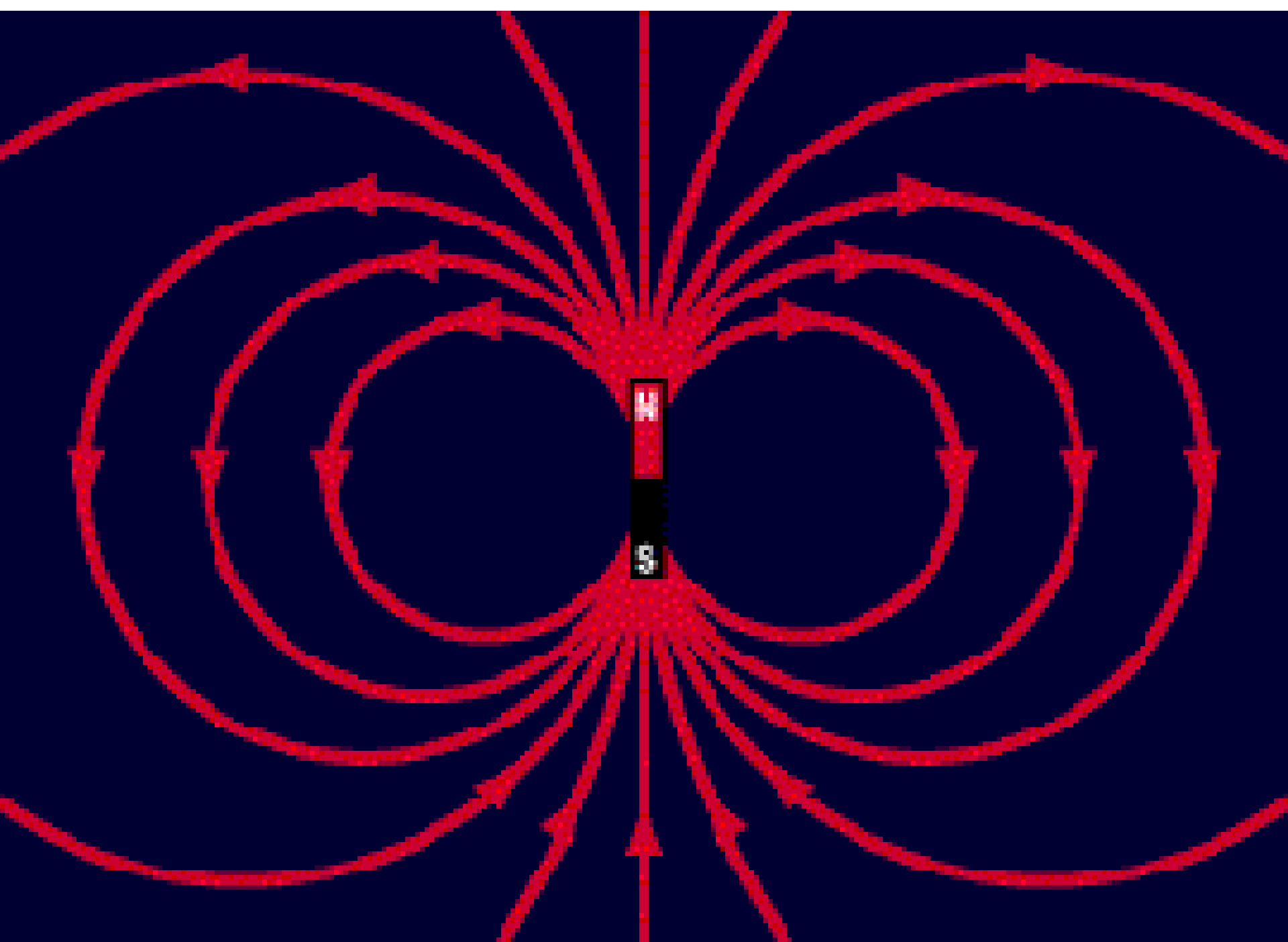


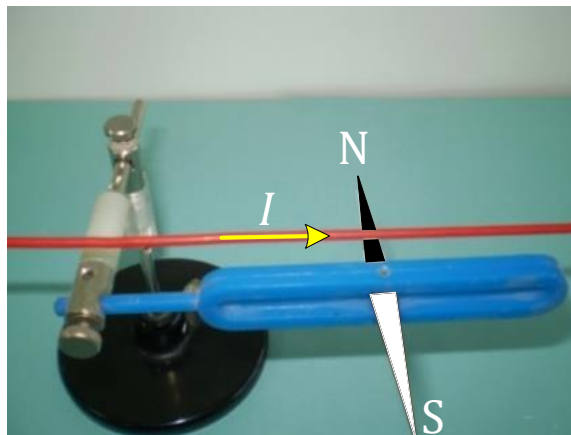
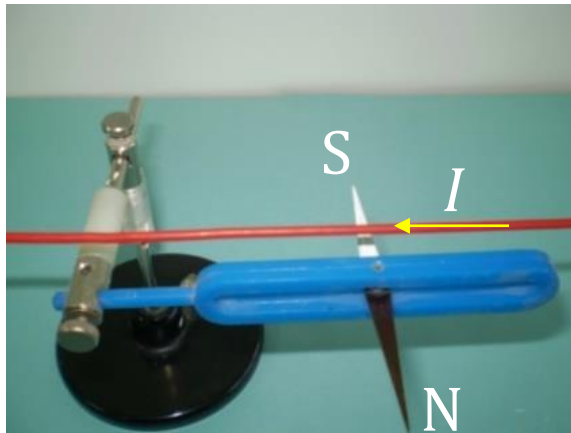
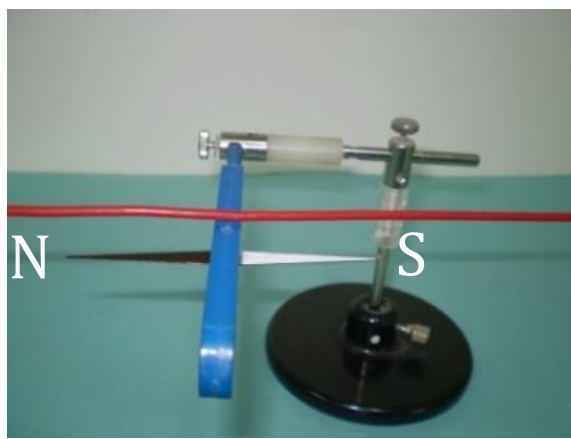


Magnetita



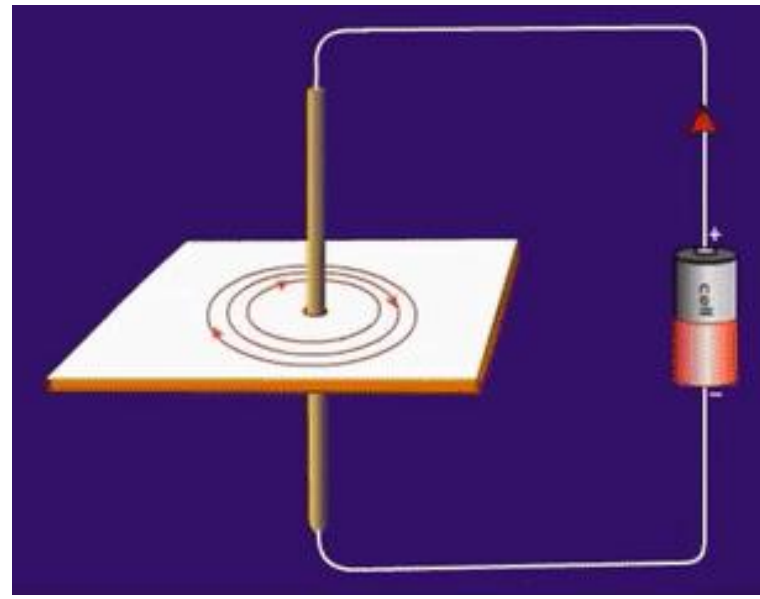
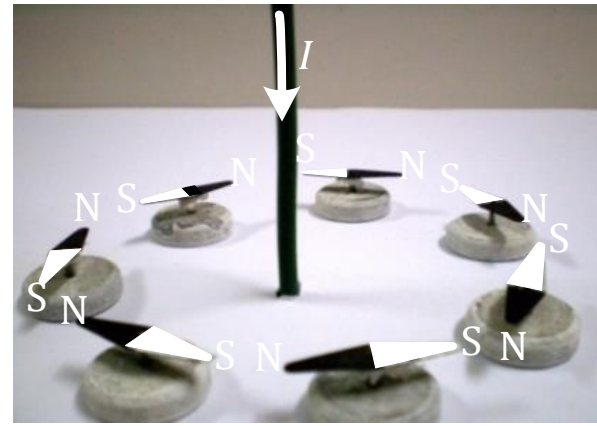
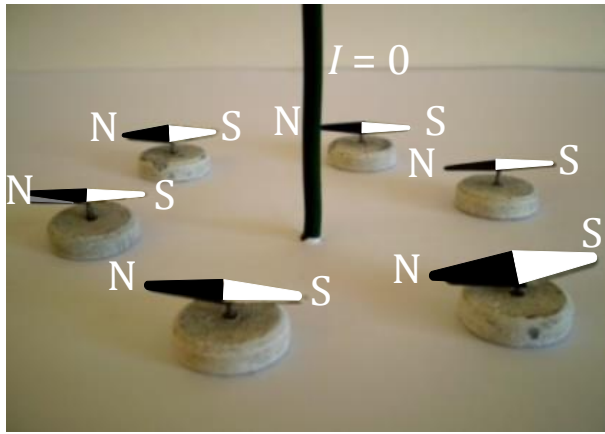
Liñas de campo
magnético



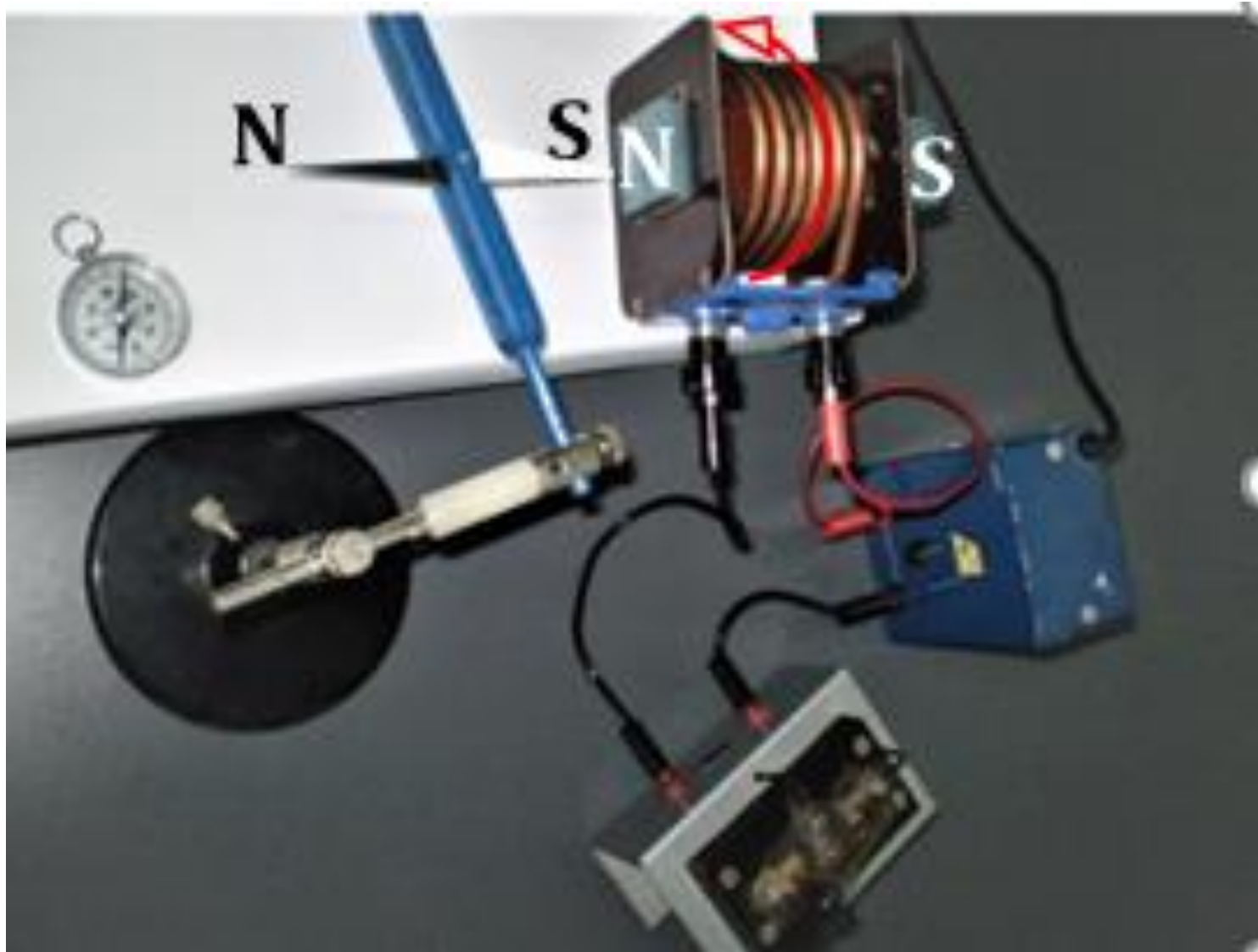


Experiencia de Oersted

As liñas de indución do campo magnético dunha corrente rectilínea son circunferencias concéntricas co condutor

