

1. What is MAGIPHY ?
2. Over a school year.
3. How does MAGIPHY help students and teachers ?
4. Magiphy's tournament.

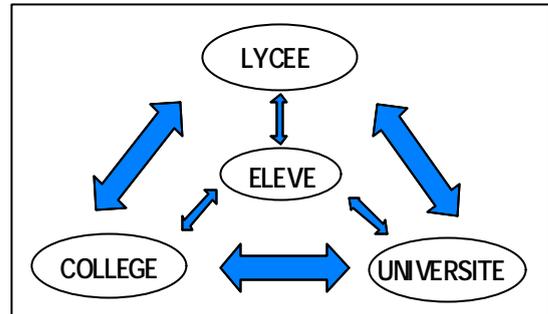
MAGIPHY...

## 1. What is MAGIPHY ?

The pupil is at the centre of a triangle formed by three teachers : one from a French “collège\*”, one from a “lycée\*” and one from university.

\* French “collèges” : pupils between 11 and 15 years old.

\* French “lycées” : pupils between 15 and 18years old.



The point of it all being : how to learn physics in a different way ?

- ❑ Generating new *greater motivation for physics* in “collèges” and “lycées”, pupils being the communicative vectors.
- ❑ Making *physics more attractive* enhancing that it *is not only aimed at a small specialists* audience talking with complex words but that a pupil can “talk about physics” and “show how it works” without necessarily being off-putting.
- ❑ Giving an opportunity of *working together* on a common, tutored scientific subject ; each member being able to express his sensitivity, skills and behaviour.
- ❑ Creating a real link between students in “lycées” and “collèges” in the same areas and the university thanks to the threesome *pupils-teacher-research worker*.

## 2. Over a school year

- ❑ Over a school year, a group (4 to 8) of students from a “lycée” and a group (6 to 10) pupils from a “collège” are members of a team formed by teachers from “lycées” and “collèges” and a research worker from university. All together, they form one of MAGIPHY’S SITES.
- ❑ Pupils work in a scientific group. They have to develop an experimental project more or less based on the theme of colour.

They work in groups from October till May :

- In their own school, about once a week.
- In collaboration with the “lycée” or “collège” to exchange ideas between the different members of the MAGIPHY’s site.
- In connection with the research worker (their counsel) who is the turning point of the exchanges between the groups and visits them.

1. What is MAGIPHY ?
2. Over a school year.
3. How does MAGIPHY help students and teachers ?
4. Magiphy's tournament.

## MAGIPHY...

Each group fills in an experiment notebook in which is mentioned :

- The experimental protocol and the results of the experiments but the pupils are free to note down all their comments.
- Possible follow up work and experiments are suggested and are debated at the next meeting. The teacher reads the notebook and adjusts the project development by suggesting new experiments.
- The groups prepare MAGIPHY'S TOURNAMENT that takes place in May.

note : Opportunities...

Last April 2, Serge Berthier, researcher for Paris VII and a specialist in the insects' iridescence, came and visited site 3 group. This visit was certainly one of the highlights of the year for that group; exchanges about the colour of butterflies started in the morning in Hénin-Beaumont (Northern France) with the students from the "collège" and "lycée". They explained what their work was about and discussed the subject with the researcher. In the afternoon, Serge Berthier gave a lecture at the science university of Lille.

Another highlight was the first "lycée" students festival. All the pupils took part in this event in April 2003 in Liévin (Northern France). They were the only students among 3000 presenting a scientific work.

### 3. How can MAGIPHY help students and teachers ?

What's MAGIc about PHYsics for the students :

- Making their way towards scientific studies while keeping their inquiring mind aware.
- Teaching them to express and explain their opinions, to argue in front of an audience. Being an actor.
- Giving them the opportunity of being part of a jury , thus of constructively asking questions about a scientific subject.
- Helping them in their studies, preparing them for tasks in their studies such as in the "Itinéraires De Découvertes"(IDD) in "collèges", "Travaux Personnels Encadrés"(TPE) in "lycées" and "Travaux d'Initiative Personnelle Encadrés"(TIPE) in "classes préparatoires". These are compulsory cross-curriculum works in France.

What's MAGIc about PHYsics for the teachers:

- The opportunity of working with colleagues and exchanging ideas and experiences.
- Knowing the research environment and process.

1. What is MAGIPHY ?
2. Over a school year.
3. How does MAGIPHY help students and teachers ?
4. Magiphy's tournament.

## MAGIPHY...

- ❑ Knowing that science can be practiced with students with the help of “already made” work provided by the built up CDrom.
- ❑ Creating the missing link between “collèges”, “lycées” and the university.

