

ZIENTZIA AZOKA  
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## IS OUR SNACK HEALTHY?

**GROUP:**

*THE FANTASTIC SCIENTISTS*

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ELORRIO BHI



### Hypothesis

Do the people in our school eat healthy snacks?

### Summary

The objective of this project is to see if we eat healthy in our school.

We're going to send questionnaires to the students of our school to check how healthy their snacks are.

When we see the results we are going to compare them.

Then, we're going to look for the calories, lipids, carbohydrates and sugars; with that we will give some advice in order to improve the eating habits.

## Materials

Chromebook,  
questionnaires,  
graphic representations.

The cooperation of the students is  
required to complete the  
questionnaires.



Image 1: group at work

## Procedure

## Hamaiketakoari buruzko galdetegia

Kalxo, 3DBH-ko ikasleak gara eta proiektu baterako datuak jasotzeko inprimaki hau betetzera gonbidatzen zaitugu. Seriotasunaz erantzun ezazu mesedez.

Neska edo mutila zara? \*

- Mutila
- Neska
- Beste bat...

Gaur gosaldu duzu? \*

- BAI
- EZ

Gosaltzen ba duzu zer gosaldu duzu?

Erantzun laburren testua

Normalean gosaltzen duzu? \*

- BAI
- EZ

Eskolan emandako Bock&Roll-a erabiltzen duzu?

- BAI
- Ez

We will send questionnaires to people in our school and see the answers.

The questions will be about what type of food they eat as a snack, if they think it is healthy or not, if they are boys or girls, if they usually have breakfast and if they use the Bock&Roll given in the school. Depending on the results we'll see if they're healthy or not so healthy.

After that we're going to see the results and do some graphic representations according to them.

**Image 2:** example of questionnaire

Here you can see how we have organised our work. for this, we have designed this timetable

<p><b>January 15th</b> We are going to do the questionnaires and write the email to Iñaki Milton (our mentor).</p>	<p><b>January 22nd</b> We are going to see the answers.</p>	<p><b>January 25th</b> We are going to continue writing the data on the document.</p>
<p><b>February 5th</b> We are going to open an excel and do graphics.</p>	<p><b>February 8th</b> We are going to take the data from the graphics and do tables.</p>	<p><b>February 22nd</b> We are going to the new questionnaires and we start the chronogram.</p>
<p><b>February 26th</b> We are going to continue doing the chronogram and searching for information.</p>	<p><b>1st March</b> We are going to start to send the new questionnaires to the students.</p>	<p><b>3rd March</b> We are going to check the answers of the questionnaires and start to do graphics.</p>
<p><b>5th March</b> We are going to look for the calories, lipids, carbohydrates and sugars.</p>	<p><b>19th March</b> We are going to plan the video and finish the graphics.</p>	<p><b>26th March</b> We are going to finish the work.</p>

## Results

We have run the survey twice (each time for a whole week) to check whether the results hold up over time or not.

On the other hand, in the second survey, we took the opportunity to improve some of the questions.

### Participation

	DBH1	DBH2	DBH3	DBH4
<b>Number of students</b>	53	15	76	62
<b>Percentage of participation</b>	86,9	30,6	97.36	74.2

As can be seen, participation in the surveys has been quite high. The surveys were sent via whatsapp and all students received them daily during two alternate weeks.

**Do they think if the food is healthy before preparing it?**

		DBH1	DBH2	DBH3	DBH4
Yes	Number of students	29	6	39	12
	Percentage	54,7	40	51,3	19,35
No	Number of students	21	5	35	34
	Percentage	39,6	33,33	46	54,8

As the table shows, students in first, second and third grade say that they pay attention to the quality of the snacks they bring to school. This percentage is lower in the case of fourth year pupils.