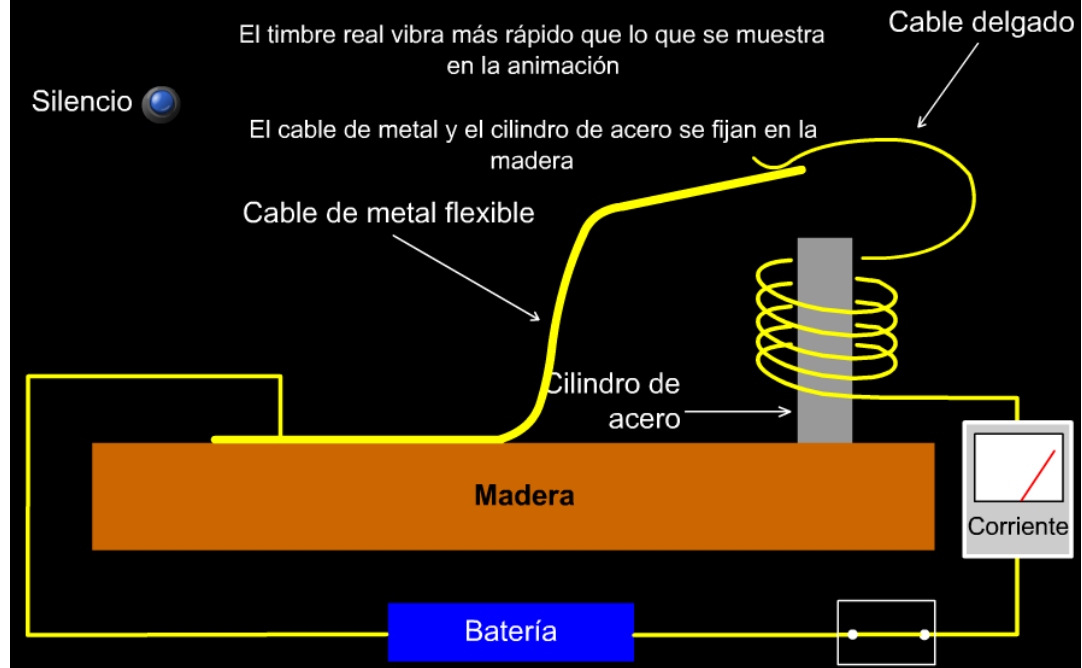


Campo magnético creado por unha corrente circular

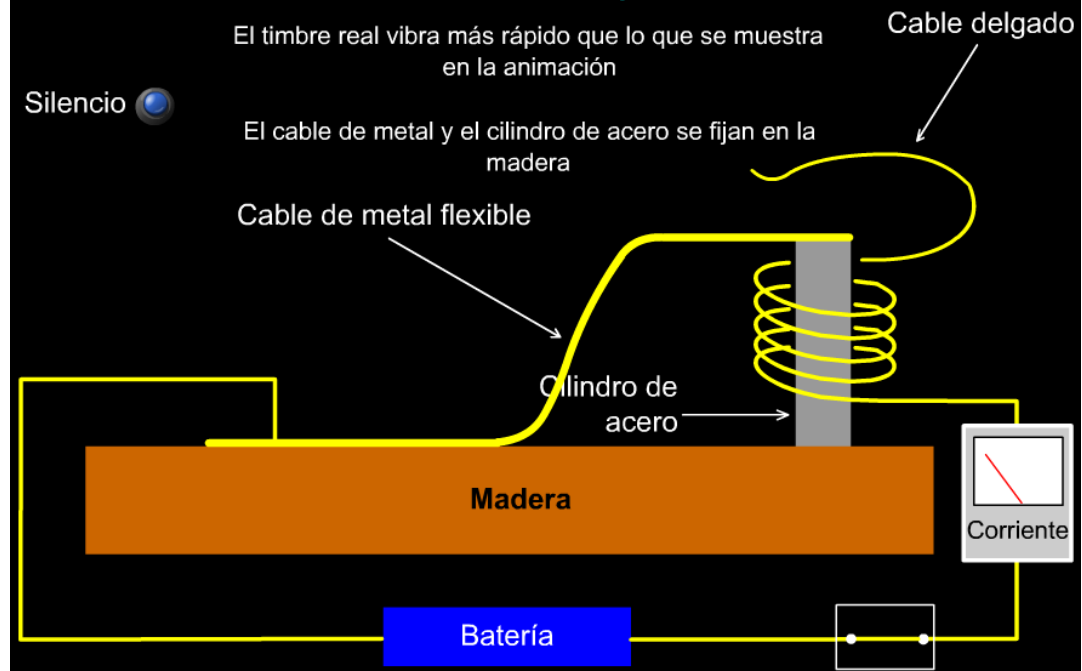


O timbre eléctrico

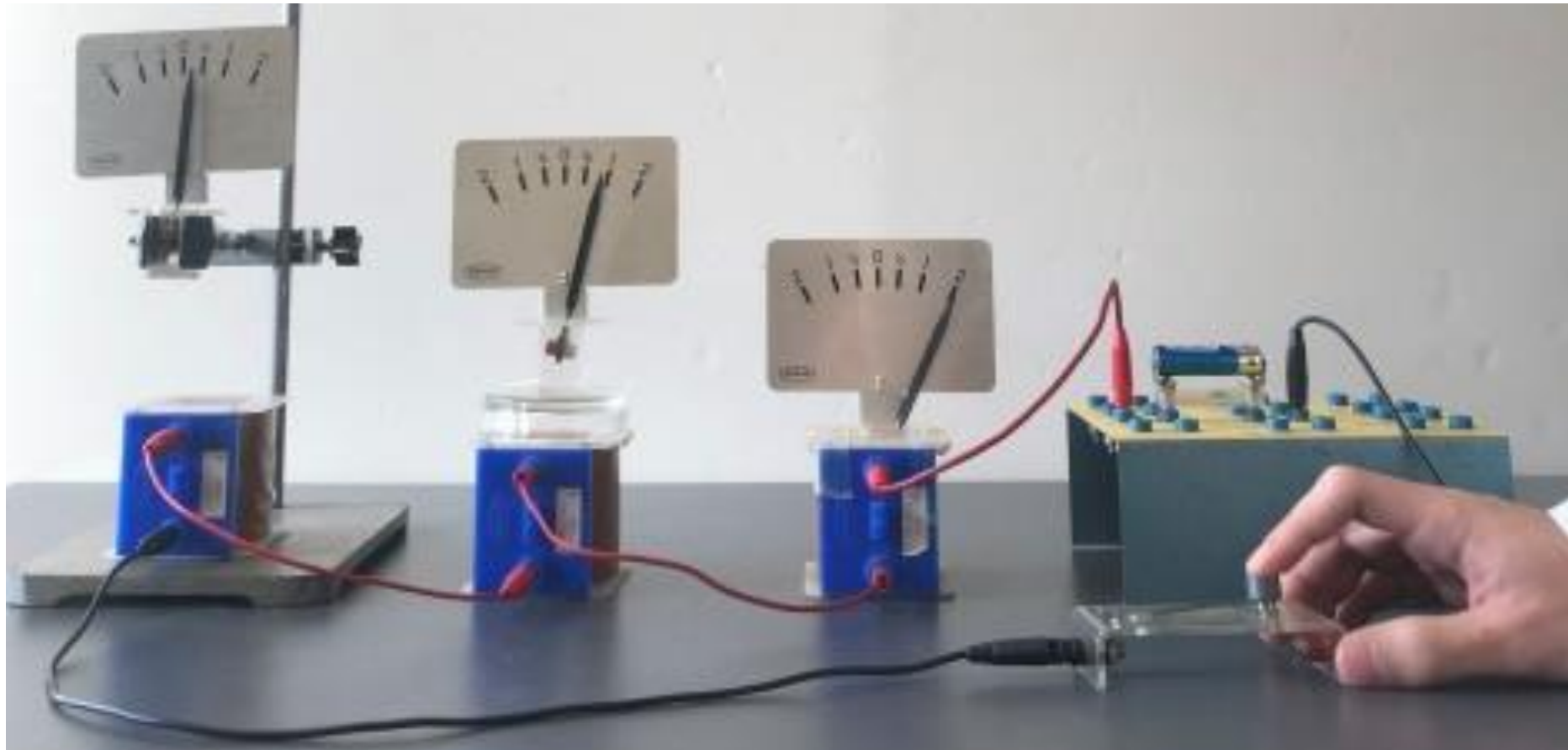
Un timbre simple



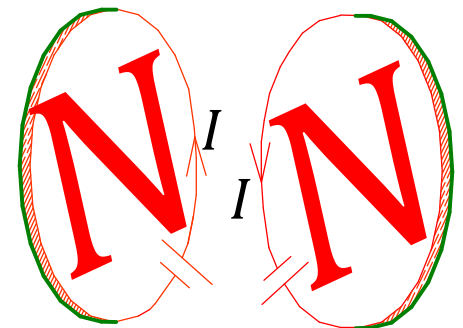
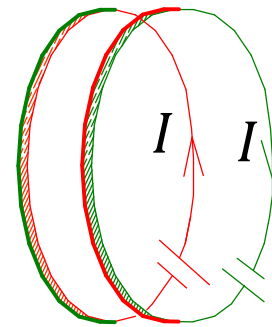
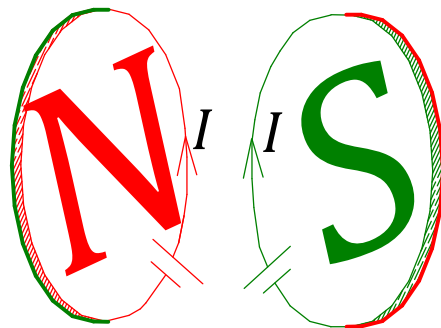
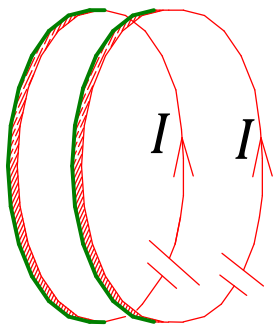
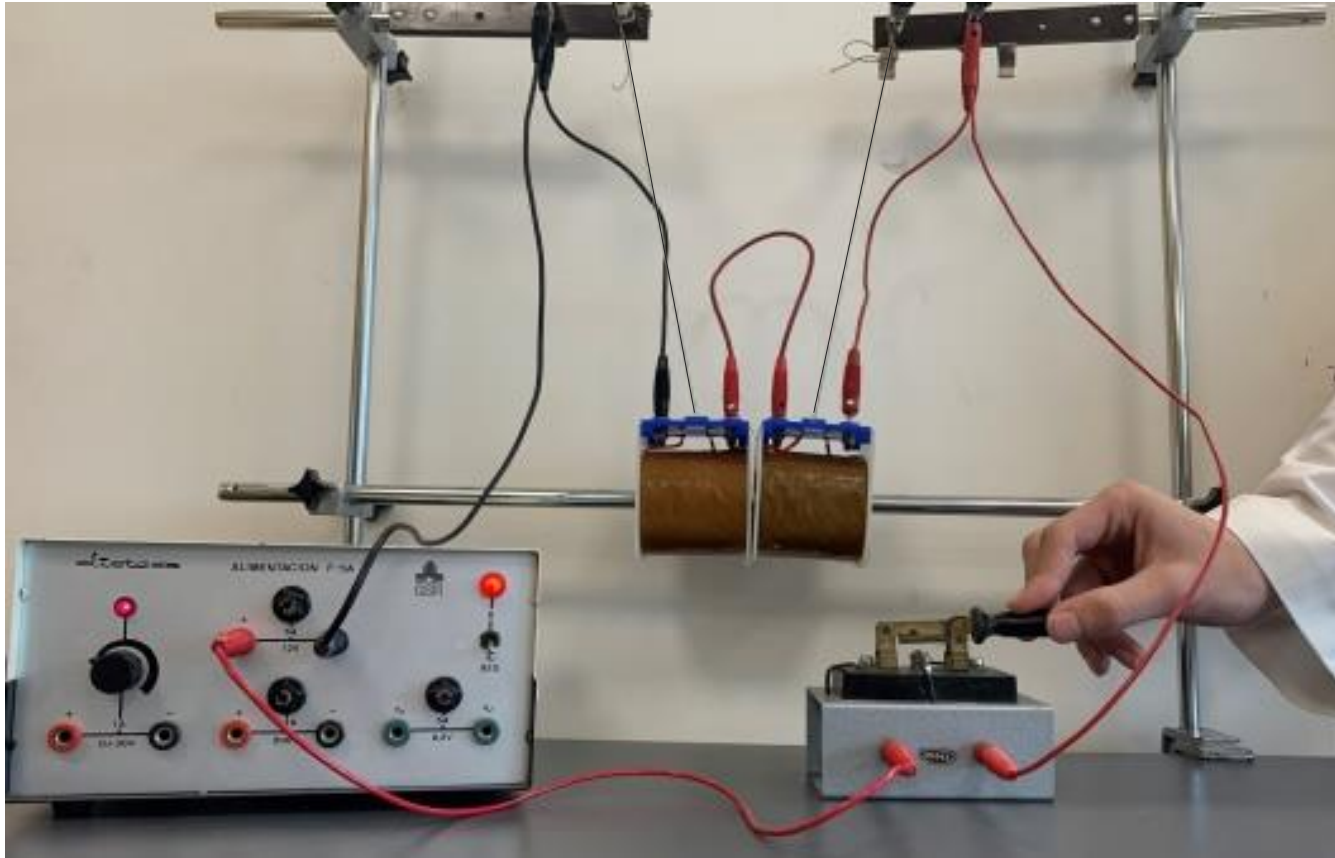
Un timbre simple



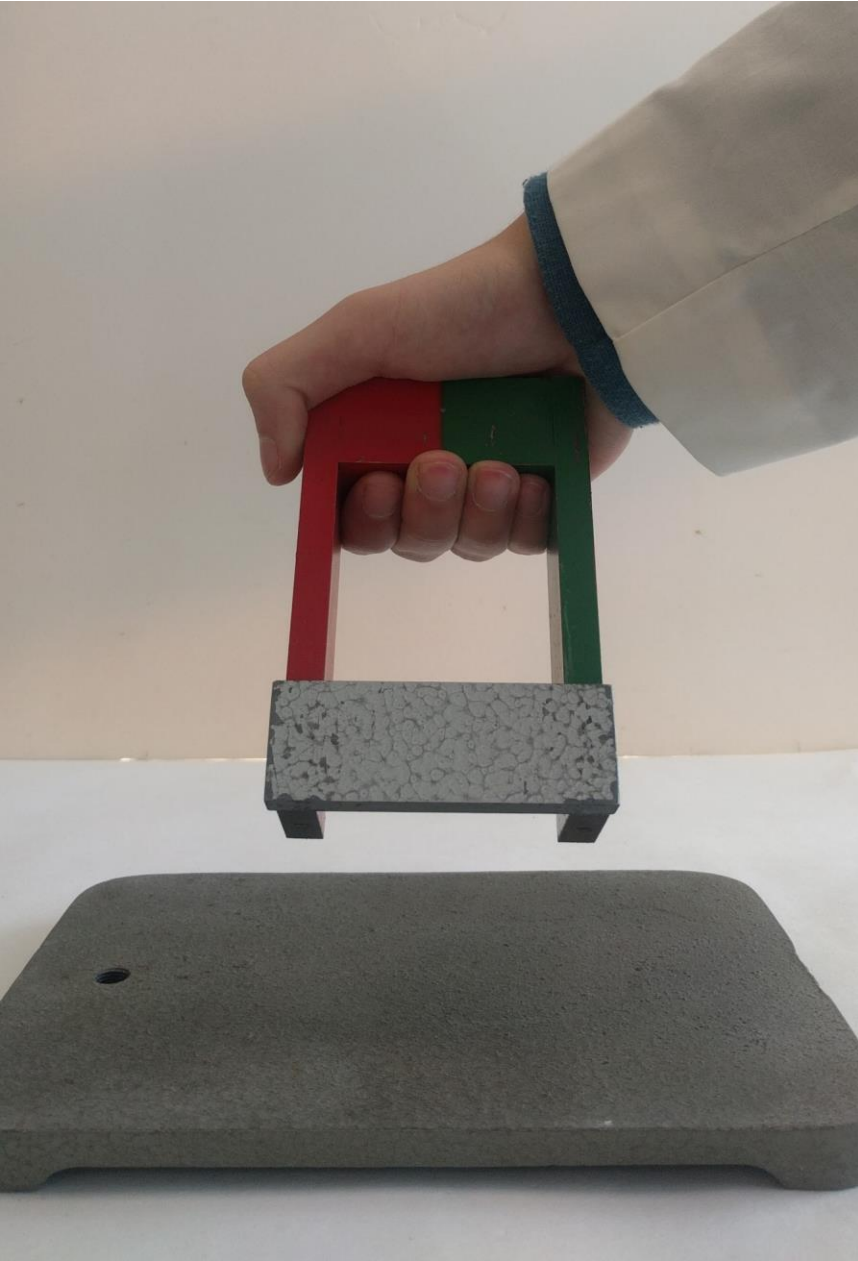
A intensidade de campo magnético diminúe coa distancia á espira

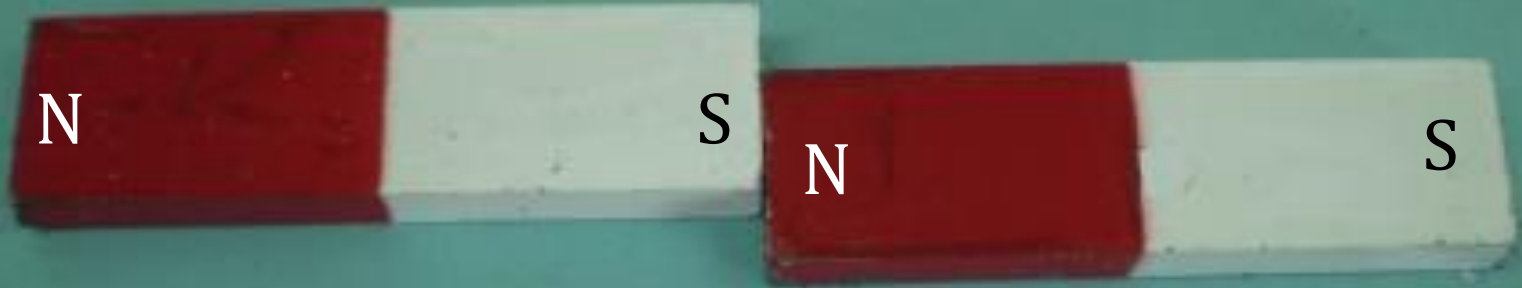


Os polos norte e sur dunha espira perocorrida por una corrente

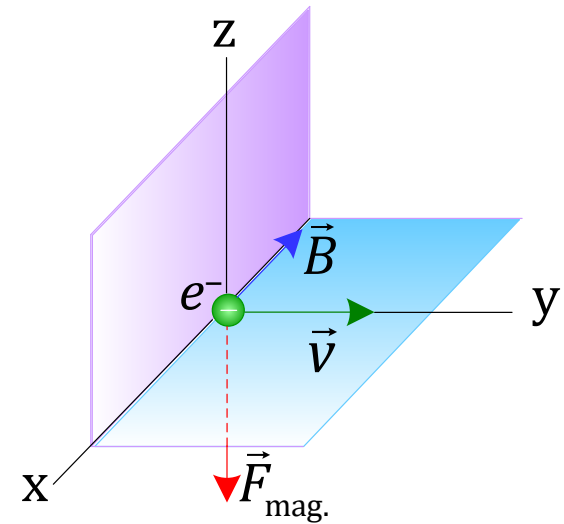
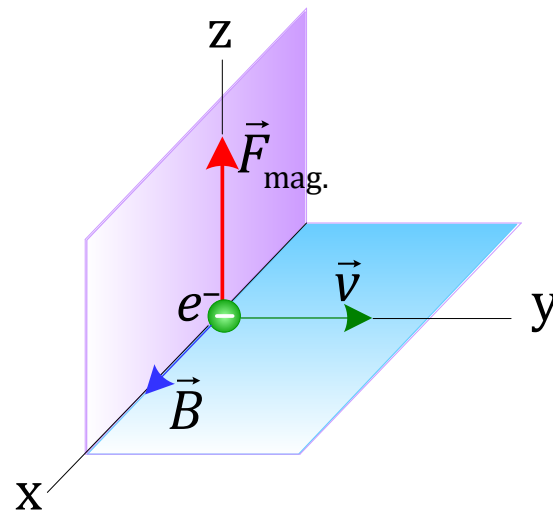
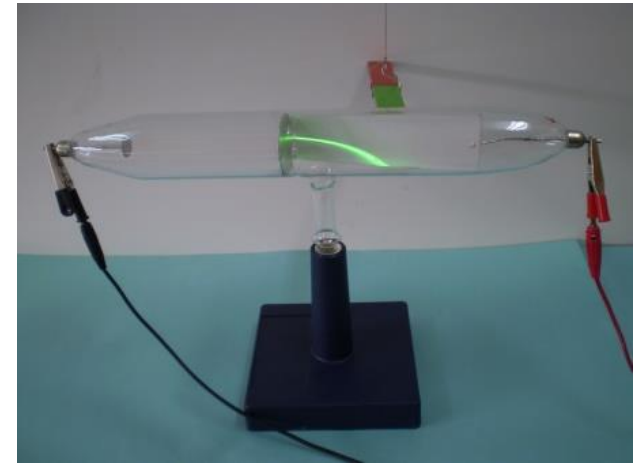
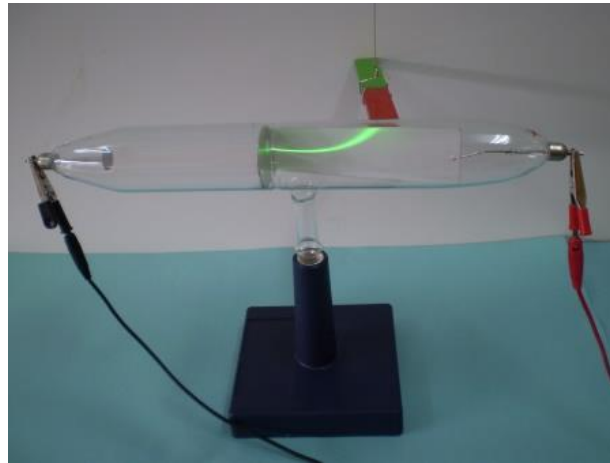
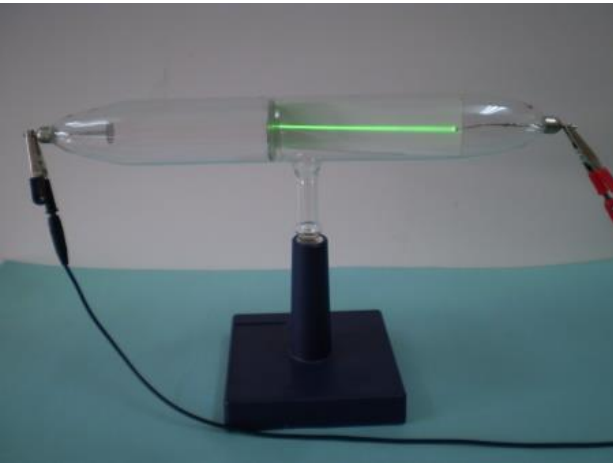


Permeabilidade magnética do medio.





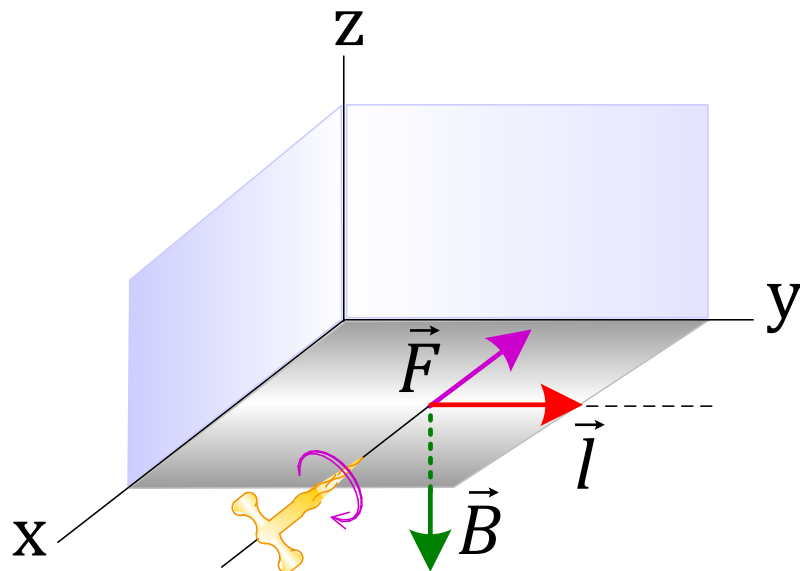
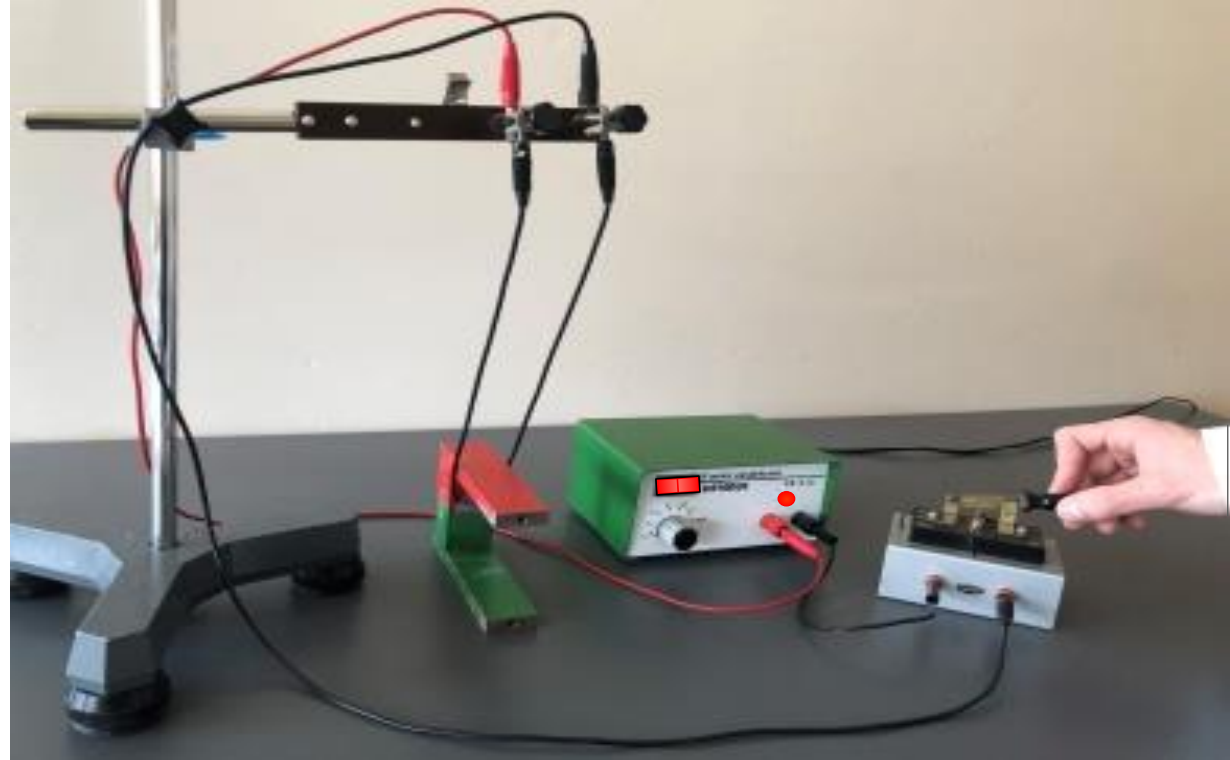
Forza magnética exercida por un campo magnético sobre cargas eléctricas en movimento.



