WILD SNAILS VS FARM SNAILS

INTRODUCTION

While in Science we were studying the vital functions of living things, in Physics we were studying kinetics and from Math we were proposed a statistics project. Then, we thought about a project that would include the three subjects and we had the idea of developing a statistics study about the speed of displacement of the snails in front of a stimulus. We used lettuce as a stimulus.

HYPOTHESIS

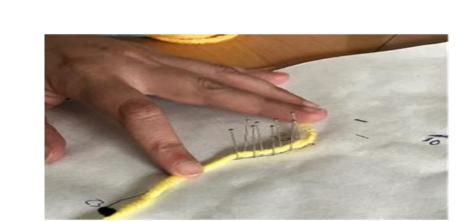**Hypothesis 1:** Farm snails weight more than wild snails.

Hypothesis 2: Wild snails are faster.

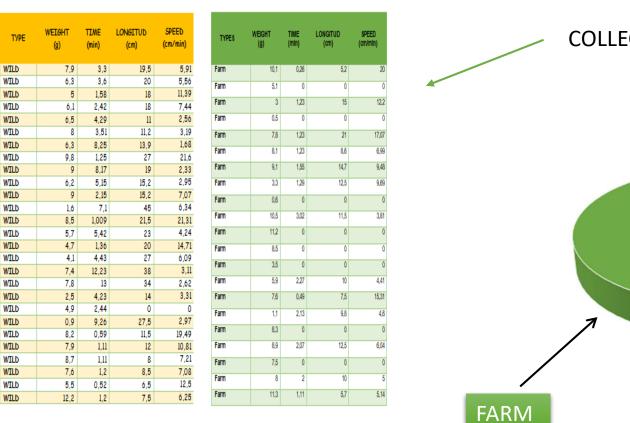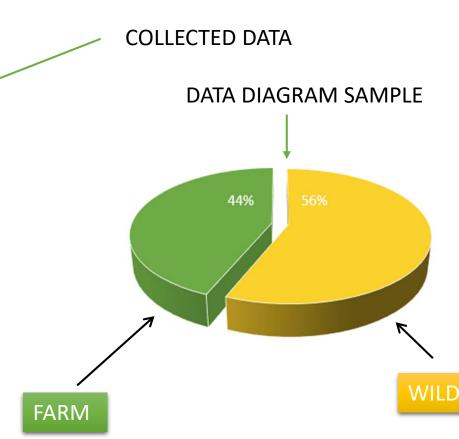**Hypothesis 3:** The fastest snails are the biggest ones.

DATA COLLECTION

1. We went to look for snails outdoors and a teacher brought us farm snails.
2. We labelled them with stickers with numbers.
3. We put lettuce in the middle of a tray and we put two snails at each corner. We timed how long it took them to reach the lettuce. We weighed them too.

4. To calculate the distance they travelled, we used the snail slime that they had left in the cellulose sheets. With needle and thread we marked the slime and then we measured the thread.

COLLECTED DATA AND SAMPLE

COLLECTED DATA

DATA DIAGRAM SAMPLE

44%   56%

FARM   WILD

OBJECTIVES

1st objective => Study the characteristics of the snails that will participate in the study.

This objective has been completed because we could analyse the weight, distance, speed…
We also saw that wild snails were faster and the farm ones weight more.

2nd objective => Observe and analyse the answer of the snails in front of a stimulus.

62% of the farm snails and 96% of the wild snails reacted to the stimulus and they went to the lettuce.

3rd objective => Compare if the speed or the reaction of the wild snails is equal to the same parameters in the farm snails.

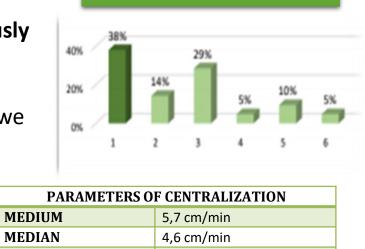We have observed that the wild snails were faster than the farms ones.

4th objective => Work on the concepts of trajectory, travelled distance and speed.

In this project we used physics to work with the concepts previously mentioned.

5th objective => Apply statistics concepts previously explained in Maths.

This objective has been reached as well because we worked with statistics: collecting the data on frequency tables, doing graphics, calculating statistics parameters, using the Excel program…

SPEED OF FARM SNAILS

38%   14%   29%   5%   10%   5%

PARAMETERS OF CENTRALIZATION	
MEDIUM	5,7 cm/min
MEDIAN	4,6 cm/min
MODE	Snails that haven't moved
PARAMETERS OF DESCENTRALIZATION	
RANK	20 cm/min
DESVIATION	6,194
RATE OF VARIATION	108,66%

CONCLUSIONS

% WEIGHT OF FARM SNAILS
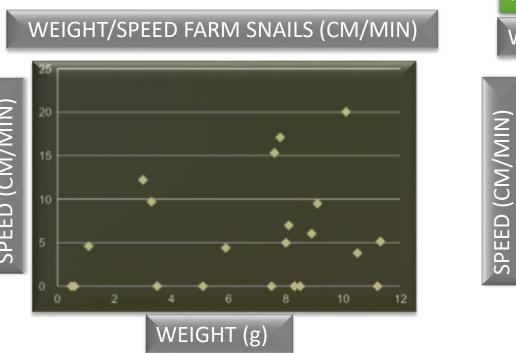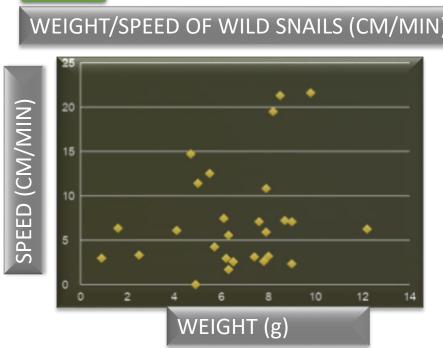
62%

% WEIGHT OF WILD SNAILS'

71%

The hypothesis 1 is true. We observed with the data that the weight of the farm snails is above the weight of the wild snails. The medium of the weights are the same, 62% have the weight above the medium. But 71% of the wild snails have a weight that is similar to their medium.

INTERVAL BETWEEN THE SPEED OF FARM SNAILS AND WILD ONES

HERE ARE THE FARM SNAILS ABOVE THE WILD SNAILS

WILD
FARM

With the results we obtained, we saw that the hypothesis 2 is also true. If we only count the snails that moved, the speed of the wild snails in all the stripes are above the farm snails, except in the 15 to 20 cm/min one.

WEIGHT/SPEED FARM SNAILS (CM/MIN)

SPEED (CM/MIN)

WEIGHT (g)

WEIGHT/SPEED OF WILD SNAILS (CM/MIN)

SPEED (CM/MIN)

WEIGHT (g)

We haven't been able to prove the hypothesis 3. As we can see in these graphics, where every point represents first the snails' weight and then the snails' speed, we can see that the points are very scattered and that there isn't any relationship between them.