**Do they use the Bock&Roll given in the school?**

		DBH1	DBH2	DBH3	DBH4
Yes	Number of students	22	9	21	15
	Percentage	41,5	60	27,6	24,2
No	Number of students	23	5	55	47
	Percentage	43,4	33,33	72,4	75,8

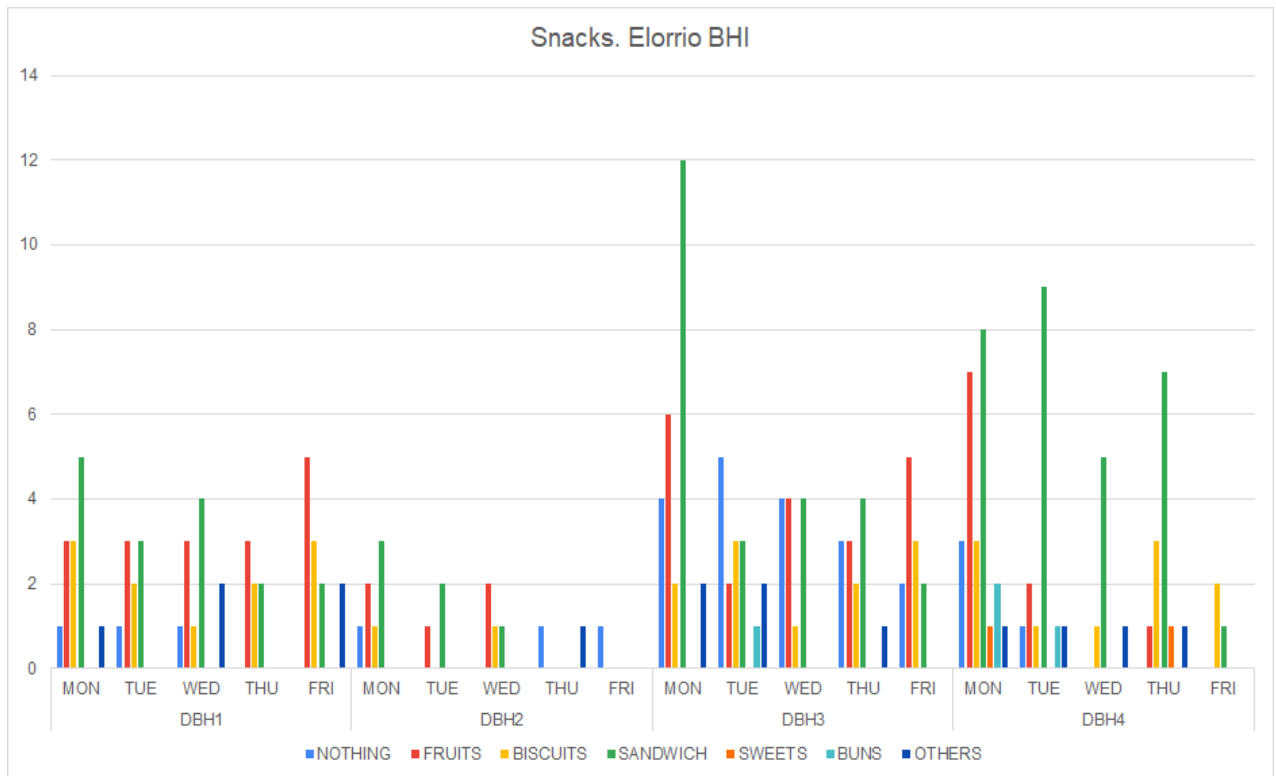
As far as the use of Bock&roll is concerned, it is clear that the third and fourth year students do not bring it to wrap their snacks.

This may be because they forget it, but as they have had it since the first year, it is very likely that they have lost it.