Tubo de raios catódicos

Forza magnética sobre unha carga en movimento

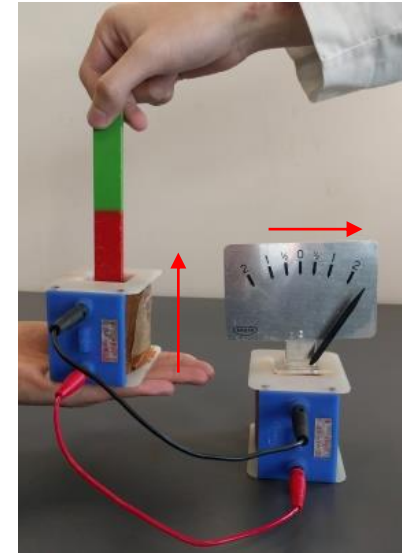
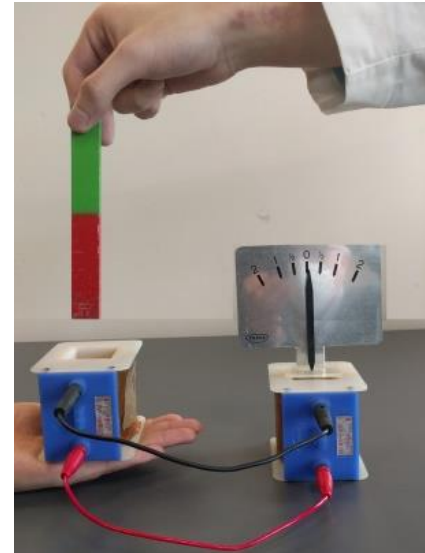
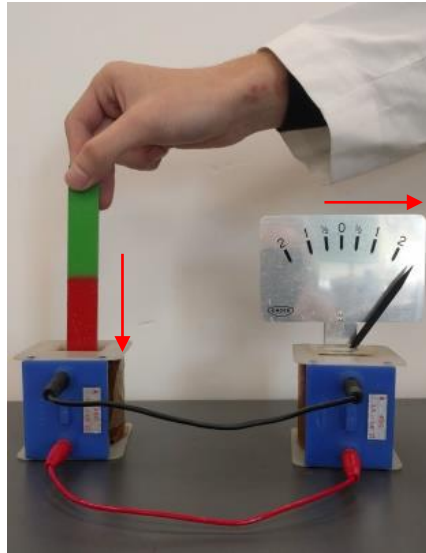
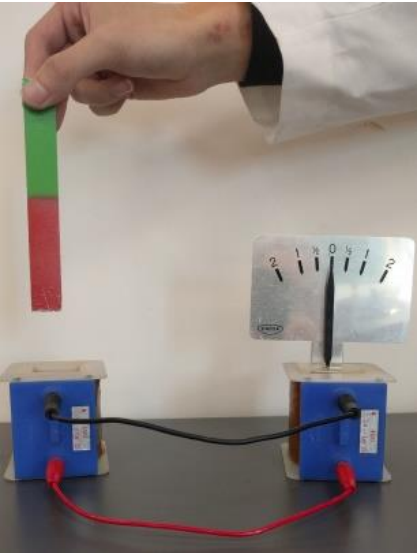
Forza exercida por un campo magnético sobre una corriente eléctrica.

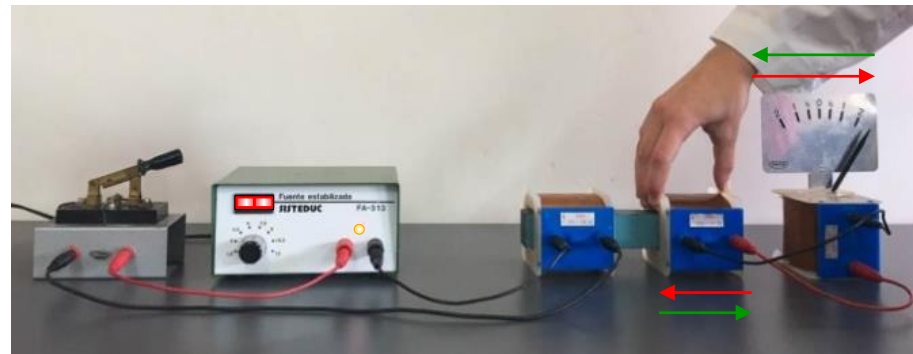
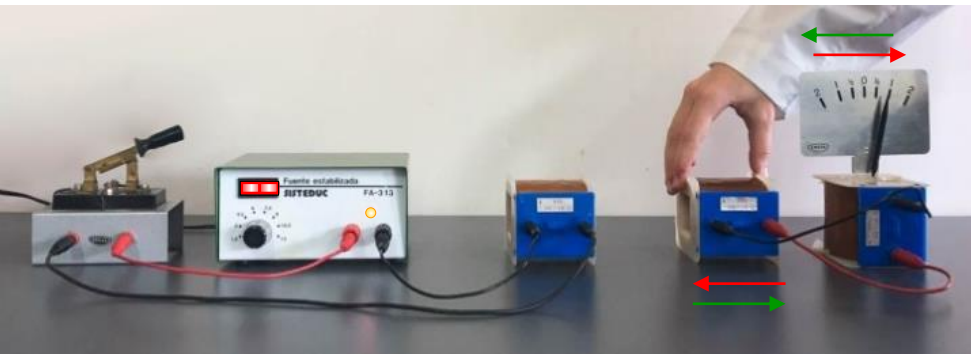
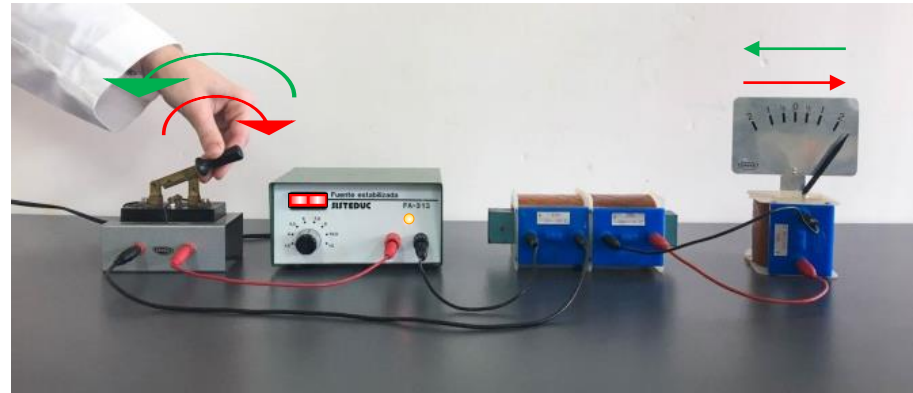
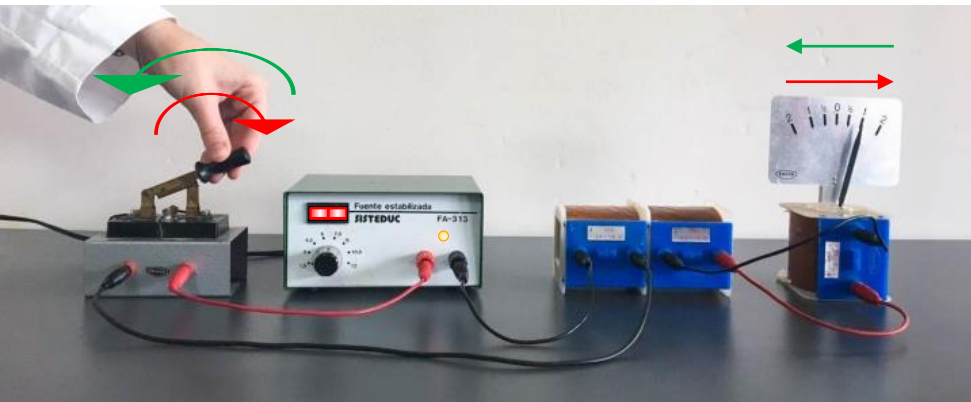


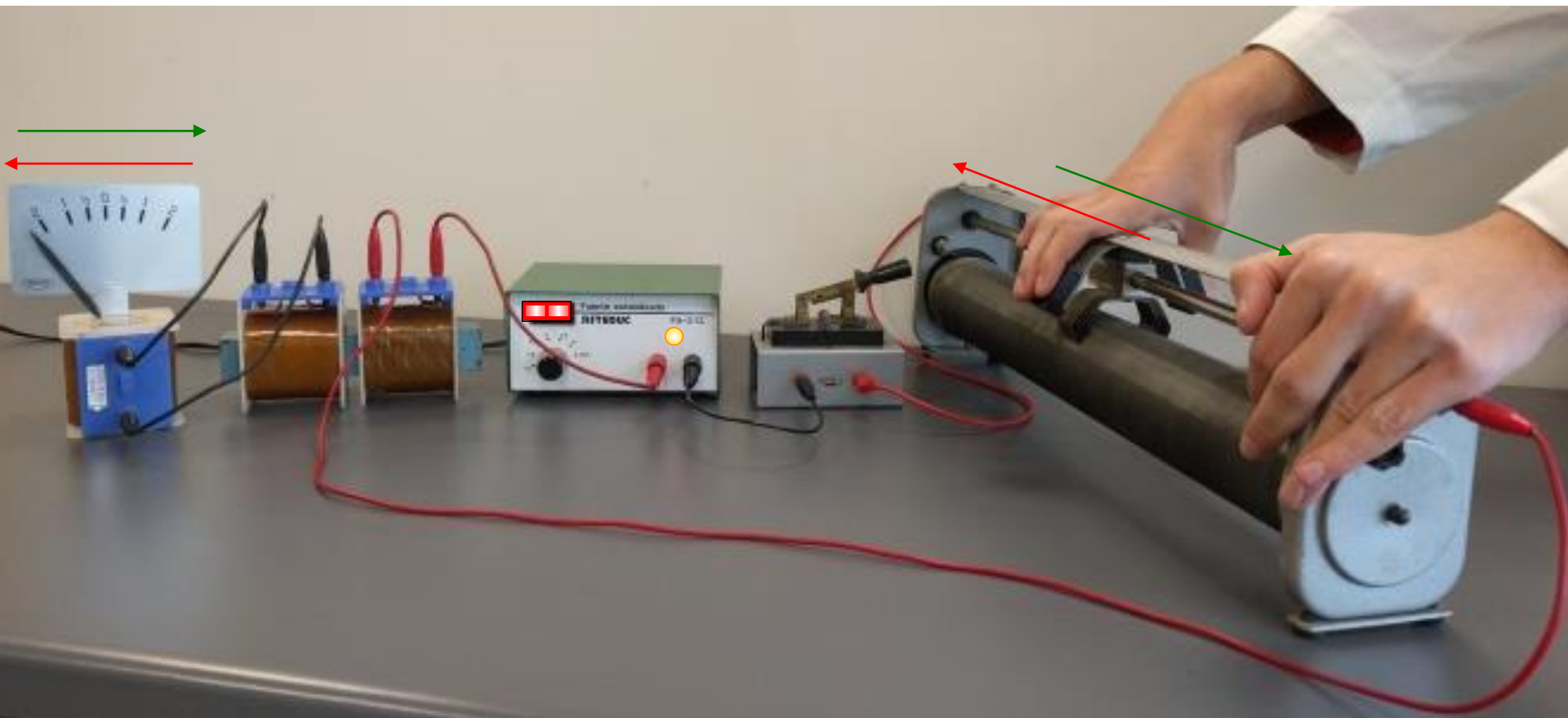
Forza de Lorentz

Forza sobre una variña

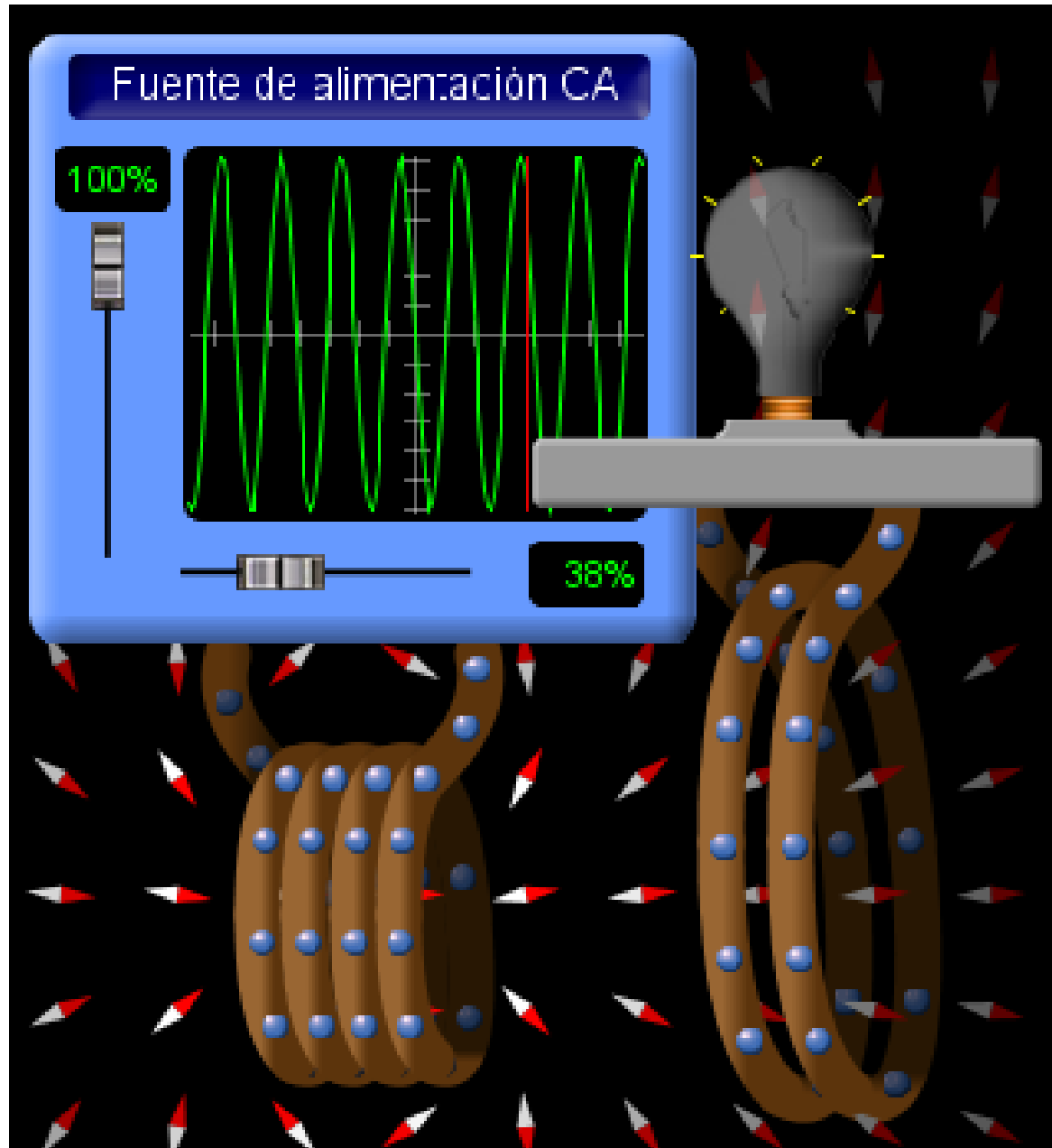
Experiencias de Faraday/Henry.



