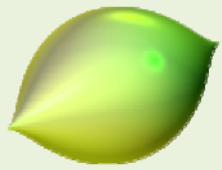


Name: .....

Day: .....



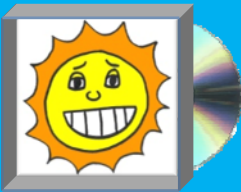
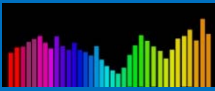

# ImaginaryBCN



Monitoring notebook

Activity: The mathematical kitchen

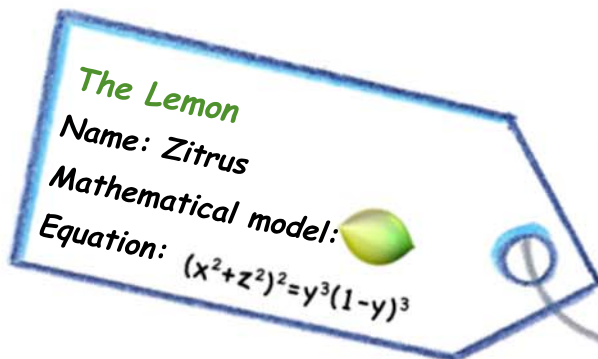
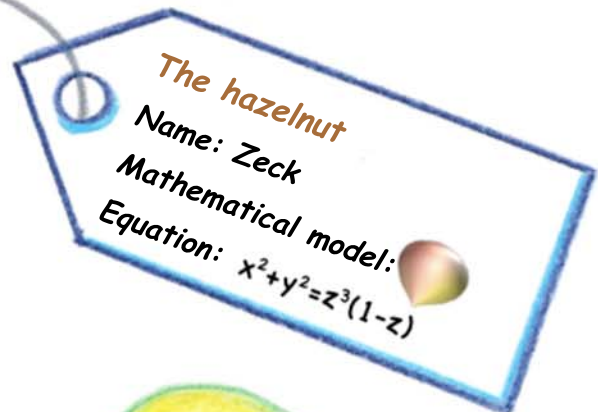
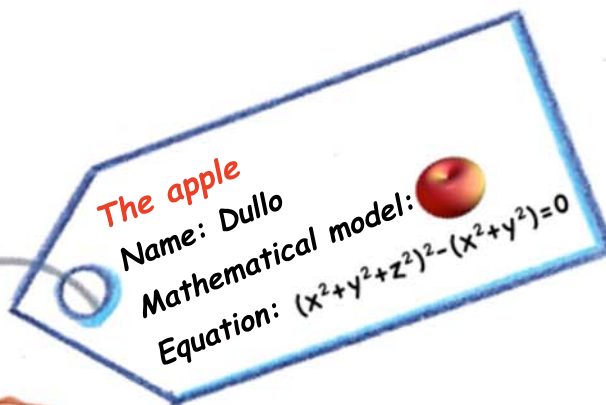
## ◆ Imaginations more and more imaginative

REALITY	IMAGINATION 1	IMAGINATION 2	IMAGINATION 3
WATCH THE LEMON			$x^2 + z^2 = y^3 (1 - y)^3$

REALITY	IMAGINATION 1	IMAGINATION 2	IMAGINATION 3
SING "SOL SOLET"			

REALITY	IMAGINATION 1	IMAGINATION 2	IMAGINATION 3
	SPIN THE SPINNINGTOP	$x^2 + y^2 = z^3 (1 - z)$	

## The cast of the story



## "Desserts of all colors and forms"



There was once a peasant who had lemon trees, apple trees and hazelnut trees in her farmhouse. Every Monday she went to the village market to sell their  $(x^2+y^2+z^2)^2-(x^2+y^2)=0$ ,  $(x^2+z^2)^2=y^3(1-y)^3$  and  $x^2+y^2=z^3(1-z)$ .

One day, an , a and a decided to run away from the stall to see the world and become a special dessert..

The jumped into the basket of the baker of the town and became a great ? pie.

The jumped into the small cart of the chef of the restaurant of the town and became a delicious ? mousse. And the was also very lucky

because it was secretly put into the bag of the ice-creams vendor of the town and became a refreshing ? sorbet.



## ◆ The mathematical kitchen

With a little bit of ,  and  we can do a lot of things. It depends on the quantity of flour that we use, on how we cook it and on how we mix the ingredients. For example:






*If we mix ...*

$$\left( 200g \text{  + \text{  + \text{  } \right) \text{  } \Rightarrow 5 \text{ minutes } \text{  }$$

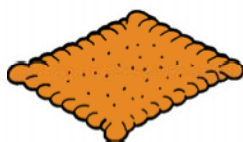
*We obtain:*



*If we mix ...*

$$\left( 175g \text{  + 75ml \text{  + \text{  } \right) \text{  } \Rightarrow 15 \text{ minutes } \text{  }$$

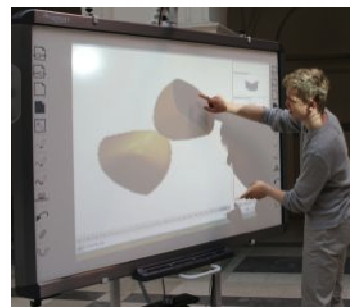
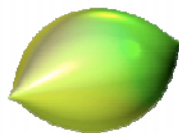
*We obtain:*



If we mix ...

$$x^2 + z^2 - y^3 (1 - y)^3 = 0 \quad \Rightarrow$$

We obtain:



You might have already discovered the similarity between **equations** and **recipes**...

- The letters **x, y, z** of the equations are the recipes' **ingredients**: this is what we mix to obtain the final result, either a surface or our meal. They are named **variables**.
- The **numbers 1,2,3,4,5....** which accompany the letters **x, y, z** are the **quantities** of each ingredient that we have to add. They are named **coefficients of the variables**.
- The **mathematical operations addition and multiplication** are the **cooking tools**: they are used to mix and combine the different variables.

In the same way that a great chef and a great stove are required to follow a good recipe, we need you and SURFER to draw a nice surface! Look at the mathematical kitchen on the right and imagine that you are going to cook on it. Try it!

I'm cooking a delicious  
 $1500(x^2+y^2)(x^2+z^2)(y^2+z^2)+x^2+y^2+z^2-1=0$

Download SURFER software for free in the following link:

[www.imaginary-exhibition.com/surfer?lang=es](http://www.imaginary-exhibition.com/surfer?lang=es)

Create your surface and participate to the contest!

[www.imaginary-exhibition.com/concurso](http://www.imaginary-exhibition.com/concurso)