**Type of snack students of each course bring during a week (it corresponds to the first week of the study):**

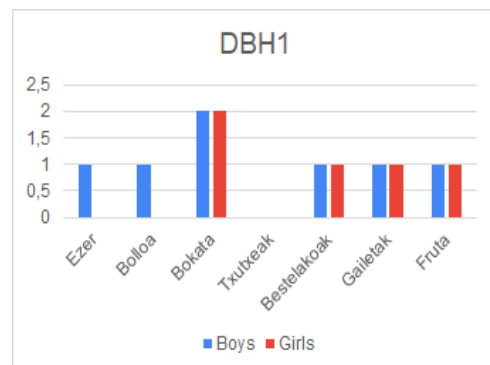
	DBH1					DBH2					DBH3					DBH4				
	MON	TUE	WED	THU	FRI	MON	TUE	WED	THU	FRI	MON	TUE	WED	THU	FRI	MON	TUE	WED	THU	FRI
NOTHING	1	1	1	0	0	1	0	0	1	1	4	5	4	3	2	3	1	0	0	0
FRUITS	3	3	3	3	5	2	1	2	0	0	6	2	4	3	5	7	2	0	1	0
BISCUITS	3	2	1	2	3	1	0	1	0	0	2	3	1	2	3	3	1	1	3	2
SANDWICH	5	3	4	2	2	3	2	1	0	0	12	3	4	4	2	8	9	5	7	1
SWEETS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0
BUNS	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	2	1	0	0	0
OTHERS	1	0	2	0	2	0	0	0	1	0	2	2	0	1	0	1	1	1	1	0

In the following graph we can see in a visual way the information collected in the table

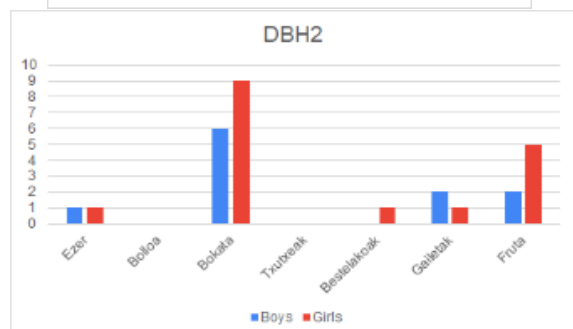


Type of snack students of each course bring during a week (it corresponds to the second week of the study):

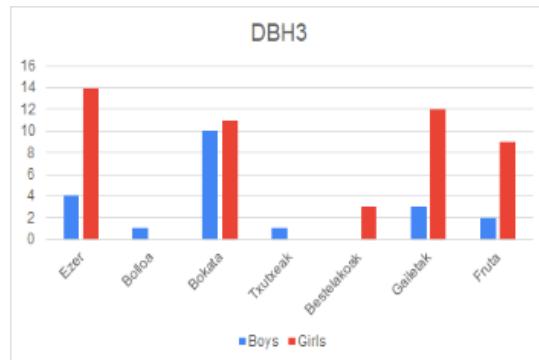
DBH1	Nothing	Buns	Sandwich	Sweets	Other things	Biscuits	Fruit
Boys	1	1	2	0	1	1	1
Girls	0	0	2	0	1	1	1



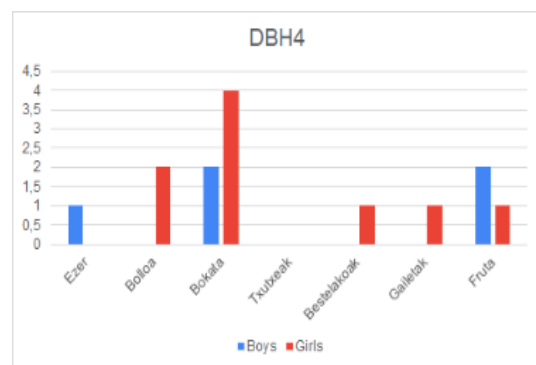
DBH2	Nothing	Buns	Sandwich	Sweets	Other things	Biscuits	Fruit
Boys	1	0	6	0	0	2	2
Girls	1	0	9	0	1	1	5



DBH3	Nothing	Buns	Sandwich	Sweets	Other things	Biscuits	Fruit
Boys	4	1	10	1	0	3	2
Girls	14	0	11	0	3	12	9

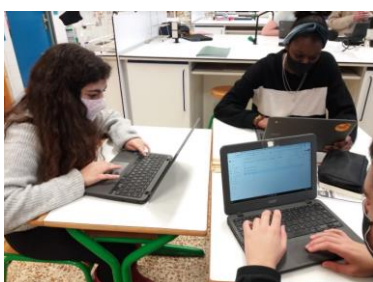


DBH4	Nothing	Buns	Sandwich	Sweets	Other things	Biscuits	Fruit
Boys	1	0	2	0	0	0	2
Girls	0	2	4	0	1	1	1