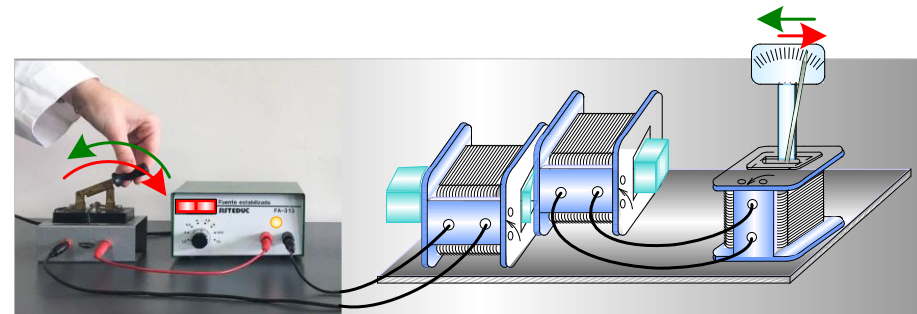
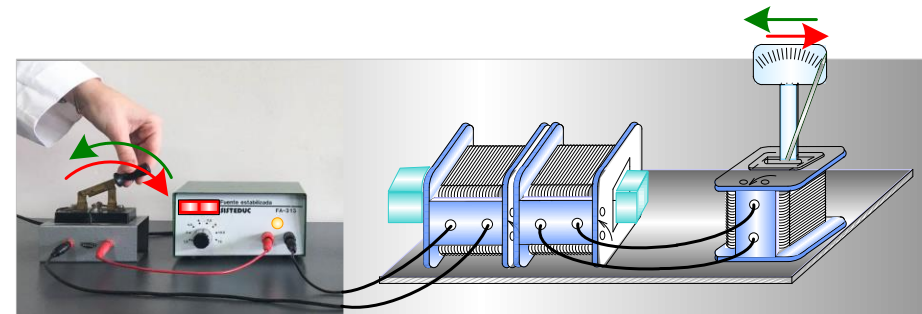




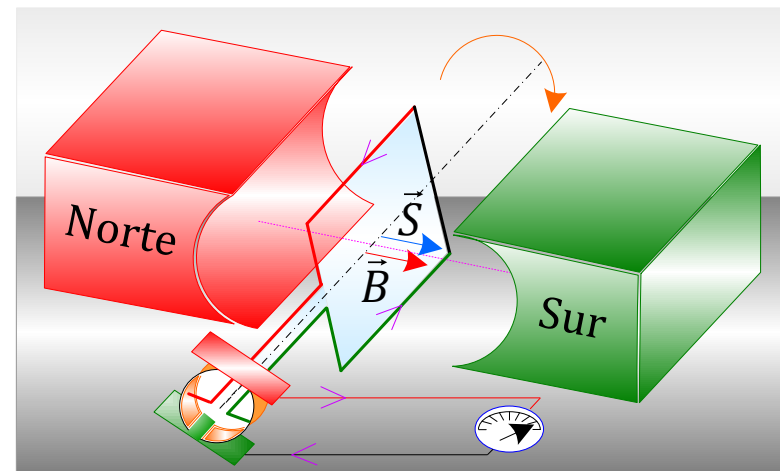
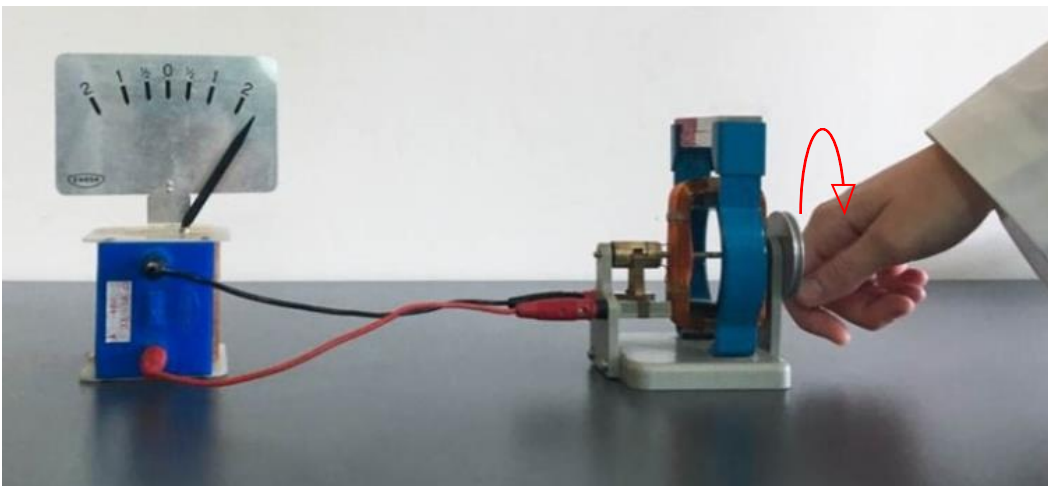
Corrente inducida por una corriente alterna

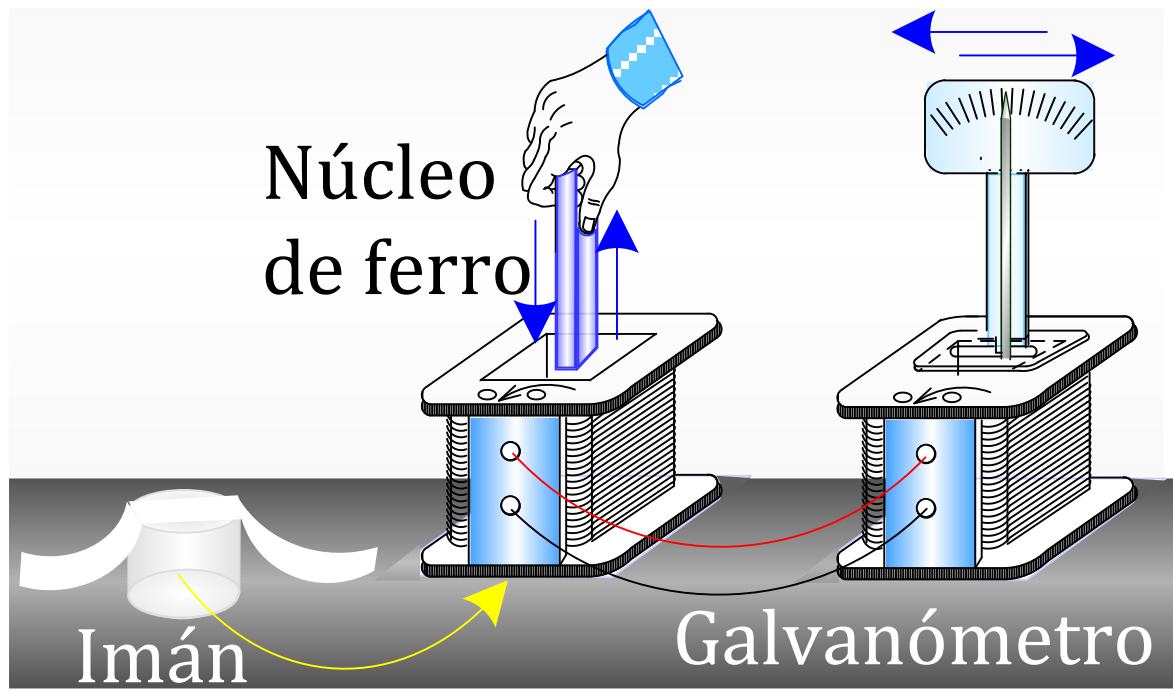


Indúcese corrente eléctrica ao variar a superficie da espira

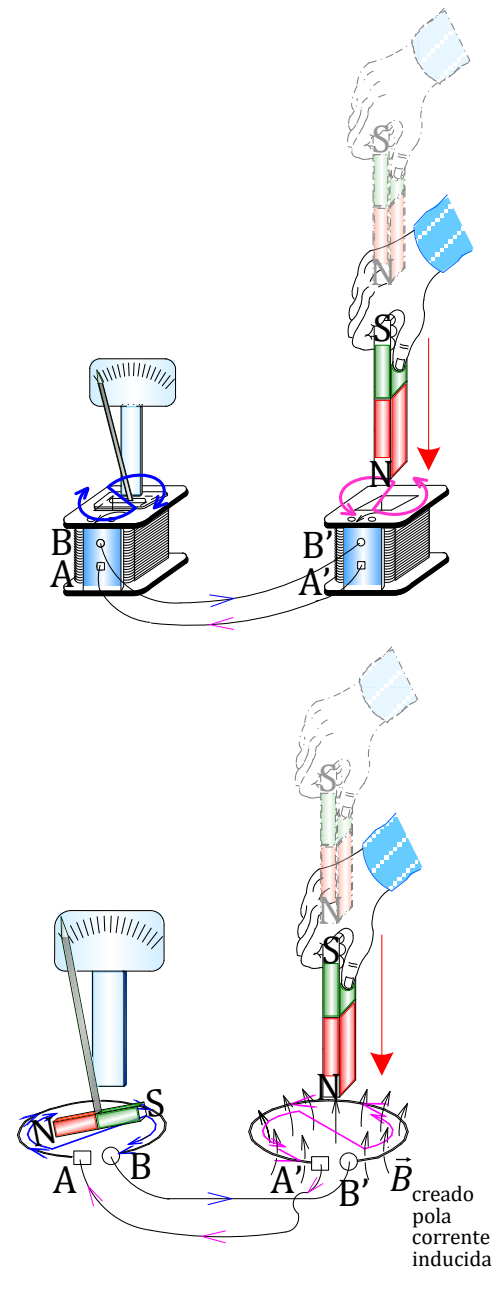
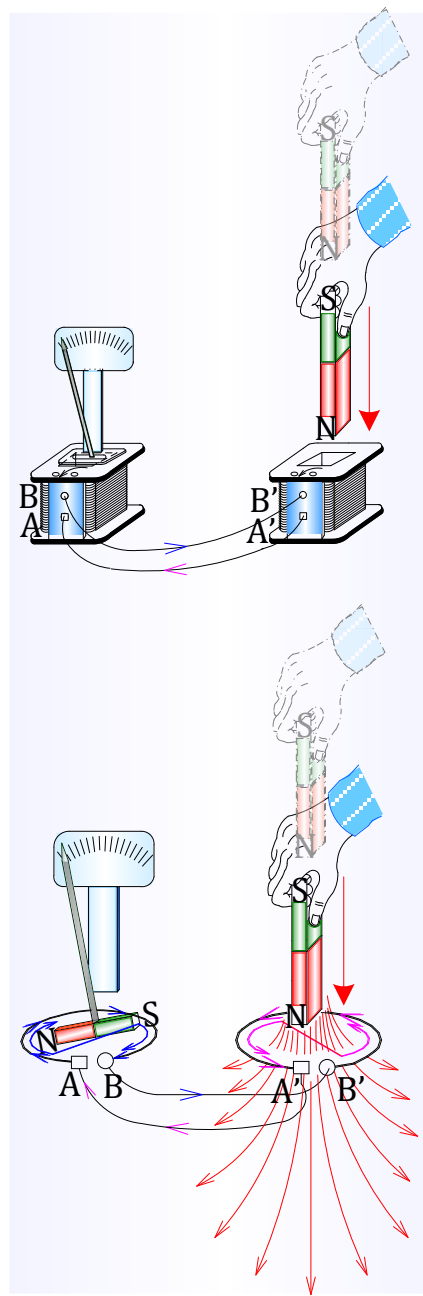
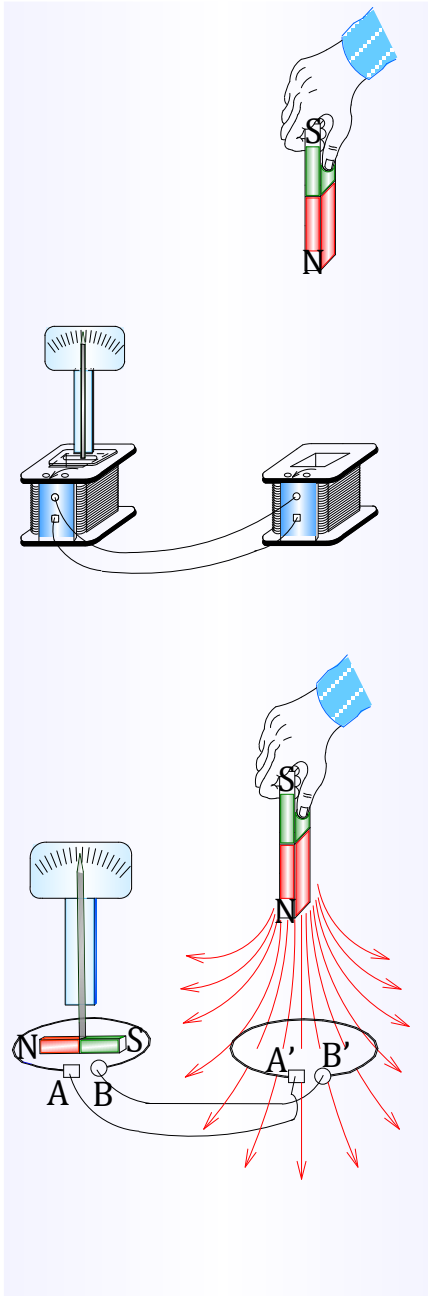


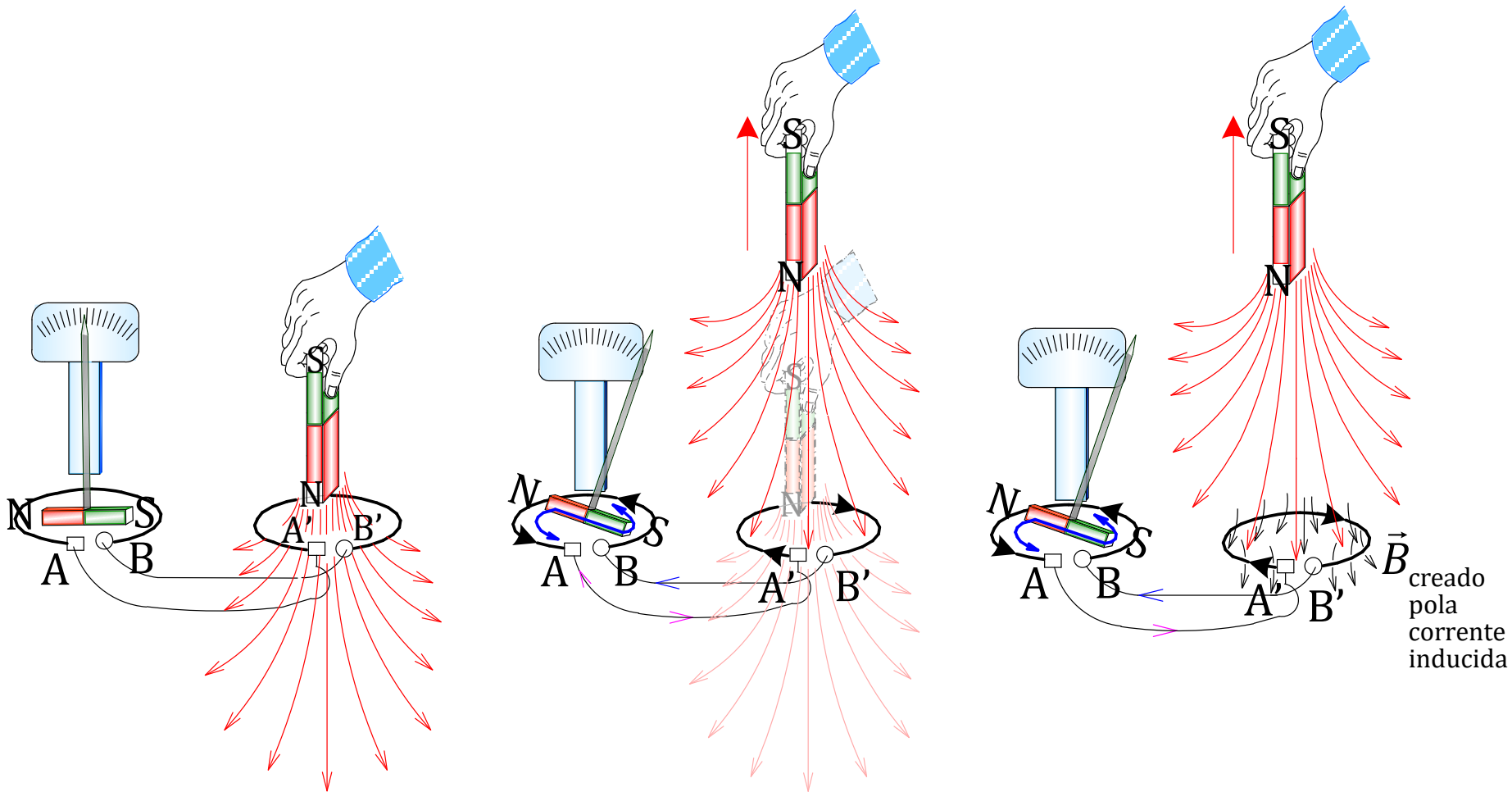
Indúcese corrente ao variar o ángulo formado entre \vec{B} e \vec{S}



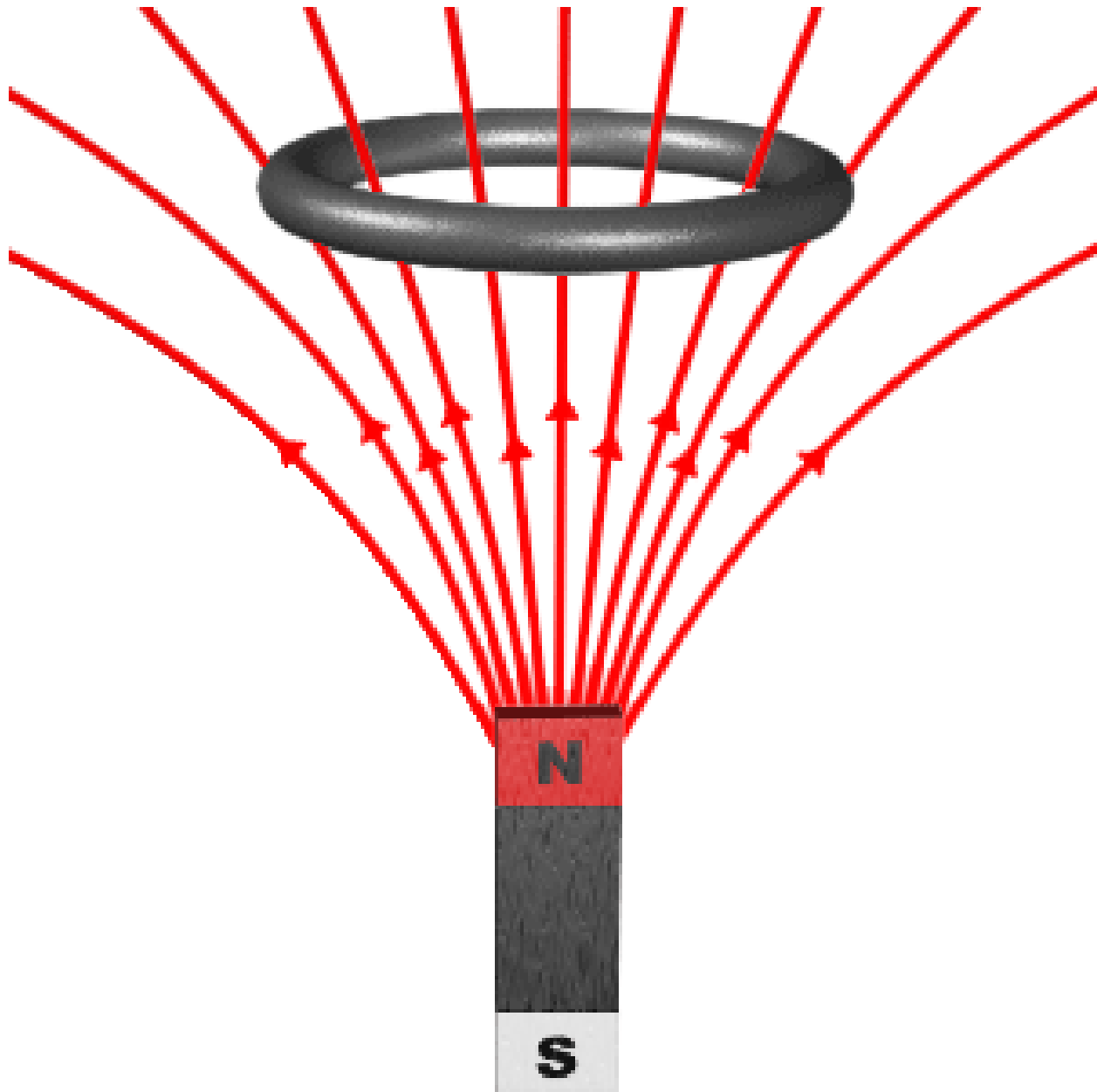


Comprobación da ley de Lenz.





