



Build a simple Electric Circuit and demonstrate electromagnetic fields

Build a Morse code buzzer/or light sending circuit

Parts & Tools required

Battery holder & Batteries

https://www.aliexpress.com/item/32921543236.html?spm=a2g0o.productlist.main.9_3d382b09aQDL2q&algo_pvid=676f891a-fc19-42f5-961e-dfcacf2091c7&algo_exp_id=676f891a-fc19-42f5-961e-dfcacf2091c7-4&pdp_npi=4%40dis%21EUR%210.10%210.10%21%210.11%210.11%21%402102f6bd17312781074084085e7f1f%2166032885423%21sea%21E%214630046804%21X&curPageLogUId=B0RlCC72WpYO&utparam-url=scene%3Asearch%7Cquery_from%3A



https://he.aliexpress.com/item/33038425138.html?src=google&pdp_npi=4%40dis%21EUR%210.76%210.54%21%21%21%21%40%2167301983072%21ppc%21%21%21&src=google&albhch=shopping&acnt=708-803-3821&isdl=y&slnk=&plac=&mtcto=&albbt=Google_7_shopping&aff_platform=google&aff_short_key=UneMIZVf&gclsrc=aw.ds&albag=888888&ds_e_adid=&ds_e_matchtype=&ds_e_device=c&ds_e_network=x&ds_e_product_group_id=&ds_e_product_id=en33038425138&ds_e_product_merchant_id=107696533&ds_e_product_country=IE&ds_e_product_language=en&ds_e_product_channel=online&ds_e_product_store_id=&ds_url_v=2&albcop=17859513034&albag=&isSmbAutoCall=false&needSmbHouvi=false&gad_source=1&gclid=Cj0KCQIAkoe9BhDYARIsAH85cDNqaV4IEa4K38LxsMccp1v7LlZihH88nZ-qZQvFrVjys4Ac7ZnY2saAmG1EALw_wcB&gatewayAdapt=glo2isr

Buzzer

https://www.aliexpress.com/item/1005006381739004.html?src=google&pdp_npi=4%40dis%21EUR%211.01%211.01%21%21%21%21%40%2112000036968462361%21ppc%21%21%21&src=google&albhch=shopping&acnt=708-803-3821&isdl=y&slnk=&plac=&mtcto=&albbt=Google_7_shopping&aff_platform=google&aff_short_key=UneMIZVf&gclsrc=aw.ds&albag=888888&ds_e_adid=&ds_e_matchtype=&ds_e_device=c&ds_e_network=x&ds_e_product_group_id=&ds_e_product_id=en1005006381739004&ds_e_product_merchant_id=5308040172&ds_e_product_country=IE&ds_e_product_language=en&ds_e_product_channel=online&ds_e_product_store_id=&ds_url_v=2&albcop=17859513034&albag=&isSmbAutoCall=false&needSmbHouvi=false&gad_source=1&gclid=Cj0KCQIA0MG5BhD1ARIsAecZwQUu7FXiYWsX90PbBF43UHIzn3MA77CjWg4kd1t2brOwTINNzopk74aAv4YEAALw_wcB



Speaker cable or bell wire

https://www.screwfix.ie/p/time-black-red-24-strand-speaker-cable-10m-coil/751PF?gad_source=1&gclid=CjwKCAiAtYy9BhBcEiwANWQQLxNAAQnpzxHoAbHU817PeQevl2nXJ7Gzv0gW_nsGYD6PMQPAzmYiGRoCtjcQAvD_BwE&gclsrc=aw.ds



LED light

https://www.aliexpress.com/item/1005004329884659.html?spm=a2g0o.productlist.main.19_1ec8Lmo0Lmo0mc&algo_pvid=af639d8f-5179-46fd-baa0-624ac7457e1e&algo_exp_id=af639d8f-5179-46fd-baa0-624ac7457e1e-9&pdp_npi=4%40dis%21EUR%212.16%212.16%21%21%212.24%212.24%21%40211b816617321179619278535eca68%2112000028778995286%21sea%21E%214630046804%21X&curPageLogUId=jkic8vVD69sV&utparam-url=scene%3Asearch%7Cquery_from%3A