## Conclusion

We have seen that in our school people tend to eat a lot of fruit, more than we expected. In total 75 people in two weeks have eaten a piece of fruit for the break, certainly good news. But we have also observed that the students of the public school of Elorrio eat many sandwiches, in two weeks they have brought 118 sandwiches, one sandwich per day, although we do not know which one in particular, the most popular ones from our observation are the cold cuts that they have in average 359kcl per 100g, we recommend that in the case of wanting to bring a cold cuts sandwich that you bring turkey or ham and if it is possible that these are not ultra-processed. Avoid cold cuts which have a lot of fat at all costs, such as chorizo for example. A sandwich that we do not recommend to bring very often is the famous cheese sandwich since it contains an average of 35.2g of lipids per hundred grams, more than double the average of cold cuts sandwiches, cheese sandwiches have an average of 564.25 kcal per hundred grams. Things change if you decide to bring a fresh cheese sandwich.



We have also seen that many people bring cookies to snack. In total in two weeks 56 people have brought cookies, in comparison with the three sweets that people have brought there is a great side and we wanted you to see that there is not so much difference between bringing cookies and bringing any kind of appetizer .

On average, cookies have 485.25 kcal per 100 grams and sweets 444.5 kcal. At the point of sugar, cookies have 30.6g of sugar per 100g and sweets 32.2g only 2g of difference. In the case of lipids and carbohydrates, both are similar. By this we mean that cookies are not much better than the much prejudiced sweets. You should not bring cookies, sweets or buns for break under any circumstances, at most twice a week.

We have observed a small but notable difference between boys and girls, in the questionnaire that we sent to DBH3 students, 29% of the girls have not brought anything in a week for snack and 19% of the boys have not brought anything. Something very strange that we have observed is that many people who do not eat breakfast later in recess do not bring anything to eat or bring something not very substantial, this can do more harm than good because then they come home and get bloated to eat.

This work has helped us to become aware of what we eat at school and we believe it has also made other students think.

It is important not to lose sight of the fact that the food we eat during our breaks has to be healthy because our daily activity requires a lot of energy.

It is much better to eat a little many times a day than a lot a few times a day.

## Bibliography

- <https://supermercado.eroski.es/>
- <http://openaccess.uoc.edu/webapps/o2/bitstream/10609/20162/6/aborjacaTFM0213memor>



Image: Videoconference with Iñaki Milton



## Acknowledgements

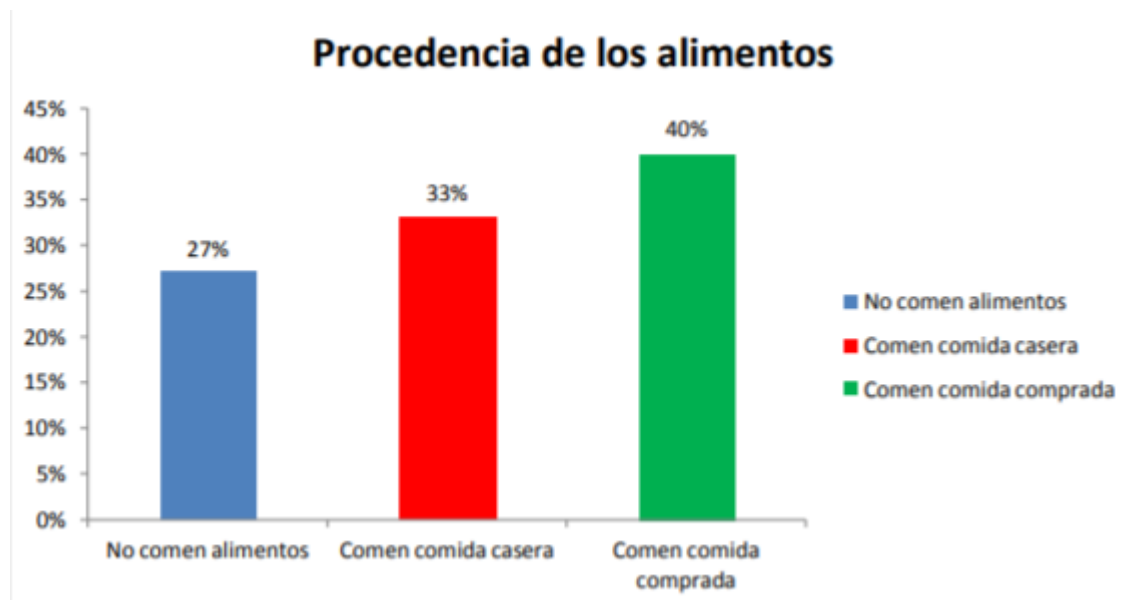
We would like to thank Zientzia azoka for the opportunity to take part in this experience.

