Name: .....

Day: .....

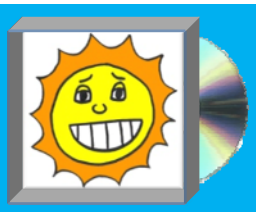
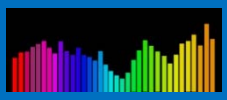
# ImaginaryBCN

## Monitoring notebook

## Activity: Initiation to the coordinates

### ◆ 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** | $x^2 + y^2 = z^3 (1 - z)$ |  |

Material created by Maria Alberich, Jordi Buendía, Ferran Dachs, Anna Sabater and Emilio José Sánchez supported by:

## The cast of the story

**The apple**
Name: Dullo
Mathematical model:
Equation: $(x^2+y^2+z^2)^2-(x^2+y^2)=0$

**The hazelnut**
Name: Zeck
Mathematical model:
Equation: $x^2+y^2=z^3(1-z)$

**The Lemon**
Name: Zitrus
Mathematical model:
Equation: $(x^2+z^2)^2=y^3(1-y)^3$

## "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.

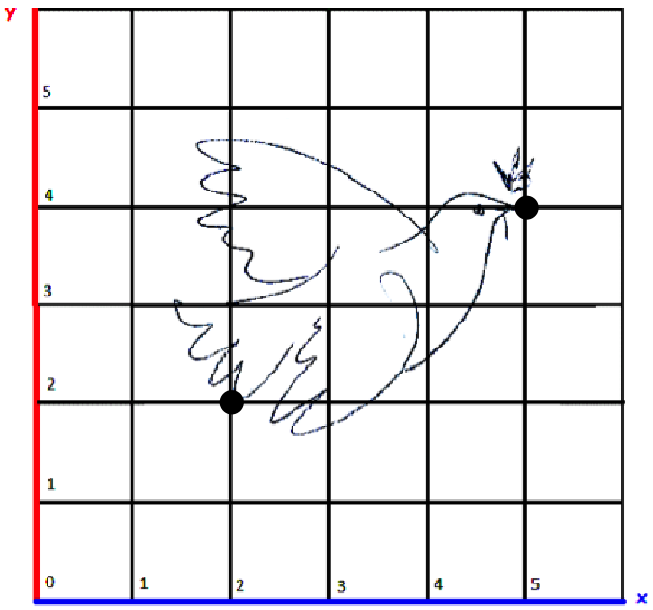
The jumped into the small cart of the chef of the restaurant of the town and became a delicious ? mousse. And the was also very lucky because it was secretly put into the bag of the ice-creams vendor of the town and became a refreshing ? sorbet.

# ◆ The coordinates of a bird

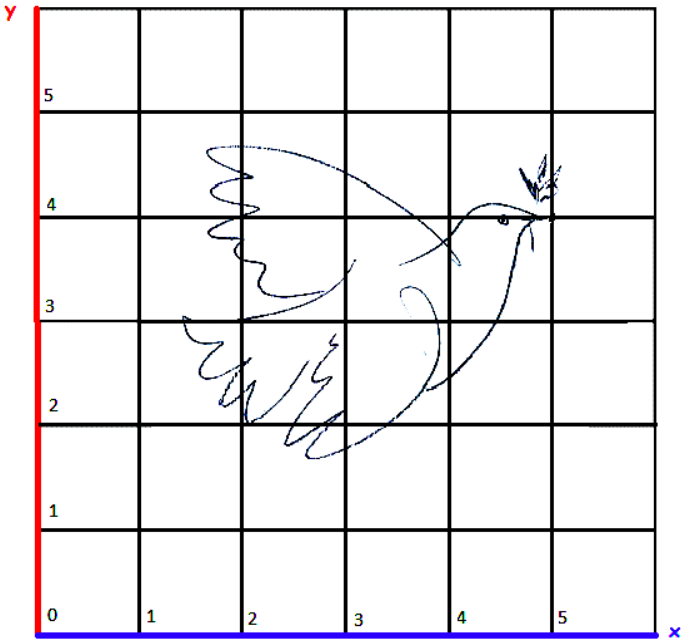
You have seen that SURFER software draws surfaces using equations. But this is not possible without a system of coordinates, this is a grid which let us locate exactly each point of the space.