In the future, they'll be able to commit themselves in the Physics' Olympics more easily.

### 4. Magiphy's tournament in 2003.

The pupils presented scientific processes with simple, colourful and illustrative experiments in front of a jury formed by scientists but also to the audience that came to watch them at the *Science Museum* in Villeneuve d'Ascq on *Wednesday, May 7th*.

The audience could see :

- ❑ The *butterflies' colours*. Site nb3 : “lycée” Pasteur in Hénin-Beaumont, “collège” Emile Zola in Fouquièze lez lens and the science university of Lille.
- ❑ The *colours of soap films and bubbles*. Site nb1 : “lycée” G. Eiffel, “collège” J. Rostand in Armentières and the science university of Lille.
- ❑ The *sky's colours*. Site nb2 : “lycée” J. Bart in Dunkerque, “collège” Lamartine in Hondschoote and the MREID (Dunkirk's branch of the seaside science university).
- ❑ The *three-colour process : colours' synthesis and analysis*. Site nb 4 : “lycée” de l'Escaut in Valenciennes, “collège” Félicien Joly in Escaudain and the science university of Lille.
- ❑ *Three-dimensional, colour photography*. Site nb 5 : “lycée” Fénelon, “collège” Carnot in Lille and the science university of Lille.

Public meeting with all the people involved in one day from 8.30 a.m. till 6.30 p.m. at the Science museum of Villeneuve d'Ascq. A film crew shoots the group performance and it is broadcasted live on a screen.

In the morning : setting up of the equipment and preparation time ; In the afternoon : presentation of their year work in front of a jury for 20 minutes then question-time for 10 minutes.

	<b>Evaluation</b>	<b>Average</b>	<b>Quite good</b>	<b>Very good</b>	<b>Excellent</b>
<b>Chosen project</b>	Scientific process				
	Mastering of the subject				
	Experiments' notebook				
<b>Project's presentation</b>	Oral presentation				
	Experimental skills				
	Group work				
<b>Students' questions*</b>	How often ?				
	Constructive critics				
	Relevance				
<b>Project's poster</b>	Quality of the work				
	Conciseness skills				
	Communication				
	Care, aesthetics				

1. What is MAGIPHY ?
2. Over a school year.
3. How does MAGIPHY help students and teachers ?
4. Magiphy's tournament.

## MAGIPHY...

*The 10 pupils members of the jury who had been chosen by their peers were thoroughly involved in the due deliberation. Their remarks were constructive, real and very sensible especially when they talked about the day experience and their year cooperative work on physics. This really helped the whole jury in their choices.*

*The members of the jury were :*

Georges Wlodarczak (professor at the science university of Lille1), Albert Art (professor at the public university of Bruxelles), Marie Bourgault (inspector of schools in Lille Academy in physics and chemistry), Jean-Marc Bougenière (teacher in "classes préparatoires" at "lycée" Colbert in Tourcoing), Marie-Hélène Boulet (teacher at the teacher's formative university for technical schools "IUFM"), Daniel Taverne (teacher at the "collège" in Houplines), Frédéric Jajkiewicz (school teacher and tutor in Valenciennes), Marion Lesage ("collège" J. Rostand), Stéphane Tinturier ("lycée" G. Eiffel), Sophie Sabos ("collège" Lamartine), Agathe Verstraet ("lycée" J. Bart), Joanne Seux ("collège" Zola), Geoffrey Chlebowski ("lycée" Pasteur), Lauriane Coasne ("collège" Joly), Jocelyn Ollivier ("lycée" l'Escaut), David Ariche ("collège" Carnot) et Justine Paufert ("lycée" Fénelon).

The prizes were :

- The prize of the jury following the evaluation grid, underlined the rigorous scientific process chosen by site 3 group.
- The audience's prize : the audience could watch the groups' performances live on a screen, and then voted. Site 2 group won that prize.
- The pupils' prize ; The pupils voted for any team but their own ! The prize-winner was site 5 group.
- The cooperation prize, the jury felt a real osmosis in site 1 group.
- MAGIPHY's prize was won by site 4 group. The jury was really amazed when seeing Magiphy's logo appear in a maze of coloured cards...

Translation : Anne Nazé

Contact :

Daniel DROZ  
Président association « MAGIPHY »  
[ddroz@nordnet.fr](mailto:ddroz@nordnet.fr)  
7, allée Bernard de Clairvaux  
59840 LOMPRET  
Proviseur-Adjoint lycée FAIDHERBE  
9, rue Armand Carrel BP 767  
59034 LILLE cedex.