Unscramble the names of these famous scientists and match the scientists to their discoveries:

s e o r t e d

e p a r m e

a r a d f a y

_____ _____ _____

_____ discovered that a moving magnet produces an electric field.

_____ discovered the electron, although he called it a different name.

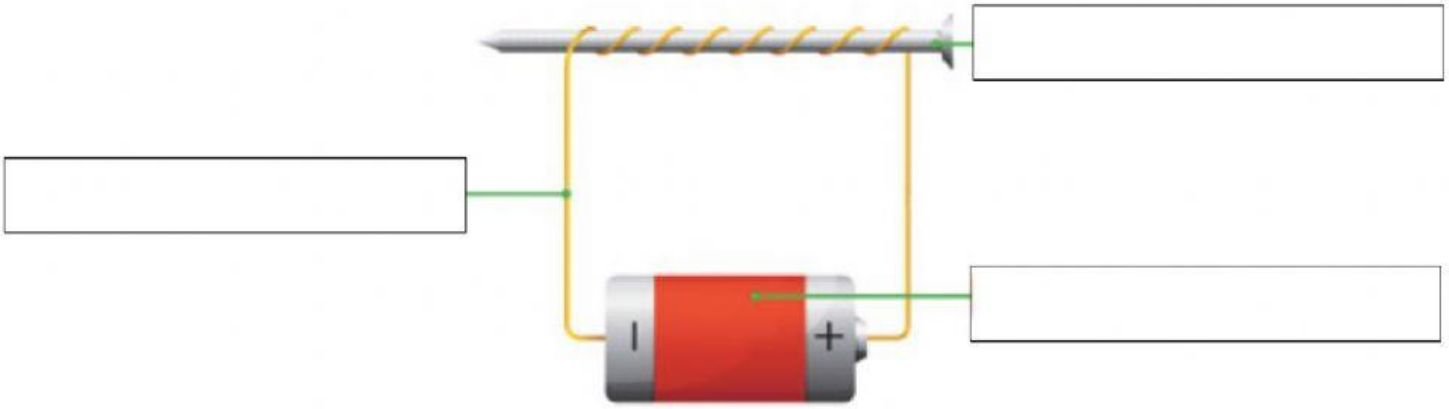
_____ invented the first electric motor.

_____ discovered that an electric current produces a magnetic field.

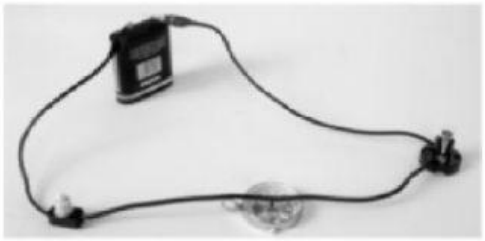
_____ couldn't explain his discovery.

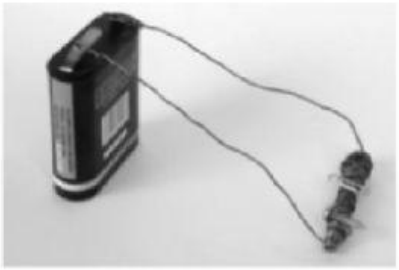
Label the parts of the electromagnet:

wire iron nail battery



What happens when these electric circuits are switched on? Write sentences:

a  

b  

a) When we switch on the circuit, the _____ will _____.

b) When we switch on the circuit, the _____ will _____.

TRUE or FALSE? Correct the false sentences.

- Bar magnets can be switched on and off.

- Bar magnets have one pole: north.

- The north pole of a bar magnet has a positive magnetic charge.

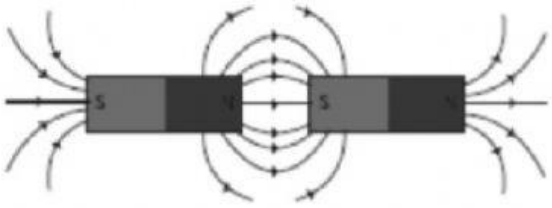
- Bar magnets repel metals such as iron, steel and nickel.

What do bar magnets attract? Classify these objects in the table. Then, test your ideas.

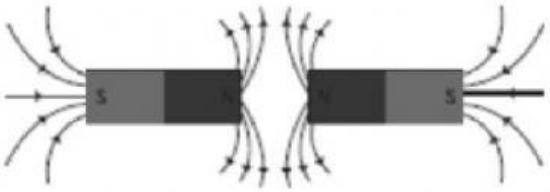
scissors pencil a fridge magnet a plastic bag a key a coin plasticine
an electrical wire a needle cotton thread a ruler a bar magnet

Objects that are attracted to a bar magnet	Objects that are repelled by a bar magnet	Objects that are not attracted or repelled by a magnet bar

Look at the pictures and complete the descriptions:



These two bar magnets are _____ each other. The magnetic field lines go from the _____ pole of the first magnet to the _____ pole of the other.



These two bar magnets are _____ each other. The magnetic field lines don't go from one magnet to _____ _____ _____.

Complete the text about the magnetosphere using the words in the box:

north	compass	bar magnet	Sun	magnetic	atmosphere

Our planet, the Earth, has a _____ field that can be detected by a _____. It's called the magnetosphere and it extends below the surface of the planet and out into the _____. The magnetosphere resembles the magnetic field of a _____ _____, with the magnetic south close to our geographical _____ pole. The magnetosphere deflects harmful radiation from the _____. As a result, it's extremely important for life on Earth. Without its protection, many species would become extinct.

Match the words to the definitions:

1. The magnetosphere
2. The geographical north pole
3. Solar radiation
4. A compass

a) A magnetised needle that helps us navigate.

b) The Earth's magnetic field.

c) Harmful energy produced by the Sun.

d) The south pole of the magnetosphere.

Name the odd one out and explain why:

- compass needle north atmosphere

- iron Sun radiation harmful

- magnetosphere north pole atmosphere compass

- south pole magnetic field Sun north pole