We must also not forget our school, which has provided us with all the necessary materials to carry out the experiments.

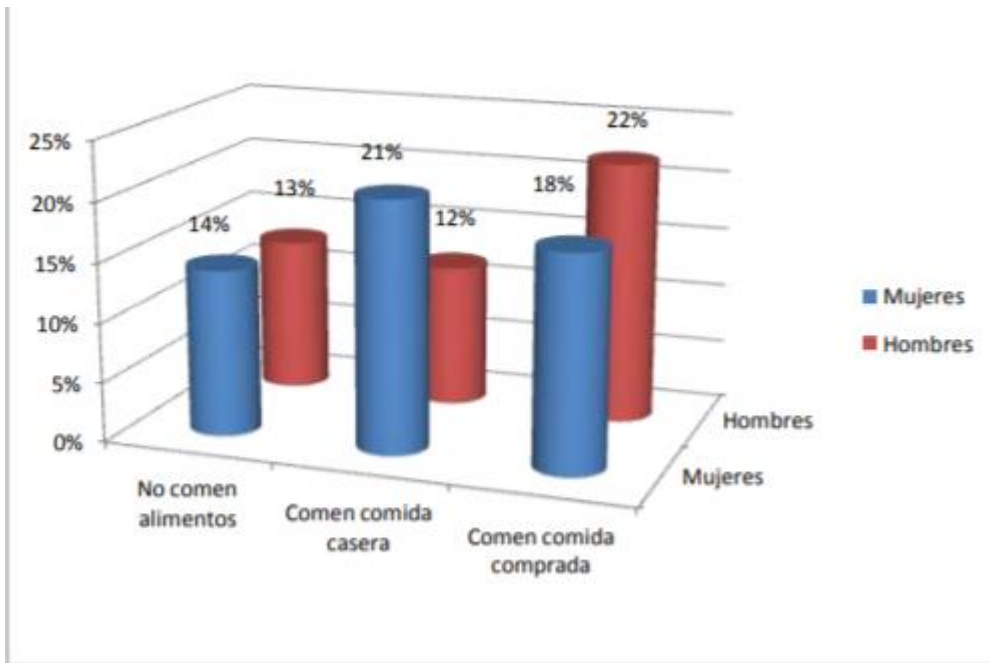
And finally, we are very grateful to Iñaki Milton, our mentor, for giving us ideas and for encouraging us to keep going through this difficult year.

## Appendix







### Some extra information:



From the graphic taken here [http://oa.upm.es/39433/1/TFM-Jorge\\_Granda\\_Alvarez.pdf](http://oa.upm.es/39433/1/TFM-Jorge_Granda_Alvarez.pdf) we can see how many spanish teenagers eat a snack that they buy, a homemade snack or on the other hand how many of them don't eat anything for snack.



In this graphic we can see the same data that in the previous one, but in this case boys and girls are separated. We can see that the girls are healthier because they eat more homemade food. On the other hand, we can see that boys eat more food that they buy.

Types of snacks	Cold cut sandwich 	Cheese sandwich 	Buns 	Biscuits 	Fruit 	Sweets 
Calories (per 100g)	359 kcal	564,25 kcal	413,25 kcal	485,25kcl	74,6kcal	444,5 kcal
Sugars (per 100g)	5,32 g	5,5 g	22.3 g	30,6g	11,58 g	32.2 g
Lipids (per 100g)	14,74g	35,2 g	22 g	19,5g	0,1 g	16,3 g
Carbohydrates (per 100g)	54,9g	50,5 g	193 g	208,1g	61g	191 g