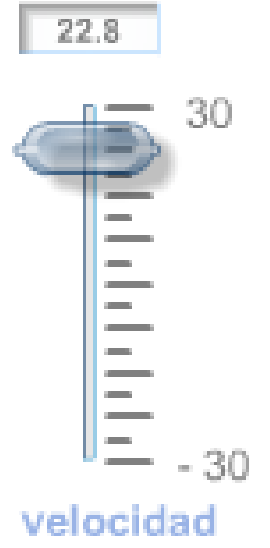
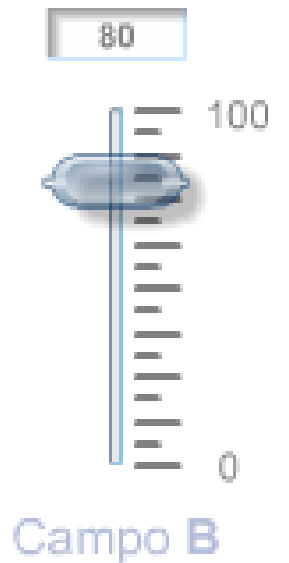
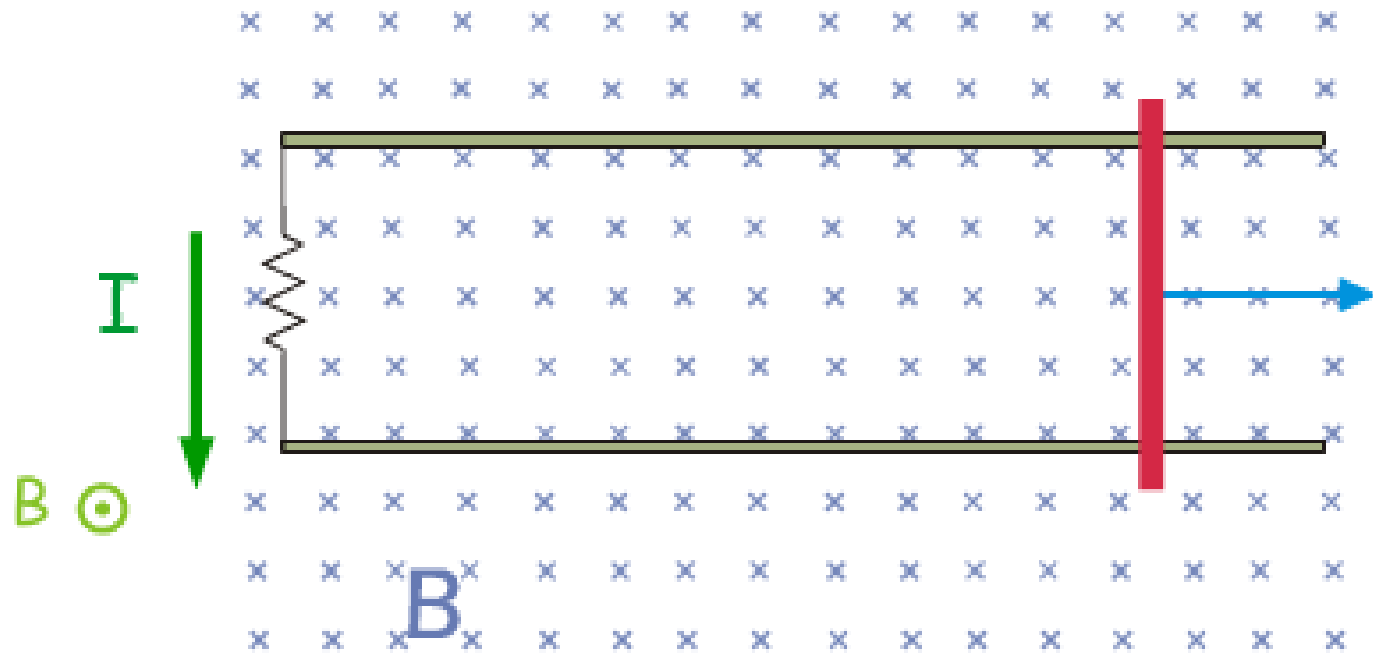
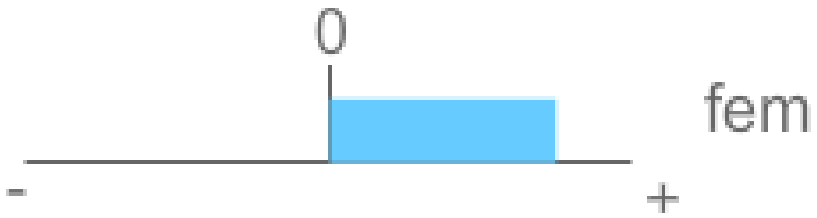
<http://micro.magnet.fsu.edu/electromag/java/lenzlaw/>



O sentido da corrente inducida oponse á causa que a produce

- ⏸ Pausa
- 🔄 Reinicio

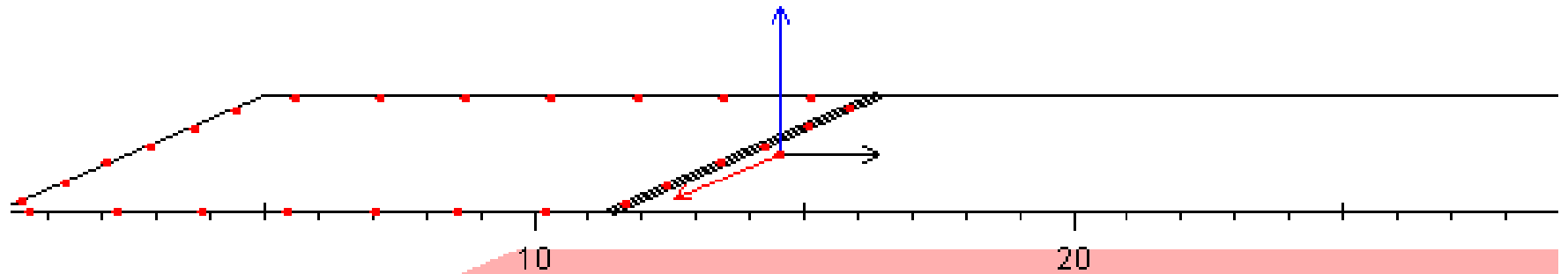
- Campo B creado por la corriente I
- Fuerza F ejercida sobre la varilla



fem (V) 4800.0e-8

- Fuerza sobre la carga
- campo magnético
- velocidad

polo Sur



polo Norte

Campo magnético (<50 gauss)

60.0

Longitud varilla (<15 cm)

10.0

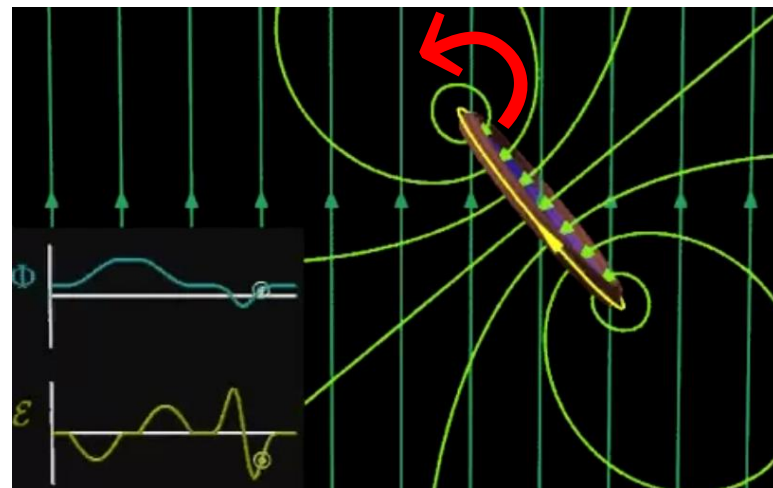
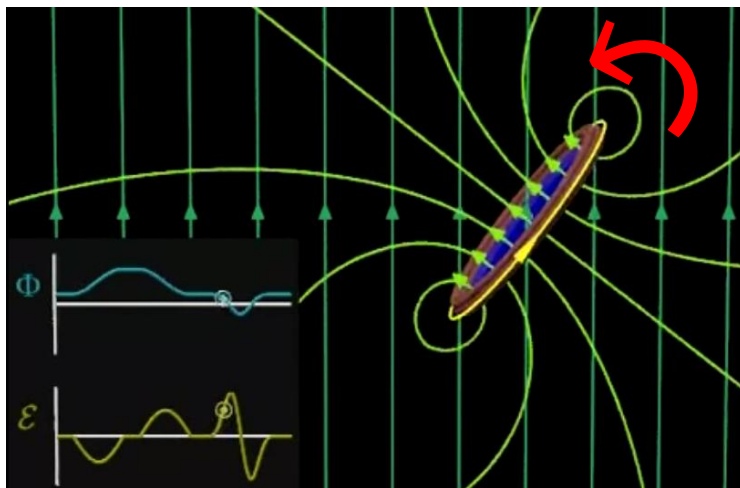
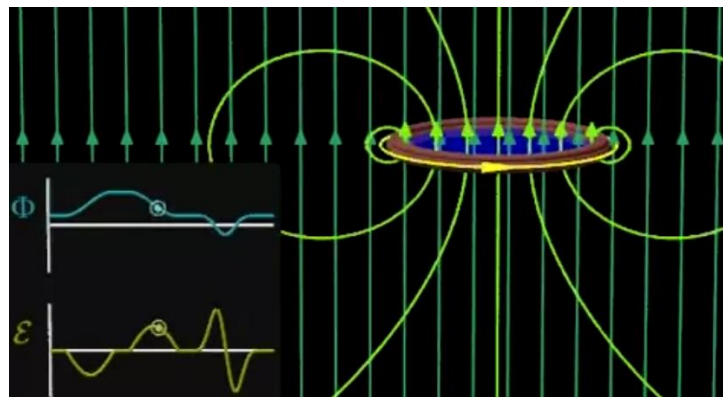
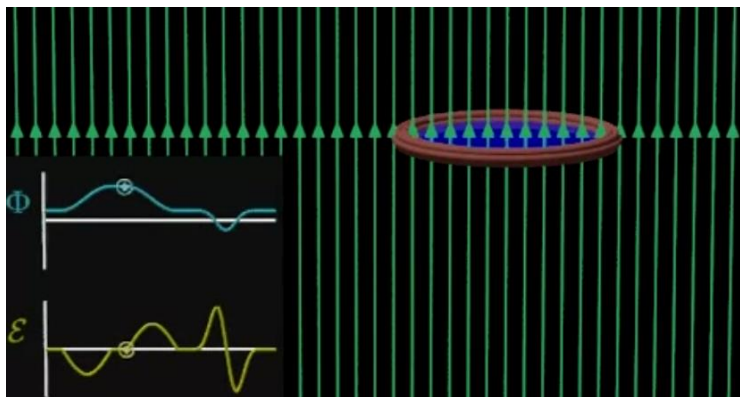
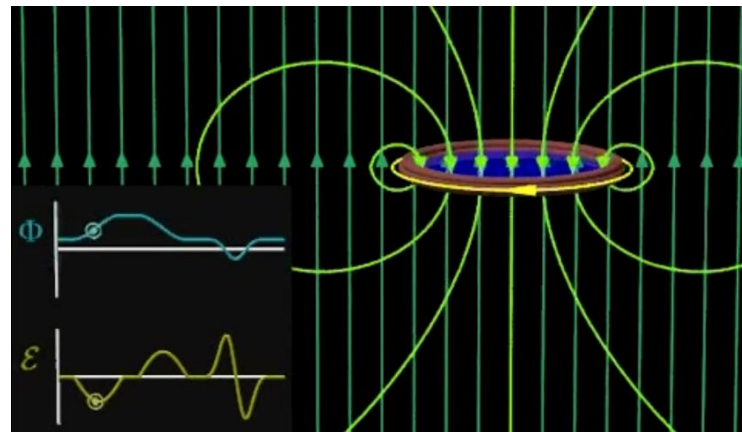
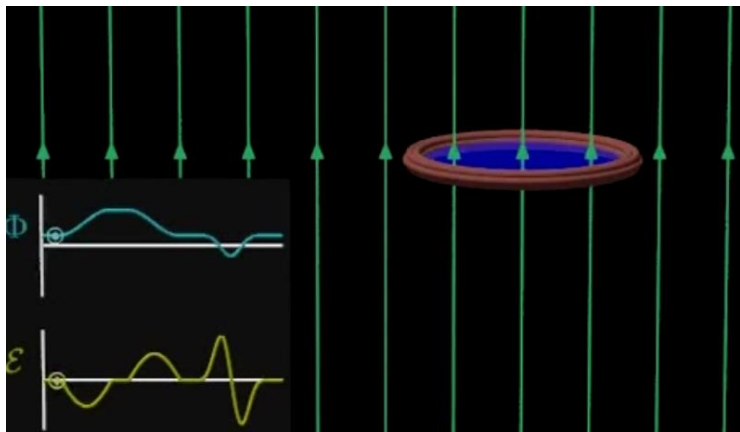
Velocidad <10 cm/s

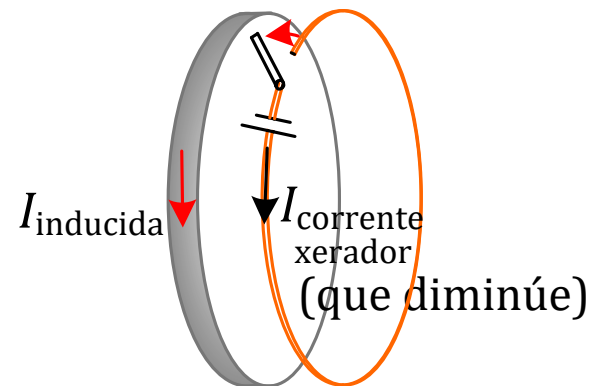
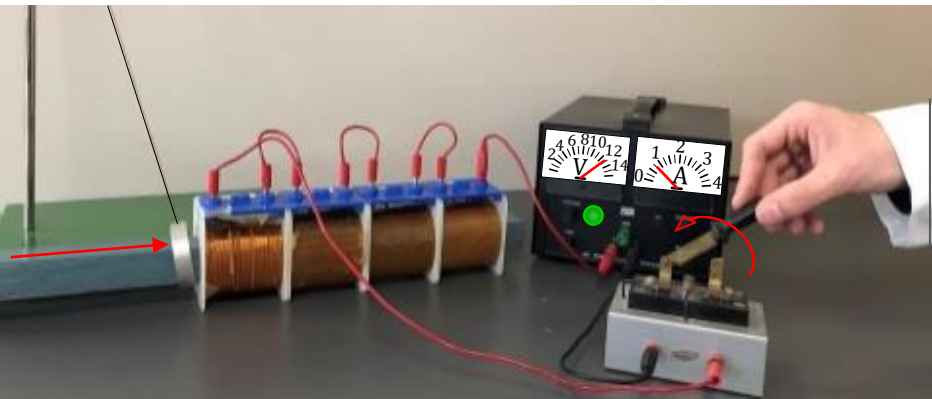
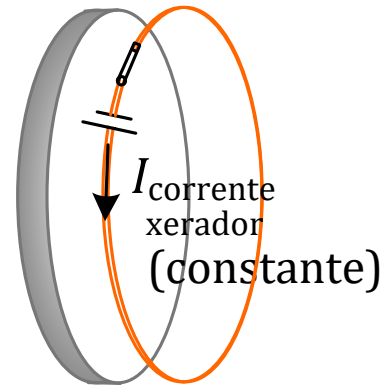
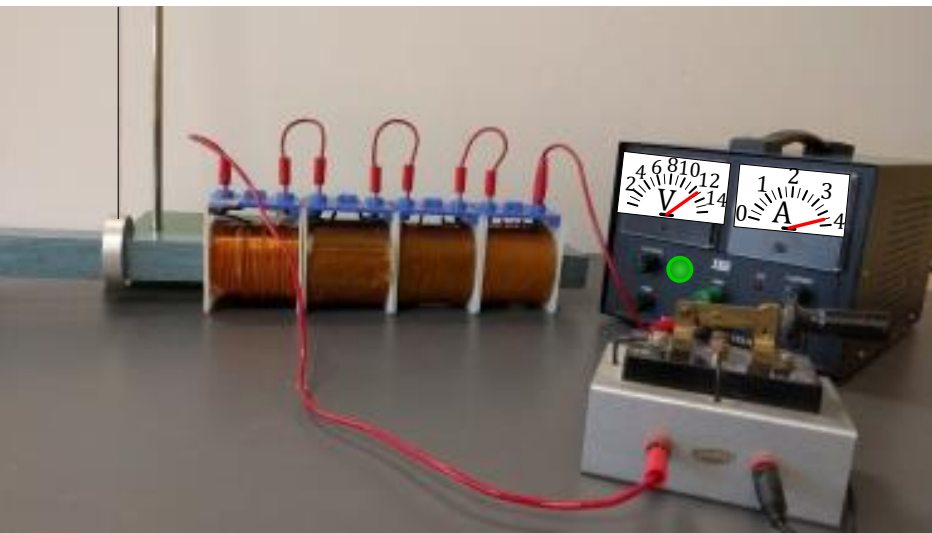
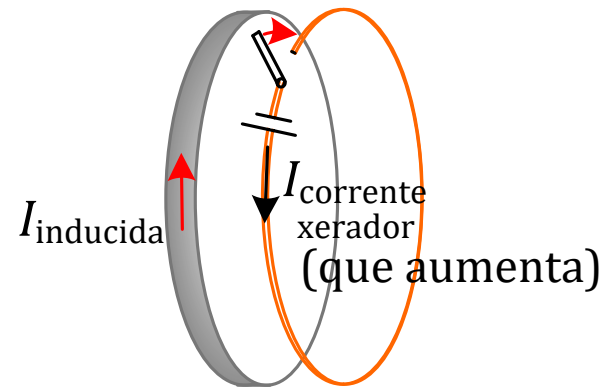
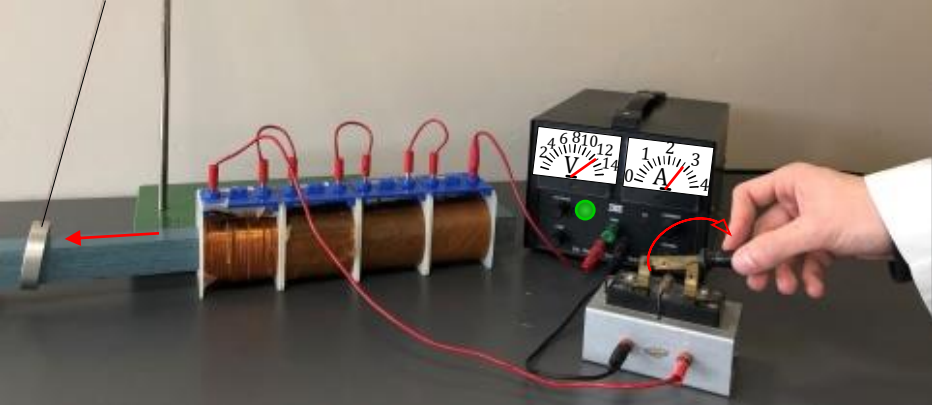
8.0