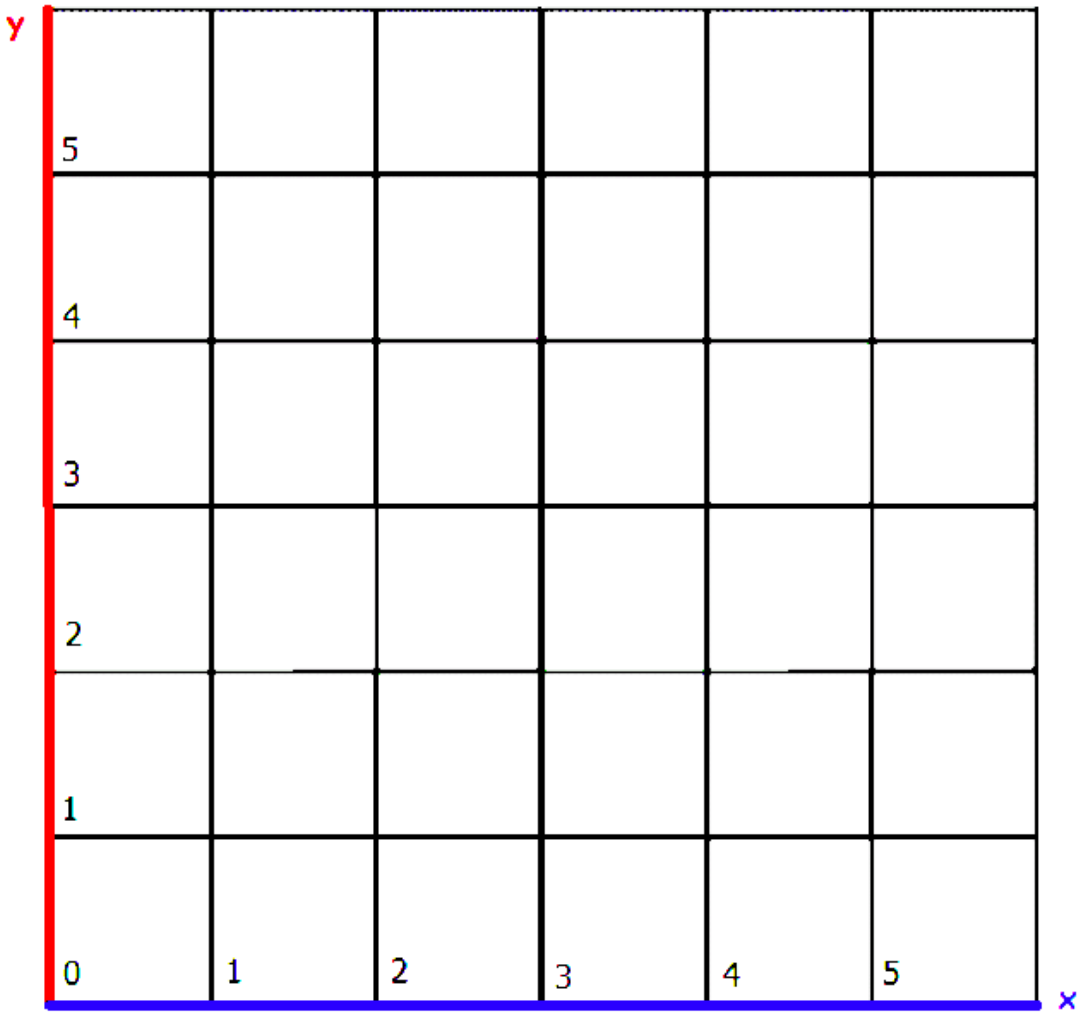
Pay attention to the grid below and the bird drawn on it. Each point of the grid corresponds to a blue number and a red number: these are their coordinates. For example, the feather of the pigeon has coordinates (2,2). The first number, the blue one, is named x coordinate. The second number, the red one, is named y coordinate.

Which are the coordinates of the pigeon's beak? (____,____)




Look at the big grid that you can find at the end. With the help of the coordinates you can easily extend the drawing. Try it!




Remember:

**Create your own surface and participate to the contest!**

**www.imaginary-exhibition.com/concurso**

**You can download (for free!) SURFER from the website:**

**www.imaginary-exhibition.com/surfer?lang=es**