Thumb tacks



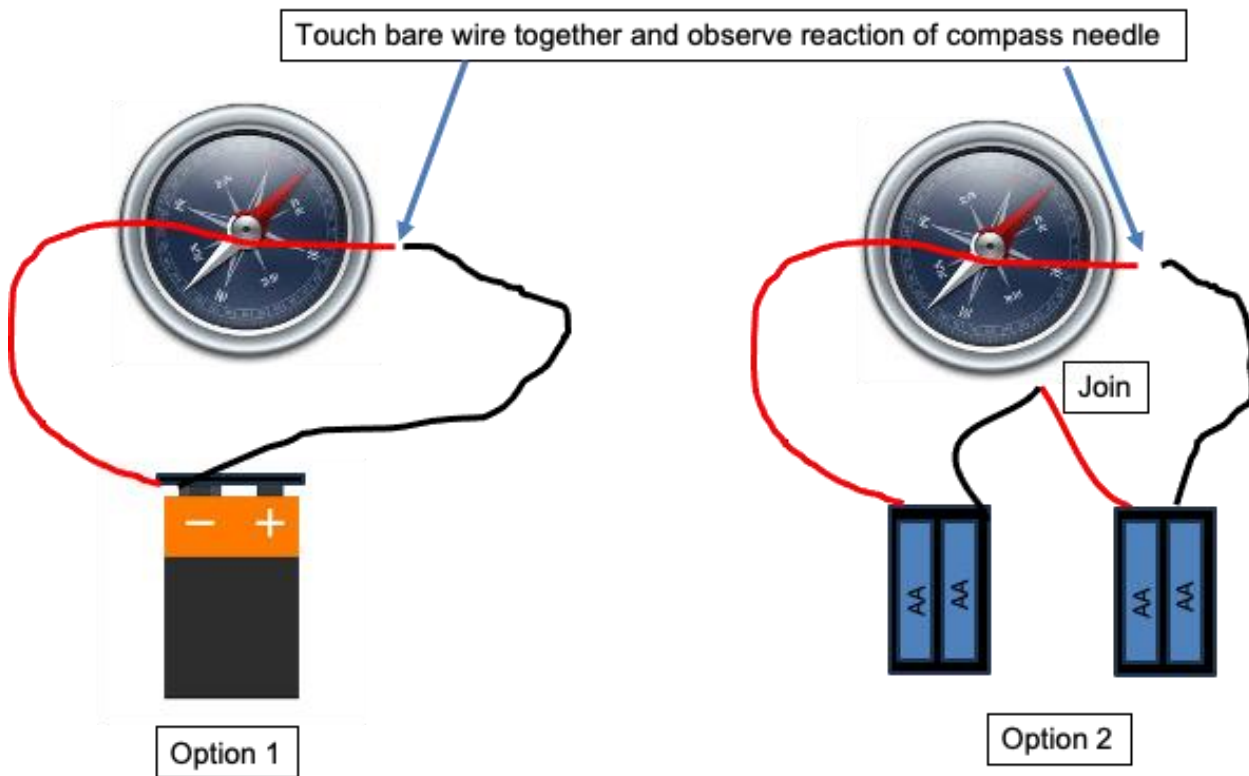
Aluminium food containers & Scissors



Some blocks of wood and



Wire strippers



Demonstrate that there is an electromagnetic field generated by an electric current in a wire

1.) Build a simple morse code sender circuit with a power source (Battery), switch (Tin Foil “key”) and load (buzzer)

- a. Cut some tinfoil baking tin into a strip to make a switch
- b. Put 3 thumbtacks into a short wooden block, pinning one end of the tinfoil strip as per the picture Figure 1. Note: don't push the tacks all the way in as you need to be able to wrap the wires around them.
- c. Strip back the wires on the battery and buzzer with a cable stripper
- d. Wrap the wires as per the picture taking care of how the positive (red) and negative (black) wires are arranged

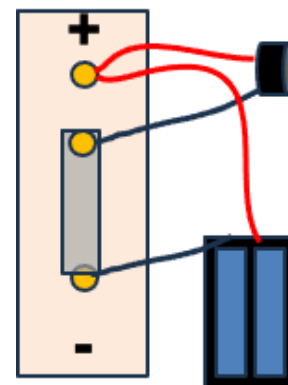
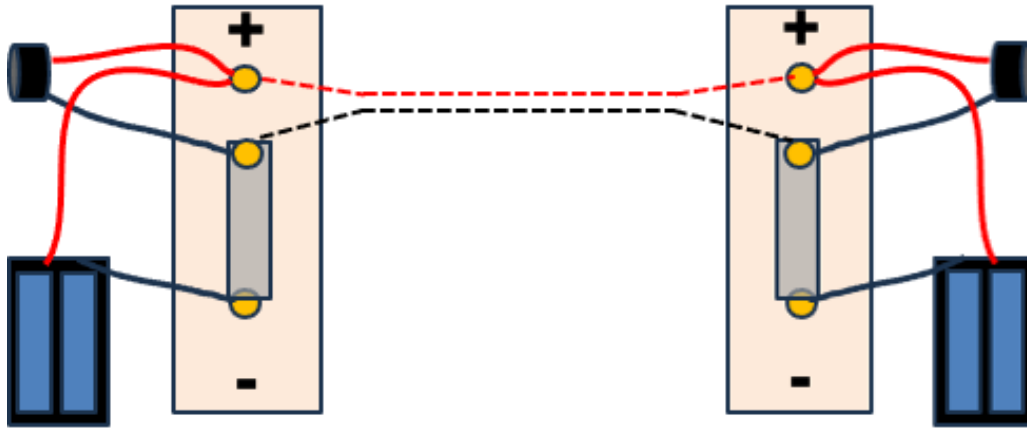


Figure 1.

2.) Test your circuit and send SOS in morse code

3.) Using some old wire, or speaker cable connect stations between rooms as outlined in the picture and send some morse messages between each other.



4.) Instead of the buzzer you can connect an led and signal via light instead of sound.