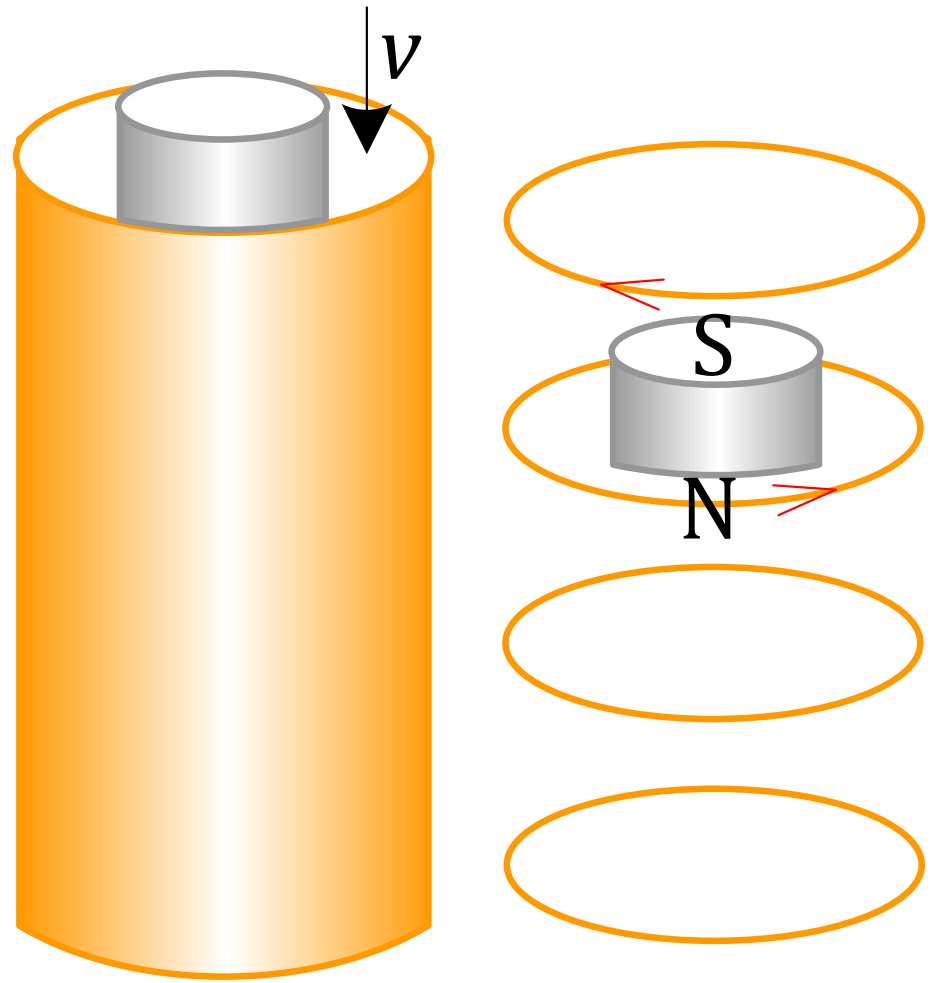
Empieza

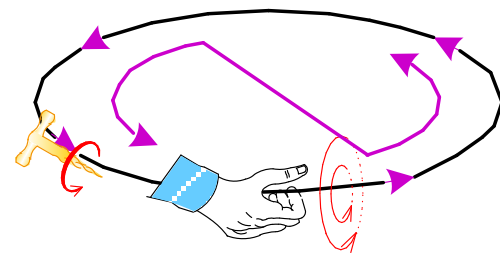
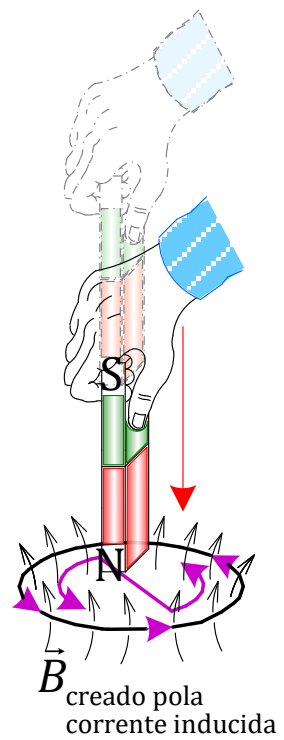
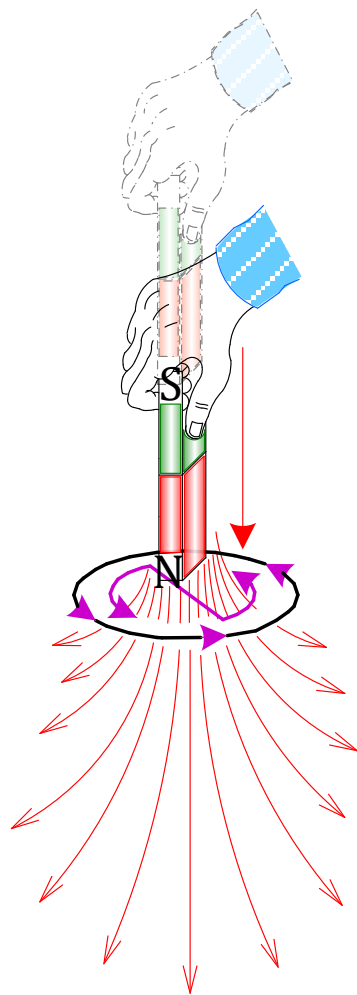
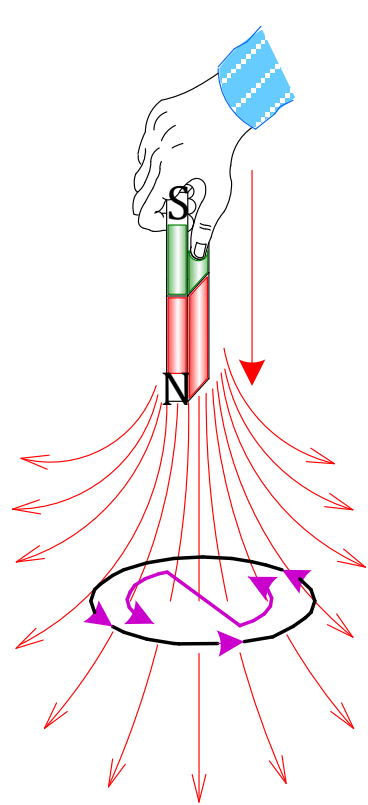
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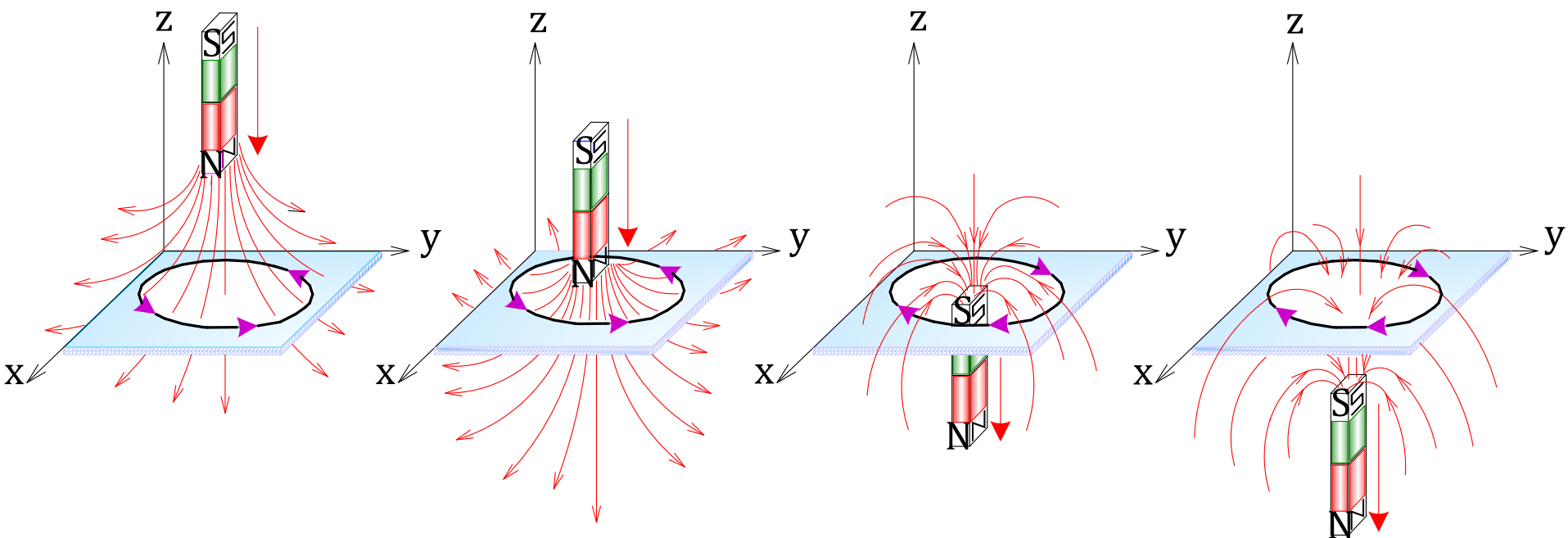
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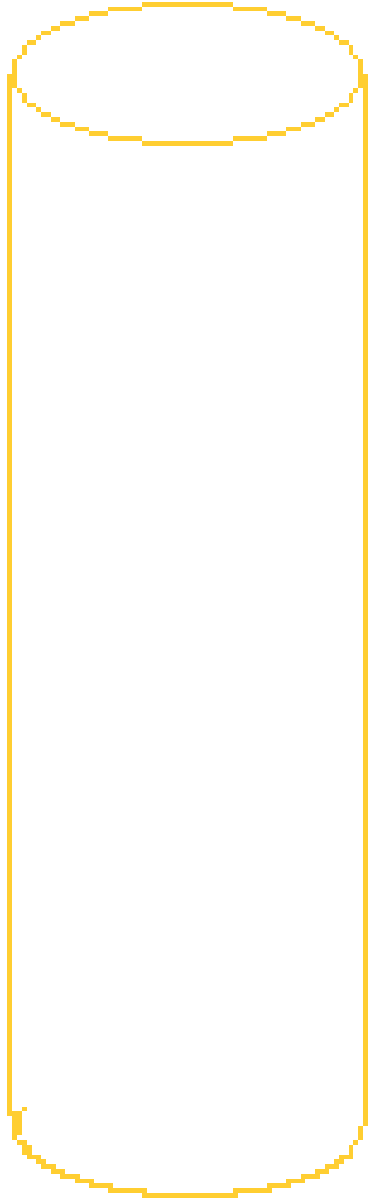




Indúcese corrente ao descender o imán actuando unha forza magnética sobre o imán

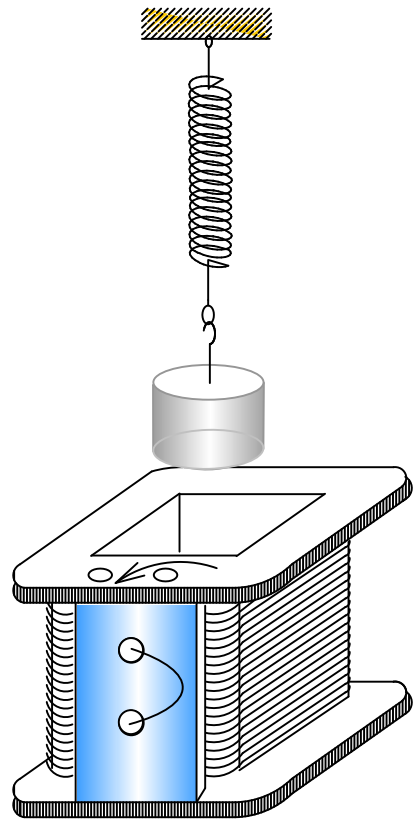
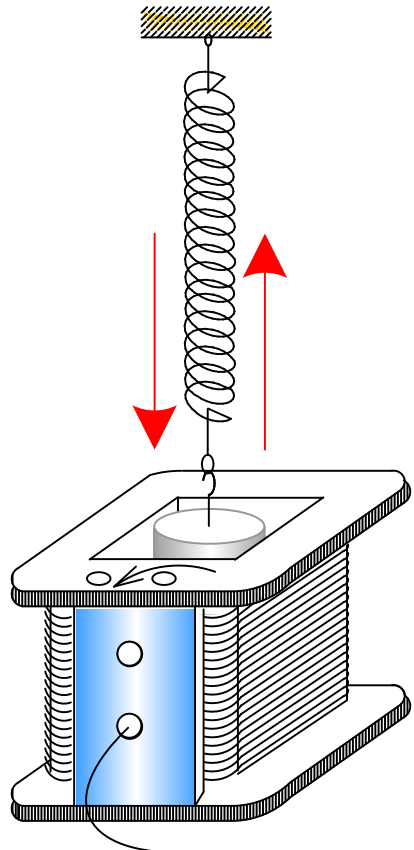
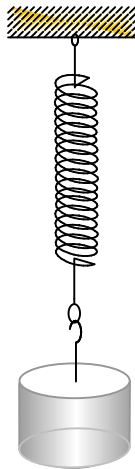
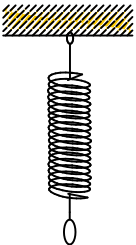


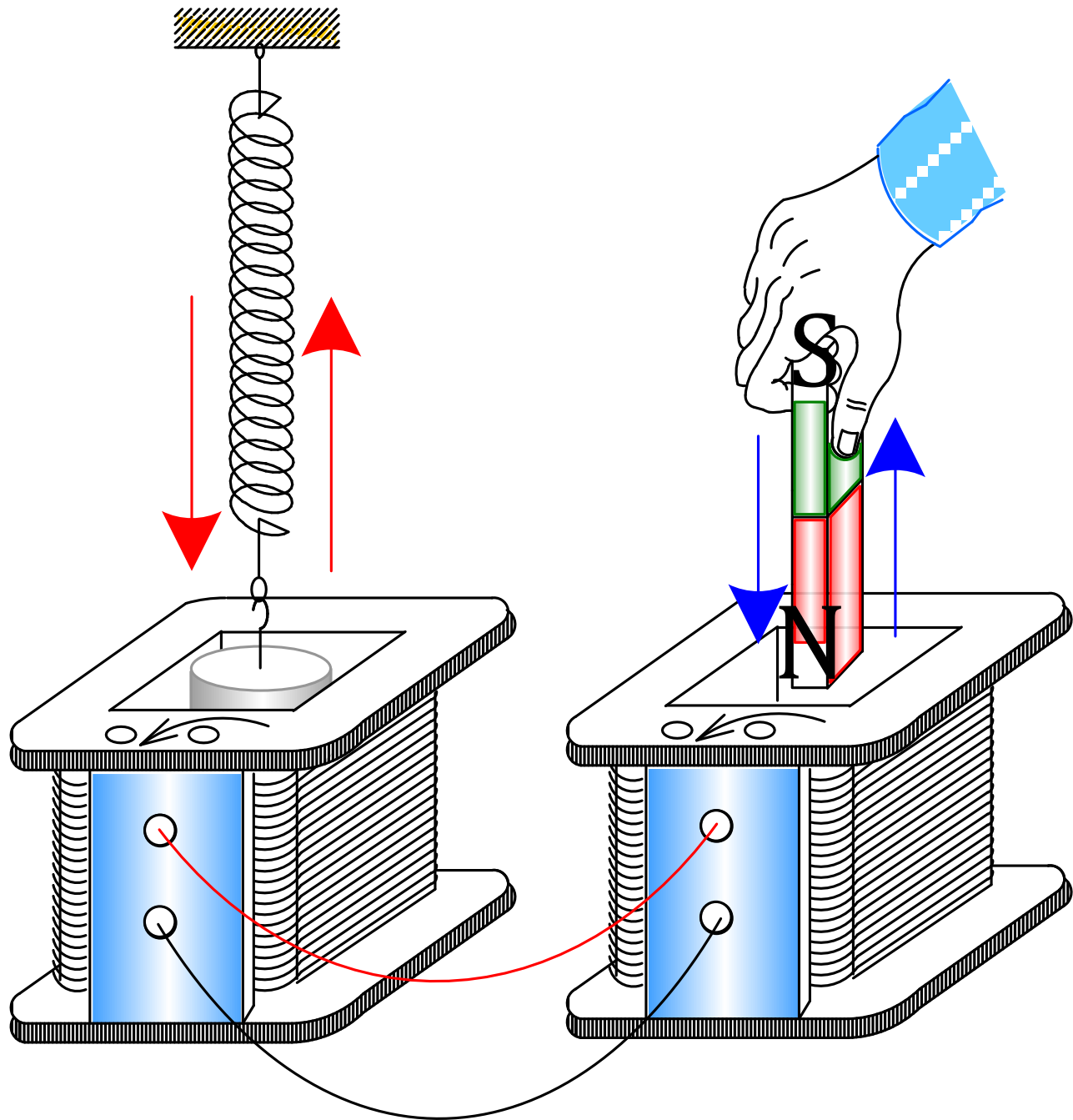
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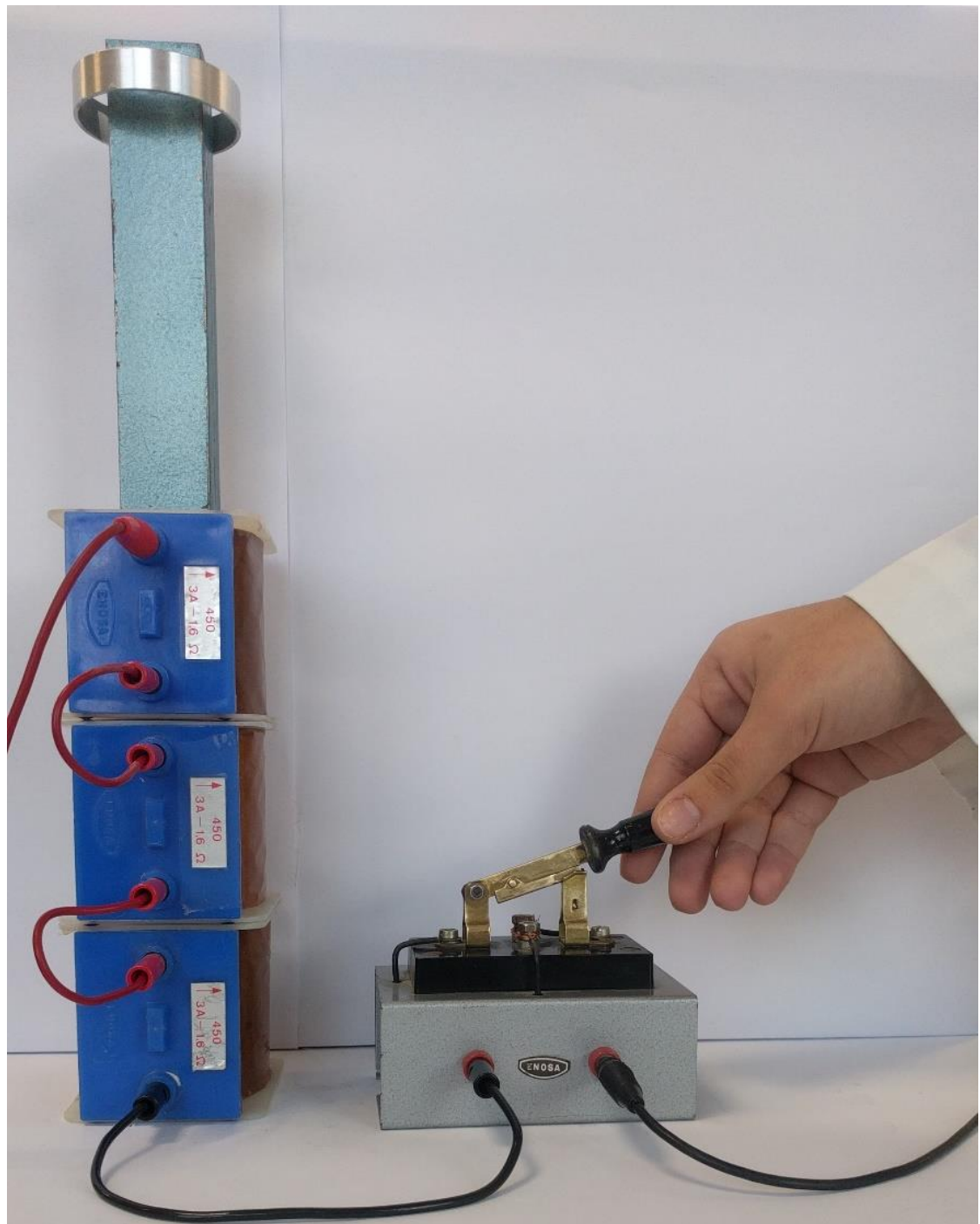
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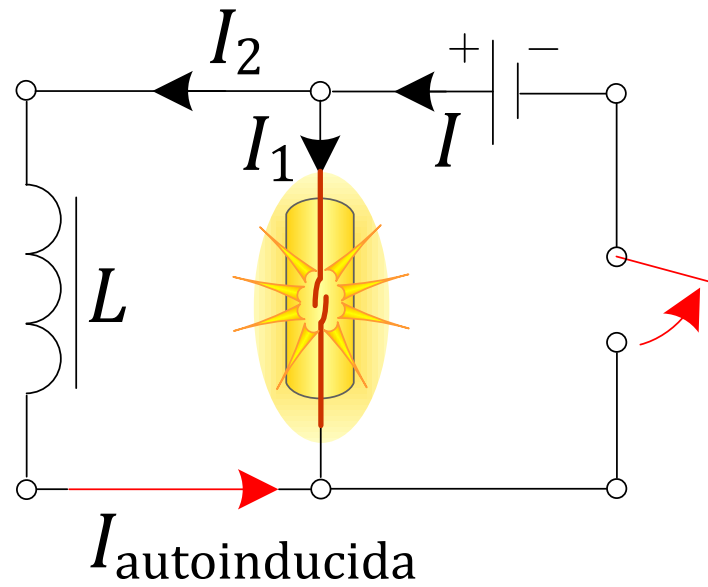
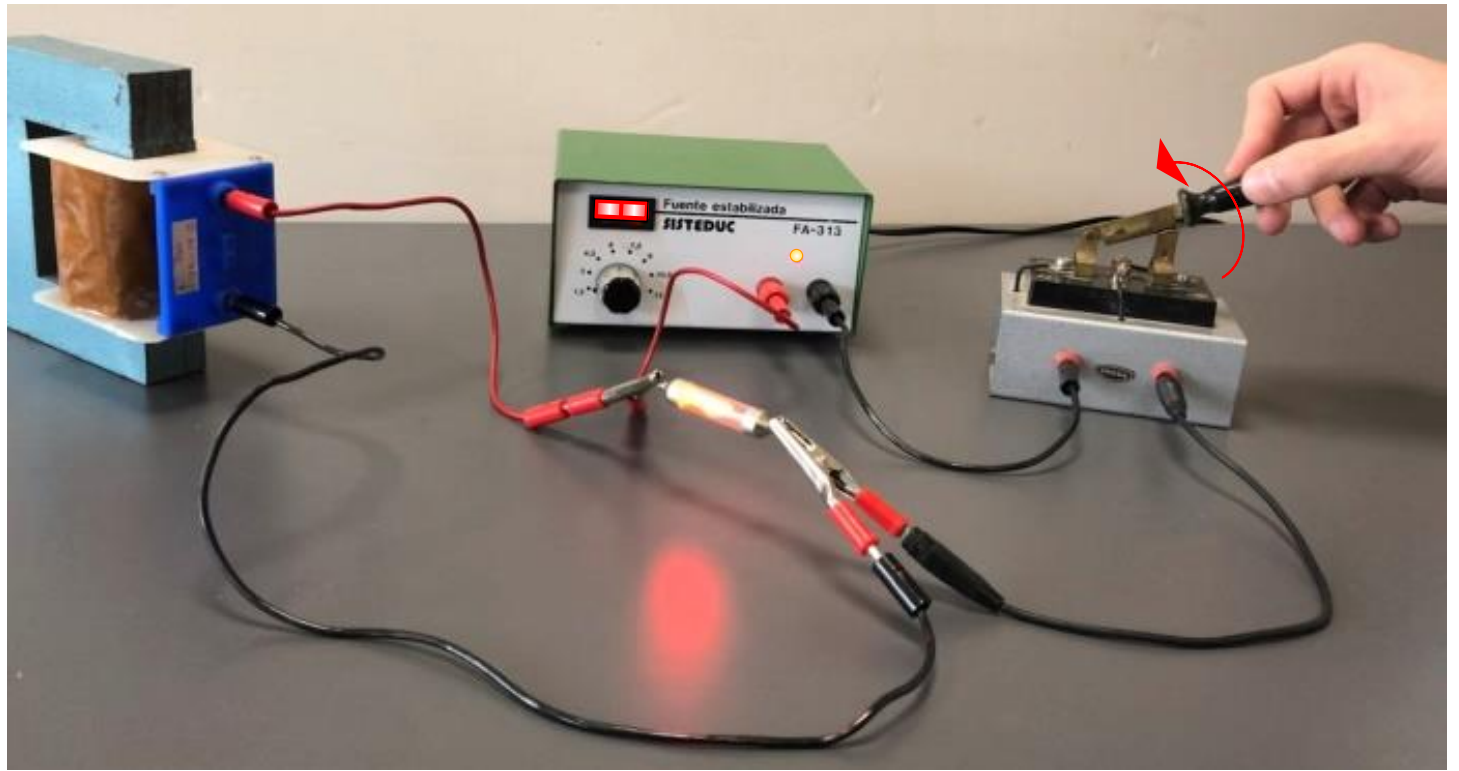


