THE MAGNETIC FIELD

Students …………………………………………………………………………. Class ………… Date ……………

A magnet creates a **magnetic field** around it. You cannot see a magnetic field, but you can observe its effects.

How can I observe the effects of the magnetic field?

MATERIALS

A magnetic bar, a sheet of paper, iron filings, a strainer.

PROCEDURE

Put the magnetic bar on the table;

put a piece of paper over the magnet;

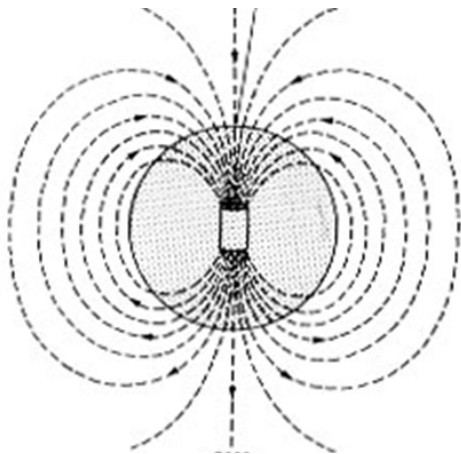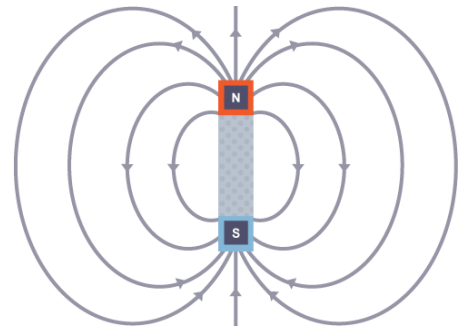with the help of the strainer, sprinkle some iron filings onto the paper.
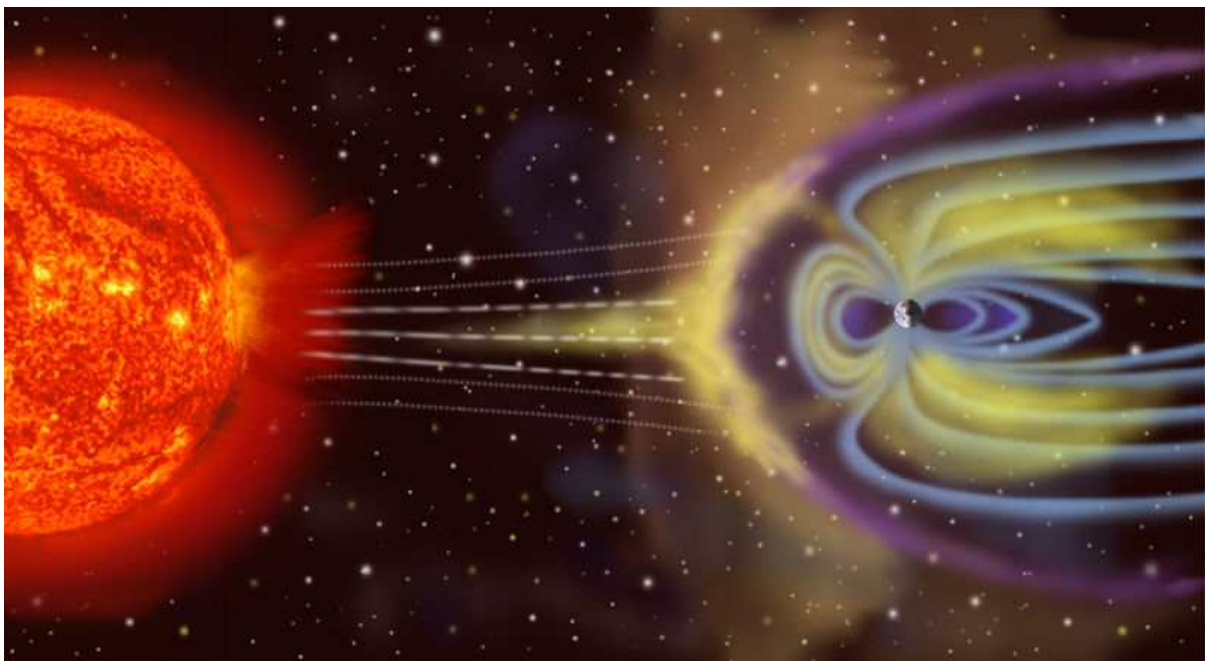
OBSERVATIONS

Draw a picture.

CONCLUSIONS

A magnet creates an invisible area of magnetism all around it, called a magnetic field.

A magnet has two ends called poles, one of which is called the north pole, while the other is called the south pole.

Iron filings sprinkled on a magnetic bar show the magnetic field around it!
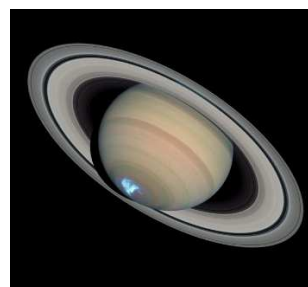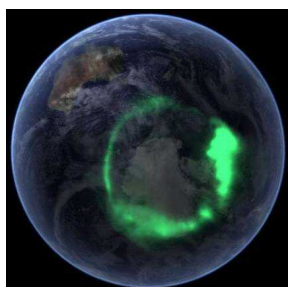
In the previous lesson we have seen that both Earth's inner and outer core are made of metal (iron and nickel), but the outer core remains liquid while pressure keeps the inner core solid. The liquid of the outer core constantly moves. **This moving metal generates a magnetic field around the planet** and it also protects the planet from the Sun's harmful **solar wind** (made of charged particles like protons and electrons)!

You can see the interaction between our magnetic field and the solar winds when **auroras** occur. The most famous ones are in the northern hemisphere and they are called the **aurora borealis**. Auroras also appear on other planets with magnetic fields.

How can I show the existence of the Earth's magnetic field?

MATERIALS

A magnetic bar, a thread.

PROCEDURE

Hang a magnet by a fine thread and allow it to settle.

OBSERVATIONS

All the magnets hanged by the classmates, point in the same direction!

Which direction??

If we have a compass we can observe that is North-South direction!

A hanging magnet behaves like a compass!

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iron filings = limatura di ferro
strainer = colino
to sprinkle = spargere
behaves = si comporta
harmful = dannoso
to prove = verificare
to hang = appendere
to allow = permettere, consentire
to settle = sistemare, fissare
to point = indicare, mostrare

Keywords