



SCIENCE PROGRAM AT SCHOOL

“MAGNETISM”

CEIP “Nuestra Señora de los Ángeles”

El Esparragal (Murcia)

Magnetism

The main objective of this project is to bring students to demonstrate to our students that they can learn through experiments.

This Project Will be focused for fifth and sixth graders.
The first session can also be done for the second grade.

We Will follow these steps:

- 1st Brainstorm to discover what they know about magnetism. (Previous knowlegment)
- 2nd Throw out hypothesis before perfoming the experiments.
- 3rd Do different experiments.
- 4th Students check if the results of their experiments are similar to their hypothesis.

This year we are going to investigate about magnetism.

First Session

We start the lesson by questioning our students about what they know about magnetism. (annexed 1)

- 1) First experiment:
We will use magnets, we will look for magnetic objects in the classroom.
- 2) Second experiment:
We will use a magnet with a clip, also a magnet and two clips.
- 3) Third experiment:
We use magnets and different types of coins (cooper and cobalt).
- 4) Fourth experiment:
- 5) We use keys with magnets and we will make chains with different objects (keys, coins, clips, spoons etc)
All these experiments show us that something Happen when you use magnets with different objects.

Conclusion: Magnets attract some metals (iron, cobalt and nickels). Magnets have power to transfer their magnetic force to other metal.

Material:

Internet
Notebooks
For the experiment:
Magnets
Clips
Nails
Cooper nails
Spoon



<p>Second Session</p> <p>As we said in the last sesión, Platon informed us about induced magnetism. We are going to try to show what are magnetize and demagnetize</p> <ol style="list-style-type: none"> 1) First experiment: We will tie a clip to a cord on the table and we will attract the clip with a powerful magnet. 2) Second experiment: We will tie a bottle of water to a cord and we will attract with a magnet. 3) Third experiment: We use a magnet and a scissor. First a magnet Attracts a scissor and second it tries to demagnetize. 4) Fourth experiment: we use a magnet near other Magnets. <p>Conclusions: Clip is attracted by the force of the gravity. The force of the magnet is similar to the weight of the water. Remaining magnetism. There are two different forces: Attraction and Repulsion.</p>	<p><u>Material</u></p> <p>Internet Notebook Magnets Cord Clips Scissors Bottle</p>
<p>Third Session</p> <p>We are studying magnetic fields. Faraday discovered laws about magnetic field. Experiments: 1.- We will rub two pins with a magnet. We will realize that one pole attracts and the other pole repels. 2.- We will use a magnet and a compass. 3.- When we bring a magnet to iron templates, we see the magnetic field.</p> <p>Conclusions: When a magnet discovers another magnet near, it changes. We can say that "a magnetic field" has been generated". It enters through the south pole and exits through north pole. Poles with the same names are repelled. Poles with different names are attracted.</p>	<p><u>Material</u></p> <p>Magnets Pins Clips Compass Compass needle Cord Iron templates</p>



<p>Fourth Session</p> <p>We are going to build different types of compasses. Experiments: 1.-We can use a China compass. If we put a magnet on top of a small spoon, it will be oriented in the same direction, towards the north. 2.-we will put a small cork in a container with water We need a compass needle on the top of the small Cork. Conclusions: We have an enormous magnet (our terrestrial magnetic field). A magnet is formed by other magnets.</p>	<p><u>Material</u></p> <p>Magnets Compass Spoon Cork Compass needle Container with water</p>
<p>Fifth Session</p> <p>We are going to study domains. Experiments: 1.-We will put a magnetized nail near a magnet. The nail will be oriented. 2.- We will try with a nail that was never magnetized. The nail will not be oriented. 3.- we will do a game about domains. We will use flags When a flag appears with north, the rest of flags will indicate south and inverse. Conclusions: It's important to know the difference between magnetized and demagnetized.</p>	<p><u>Material</u></p> <p>Magnets Nails Flags Cooper wire</p>
<p>Sixth Session</p> <p>We are going to study magnetic field and current electricity. Experiments: 1.- Have ready a battery, a wire with a clip and a compass. We will put the compass on the wire and after that we will put the compass under the wire. 2.- We will repeat the previous experiment, but we will change the clip of the pole of the battery. 3.- We will do the same experiments again, but we will change the compass by a magnet. Conclusions: Magnetic field and current electricity is the same.</p>	<p><u>Material</u></p> <p>Magnets Battery wires Compass Clip</p>



(Annexed 1*)

What do we know?	What do we want to know?
What is magnetism? _____ _____ _____	_____ _____ _____ _____
What are magnets? ____ _____ _____	_____ _____ _____
Types of magnets? _____ _____ _____	_____ _____ _____
What are poles? _____ _____ _____	_____ _____ _____
What do you know about a magnetic field? _____ _____ _____	_____ _____ _____
What is a compass? _____ _____ _____	_____ _____ _____ _____



Región de Murcia
Consejería de Educación,
Formación y Empleo



CE INF-PRI Ntra. Sra. de los Ángeles
C/Limonar s/n 30163
El Esparragal (Murcia)
Tif. y fax. 968850084
e-mail: 30005193@murciaeduca.es
www.ceip-nsangeles.com