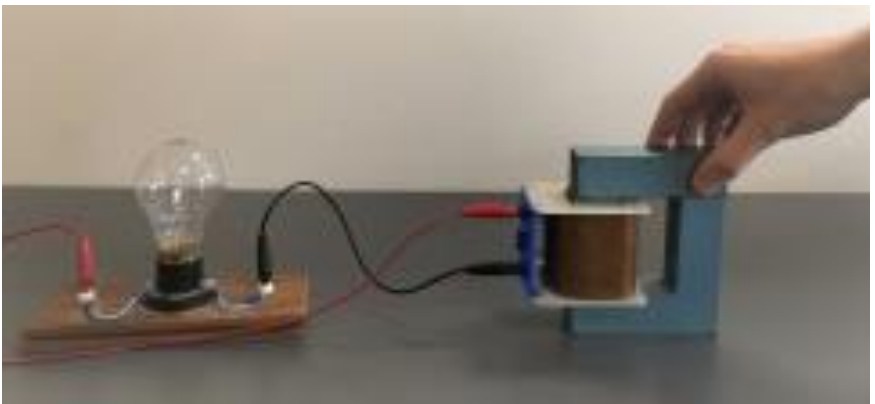
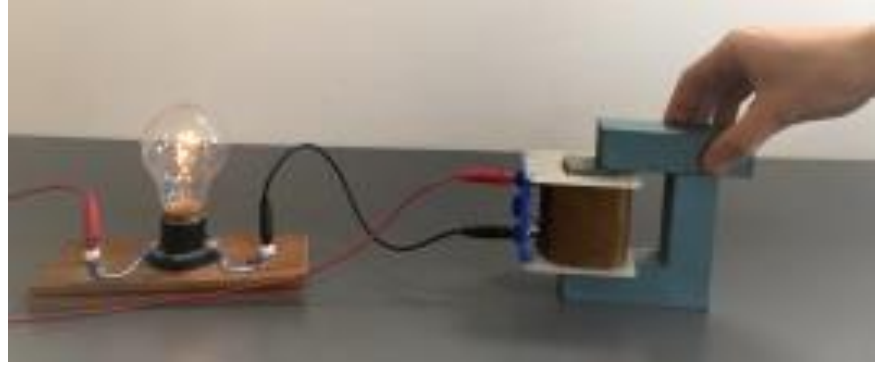
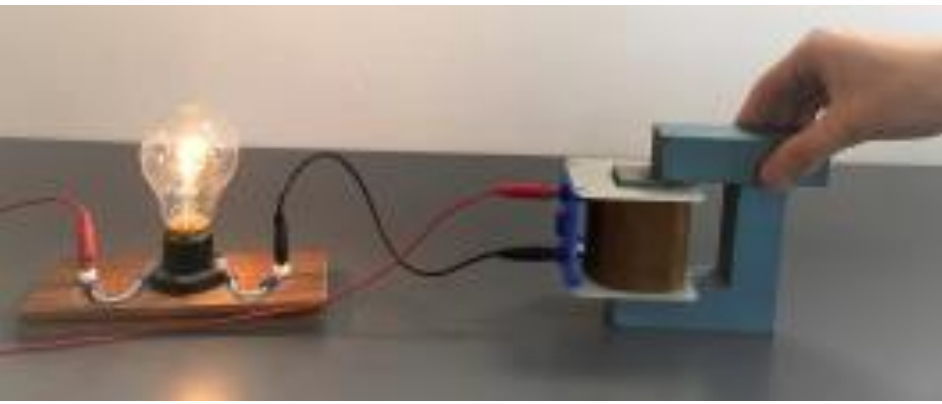
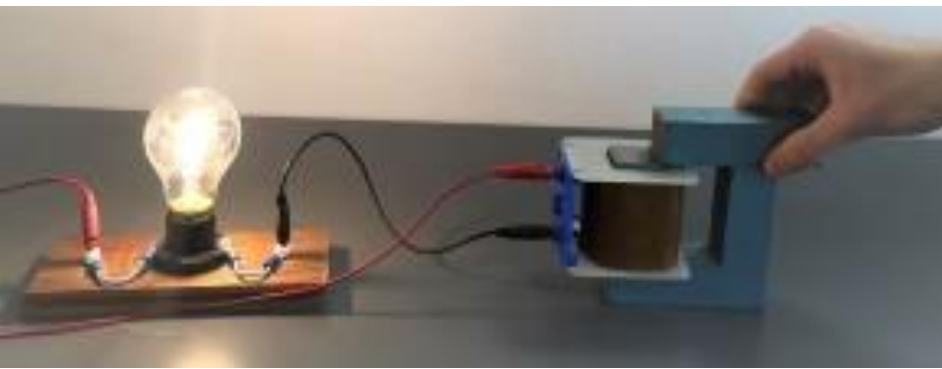
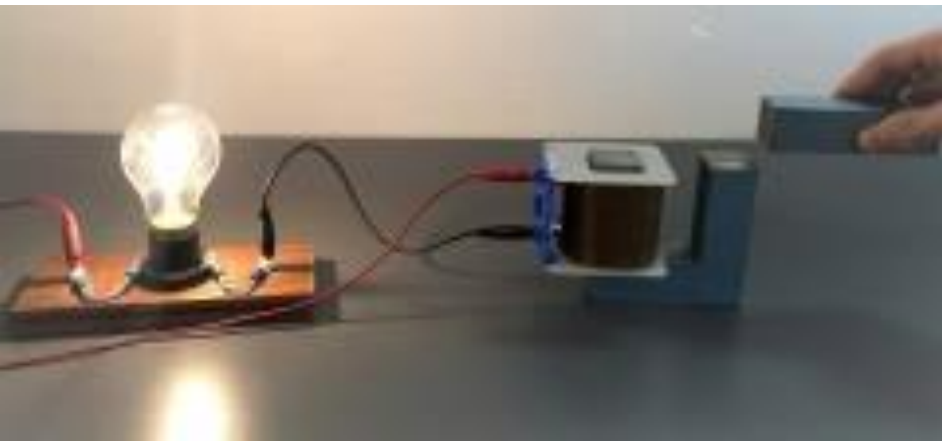


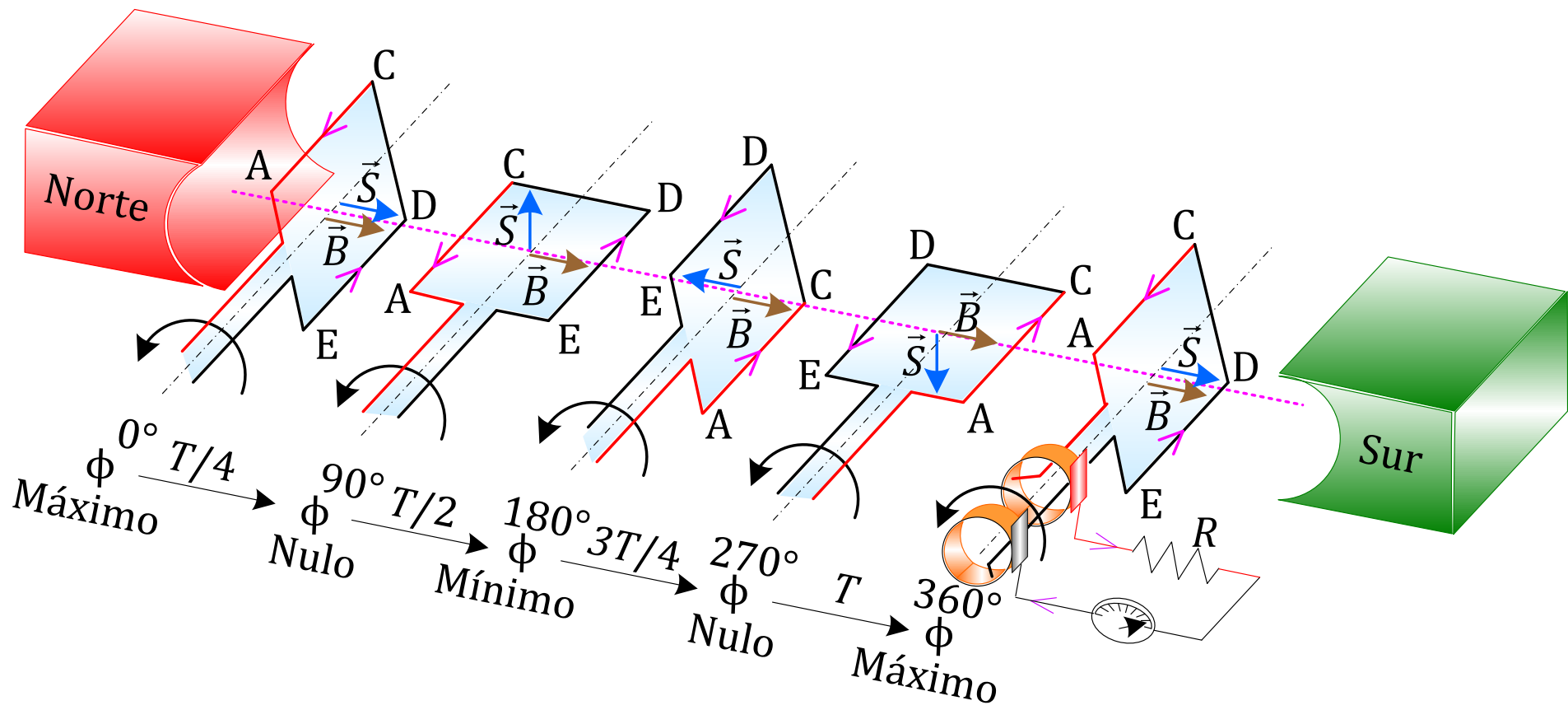
Anelo de Thomson



Autoinducción

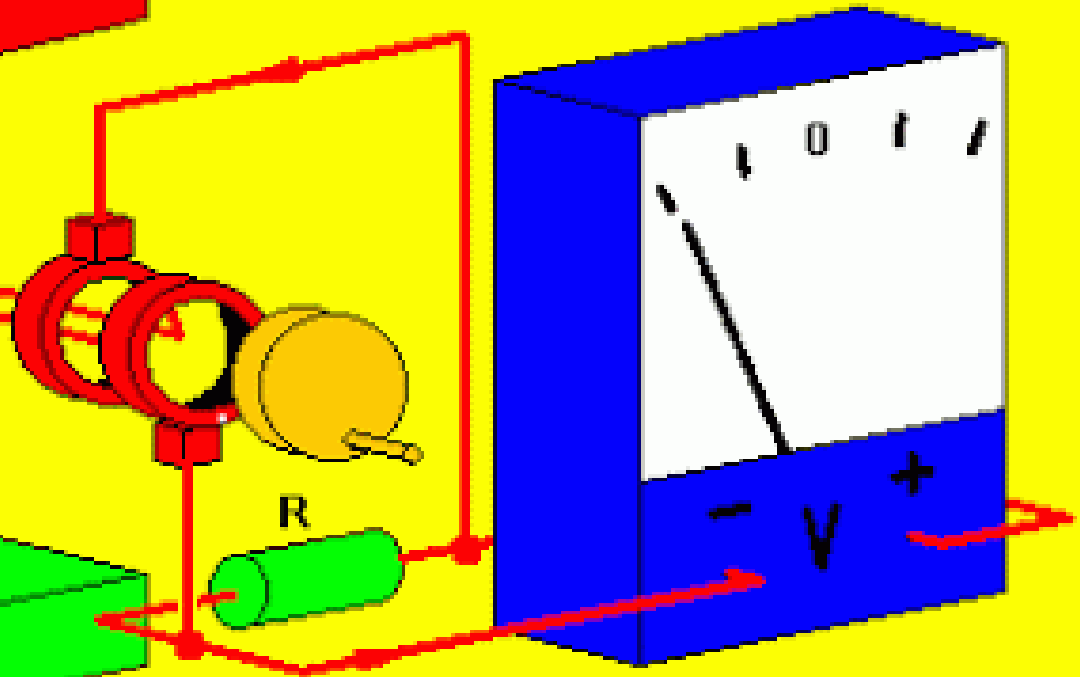
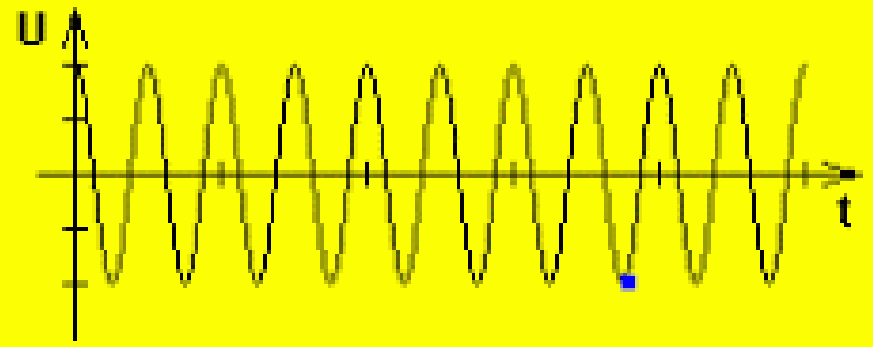
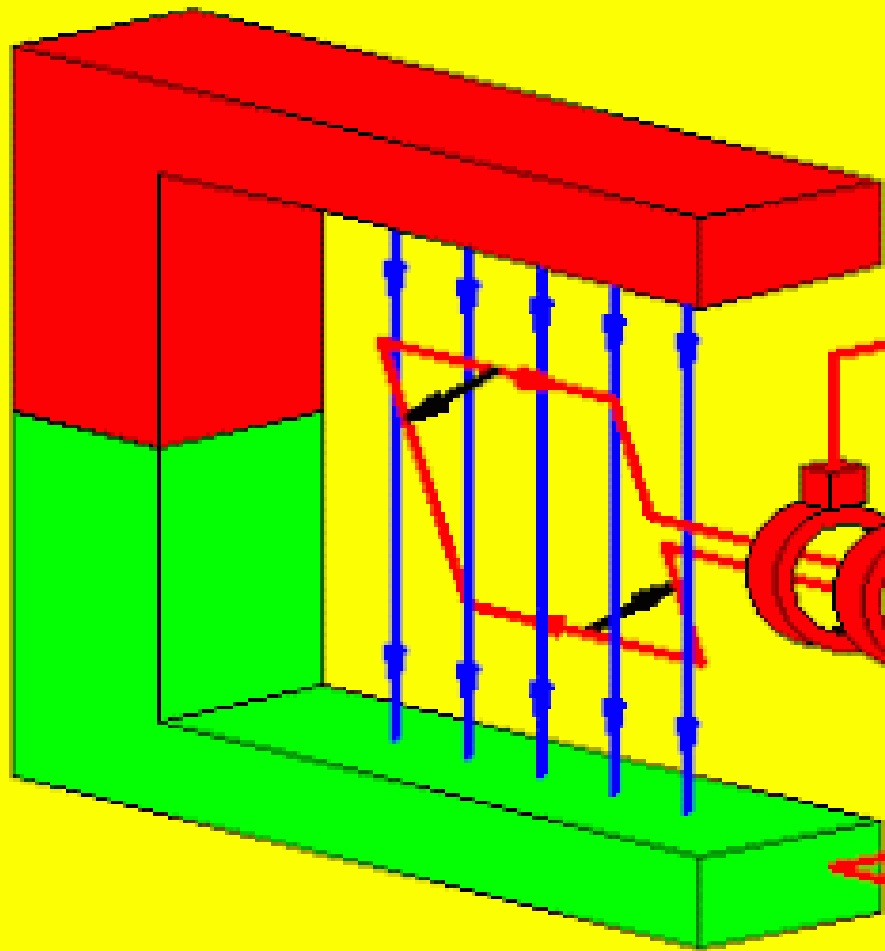


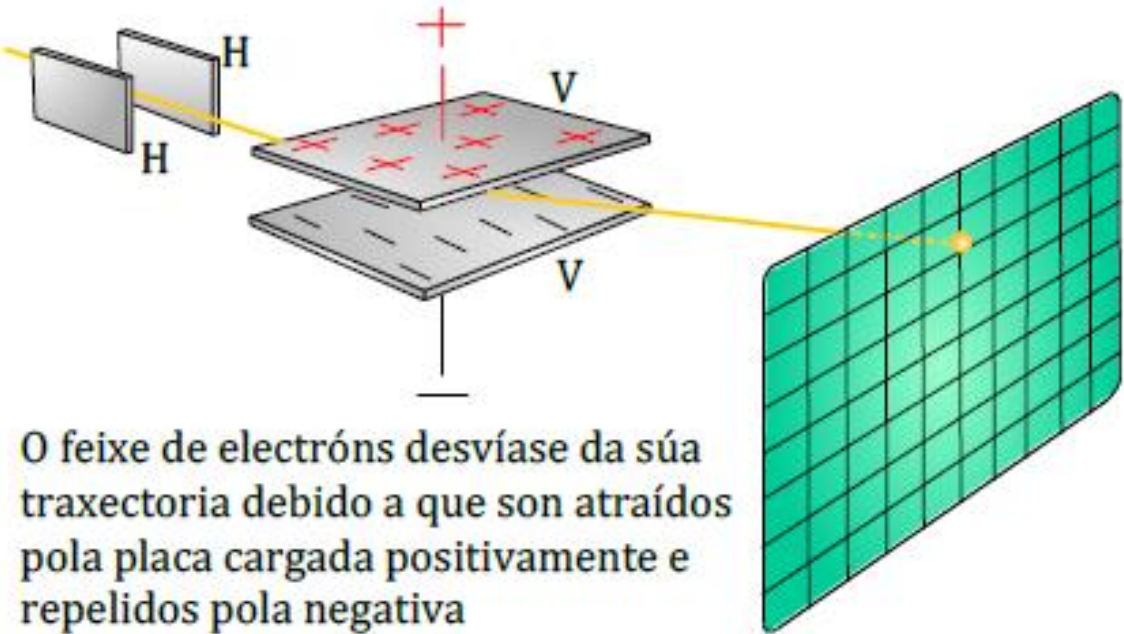




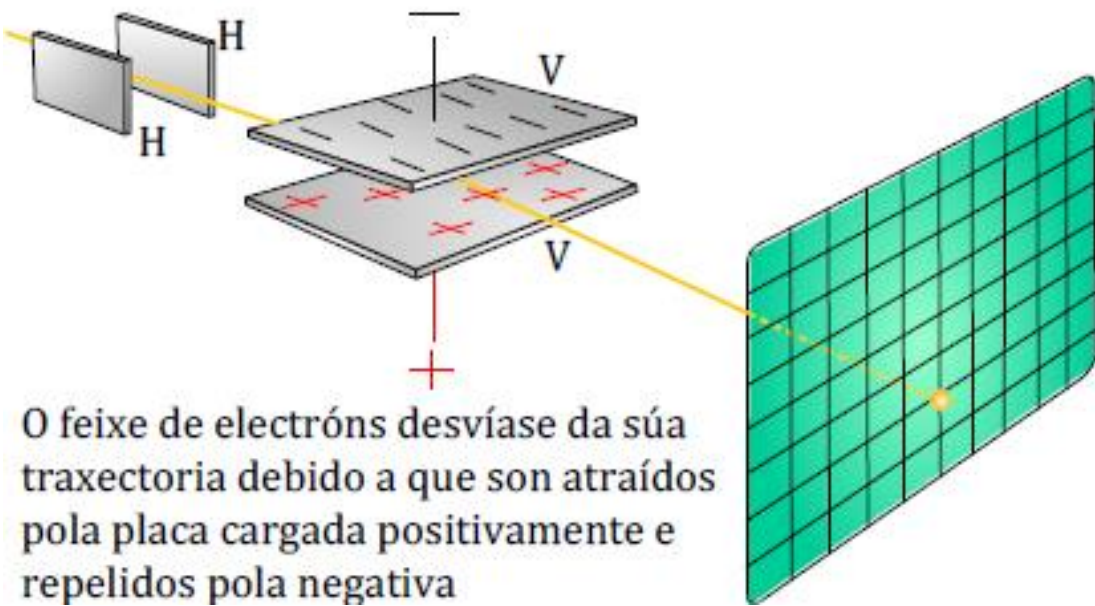
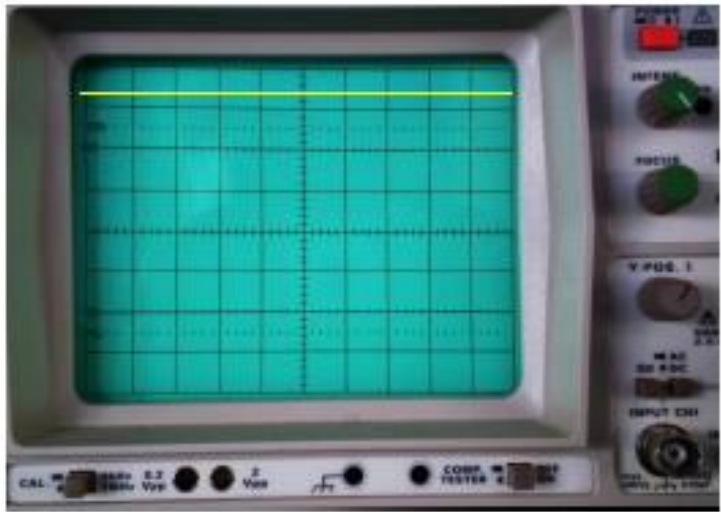
O fluxo magnético que atravessa a espira varia no tempo

No osciloscópio podemos ver a forma de onda da tensão

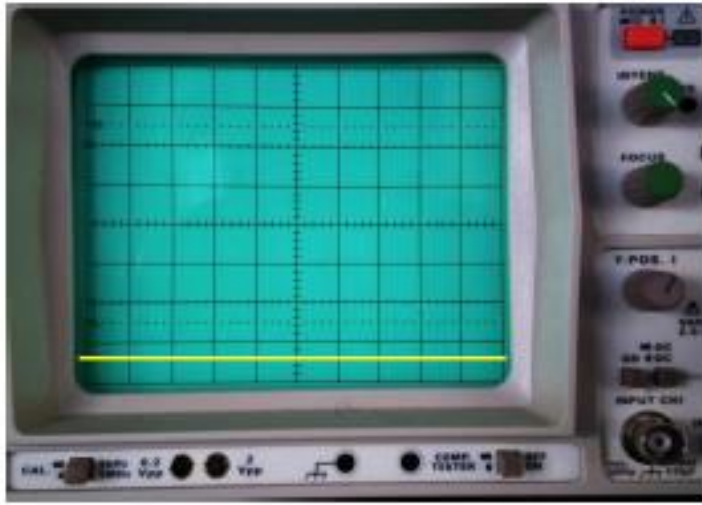


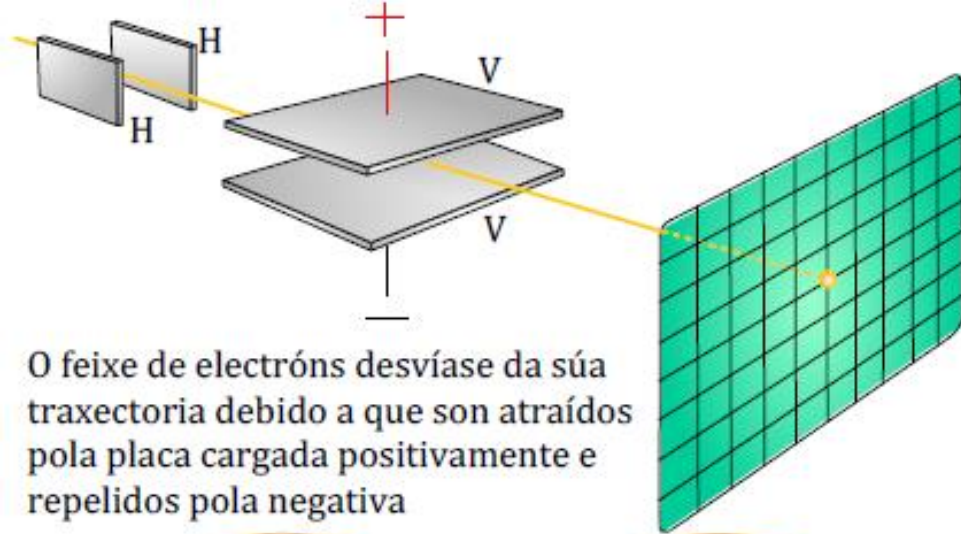


O feixe de electróns desvíase da súa traxectoria debido a que son atraídos pola placa cargada positivamente e repelidos pola negativa

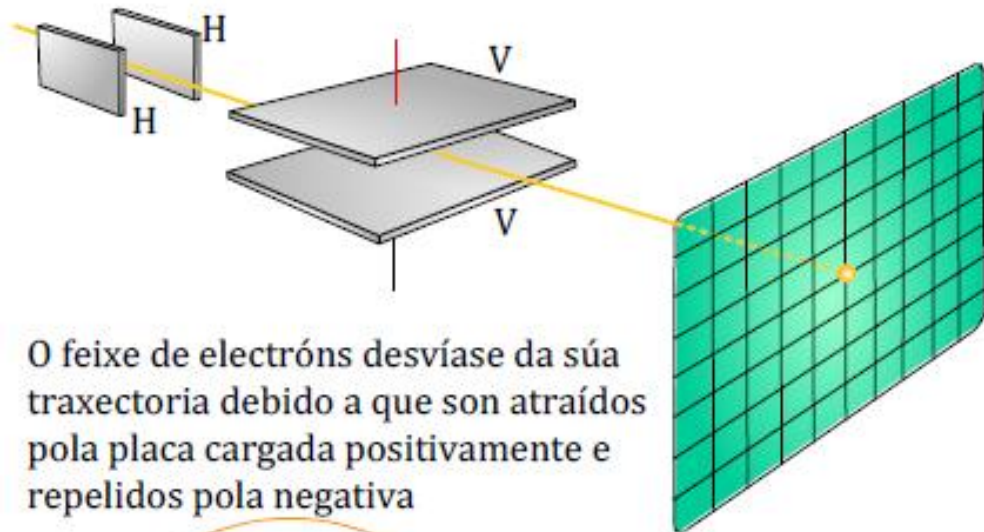
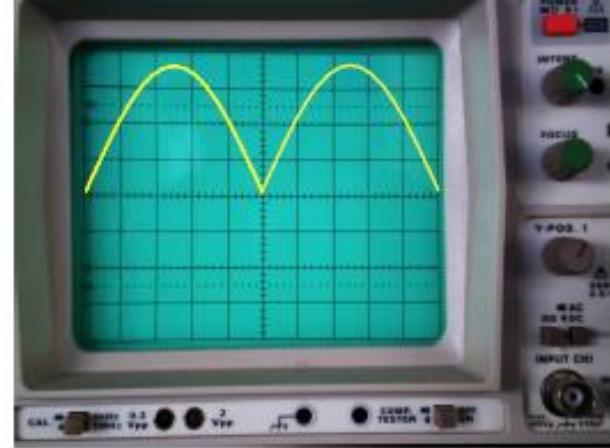


O feixe de electróns desvíase da súa traxectoria debido a que son atraídos pola placa cargada positivamente e repelidos pola negativa

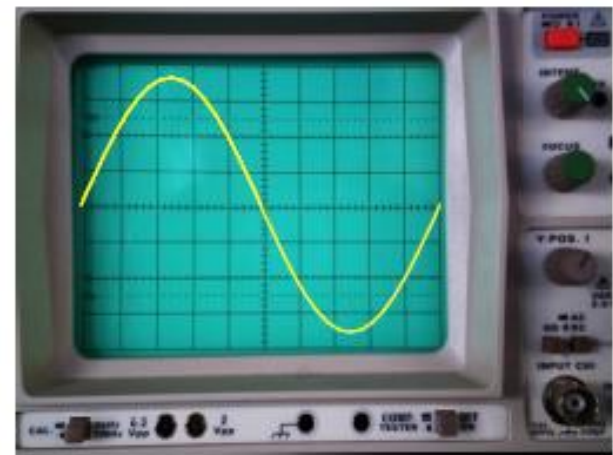




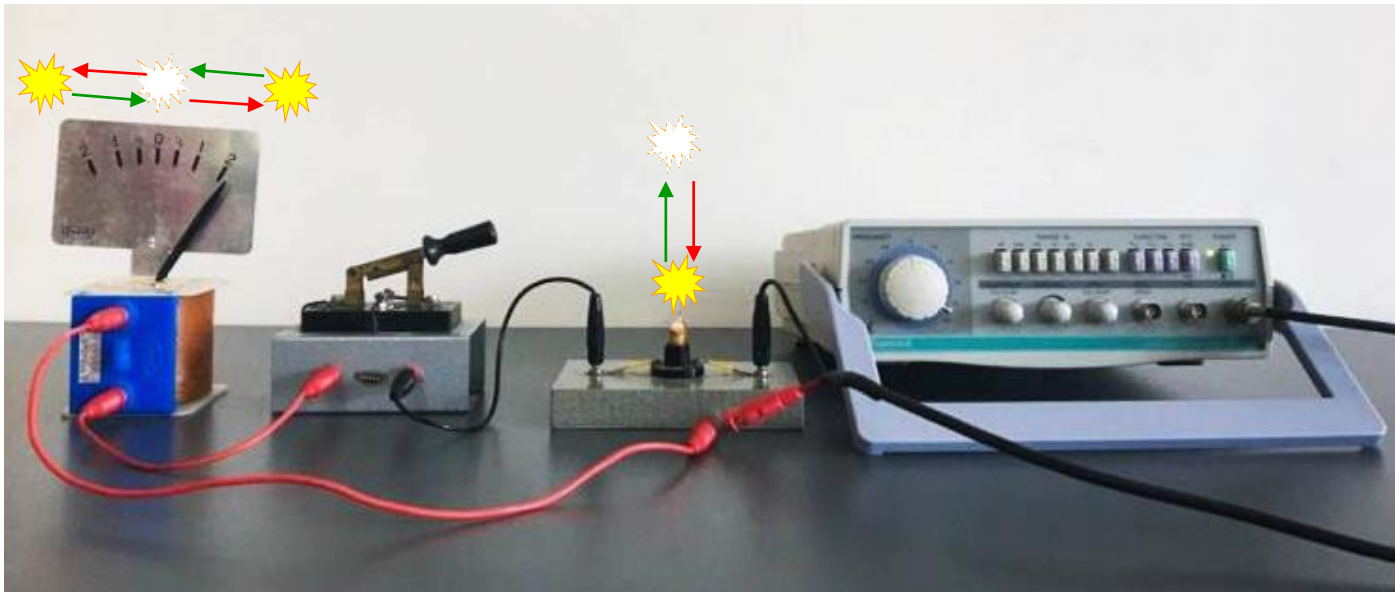
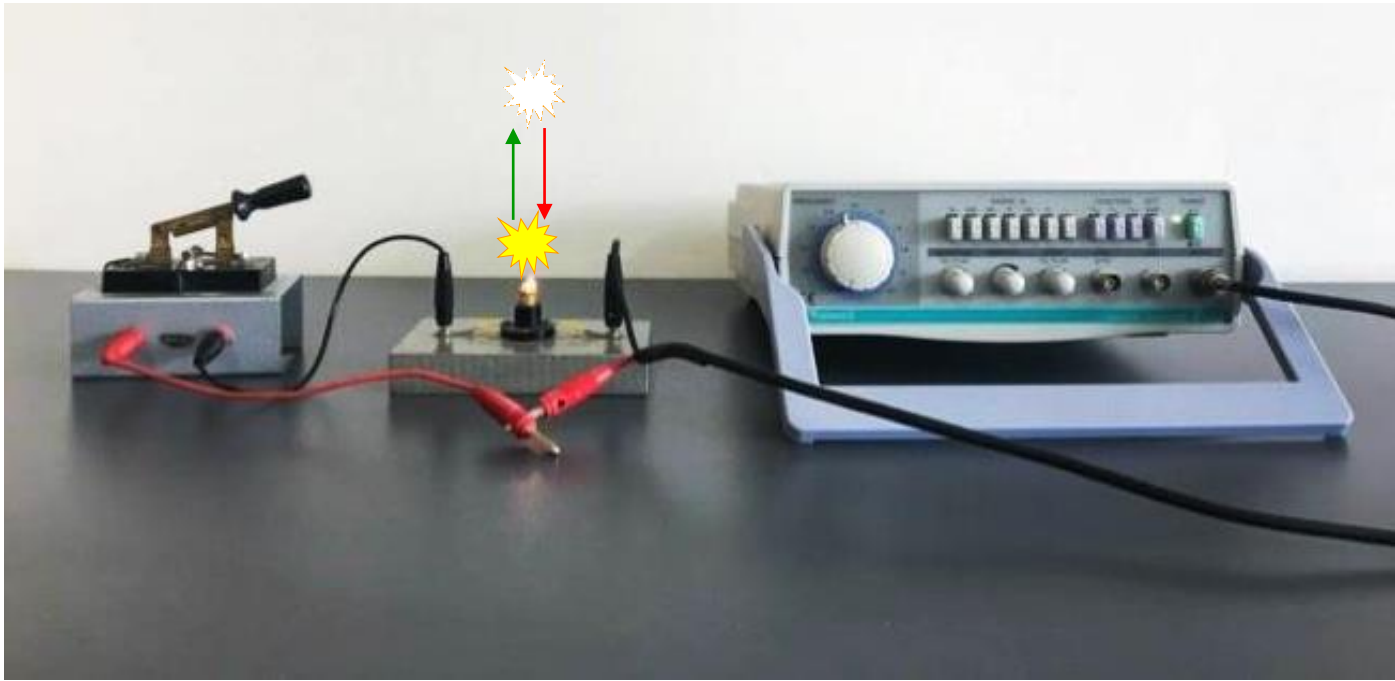
O feixe de electróns desvíase da súa traxectoria debido a que son atraídos pola placa cargada positivamente e repelidos pola negativa



O feixe de electróns desvíase da súa traxectoria debido a que son atraídos pola placa cargada positivamente e repelidos pola negativa



A corriente alterna varía en valor e en sentido.



El xerador eléctrico como motor eléctrico.

