ZIENTZIA AZOKA
2021-2022

TITLE OF THE PROJECT: **The growth of plants**

GROUP'S NAME: Einstein Plants
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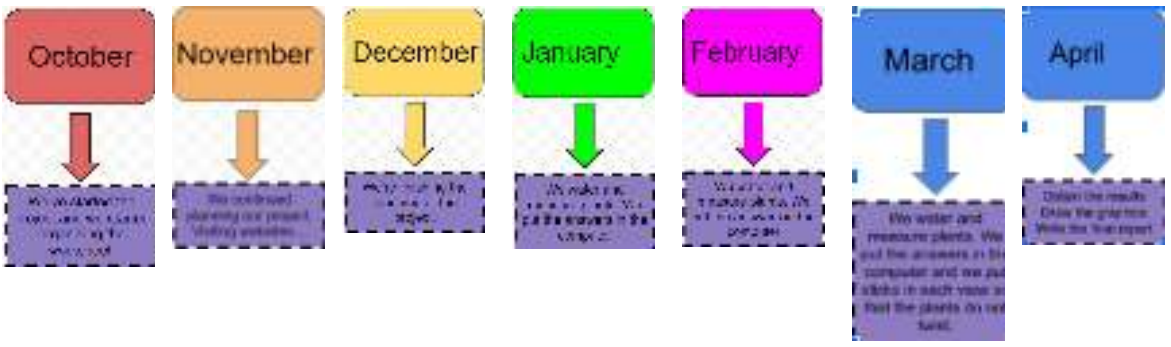
Hypothesis:
We think that plants without fertilizer will grow less than plants with fertilizer. We also believe that plants without fertilizer will die before the other because the fertilizers are made for plants to grow healthier and faster.

Summary:
Our project is the result of our curiosity to observe the growth of plants and to see how fertilizer use affects their growth.
To do this, we chose fast-growing plants (lentils and beans) and various fertilizers.
We compared the growth of these plants with control plants that were watered with water only.
Periodically we measured the growth of the plants and with the data obtained we designed graphs.

Chronogram
At the beginning of the project, we draw up a timetable to better organize the tasks to be carried out.



Materials and methods:

-Beans (20)
-Lentils (20)
-Poat (40)
-Water (40ml)
-Mineral fertilizer
-Industrial fertilizer
-Organic fertilizer
-Ruler
-Soil
- Thin rope
- Stiks

Procedure:
We sowed lentil and bean seeds in 40 pots, distributed as indicated below

LENTILS			
control plants	brown fertilizer	release fertilizer	platinum fertilizer
5 plants	5 plants	5 plants	5 plants
BEANS			
control plants	brown fertilizer	release fertilizer	platinum fertilizer
5 plants	5 plants	5 plants	5 plants

We watered the control plants with just 40 ml of water and the plants that were watered with fertilizer, we did it as follows:

- 1,25 g of brown,
- 2,4 grams of release and
- 40 ml of platinum fertilizer

We observed the growth of the plants every two days and water and measured them weekly.

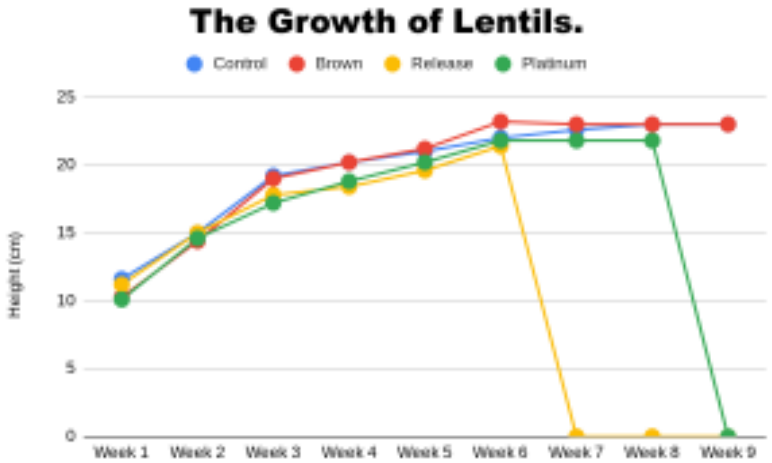
Results and graphic representation

LENTILS:






Lentils										
Control (Growth in cm)	1	11	16	19	21	18	20	21	21	21
	2	9	11	15	16	18	20	20	20	20
	3	11	16,5	20	21	22	23	23	23	23
	4	15	14,5	22	23	26	28	29	29	29
	5	12	17	20	20	21	22	22	22	22
Brown (Growth in cm)	1	11	17	21	21	22	23	23	23	-
	2	8	12	17	19	20	23	22	22	22
	3	10,5	14	19	20	21	23	23	23	-
	4	11,8	14	20	21	22	23	23	23	-
	5	10	15	18	20	21	24	-	-	-
Release (Growth in cm)	1	11	16	18	19	21	21	-	-	-
	2	8	12	14	15	16	18	-	-	-
	3	14	16	21	21	22	24	-	-	-
	4	11	15	17	18	19	21	-	-	-
	5	12	16	19	19	20	23	-	-	-
Platinum (Growth in cm)	1	8	14	17	20	21	22	22	22	-
	2	11	14	16	17	18	20	20	20	-
	3	8,5	12	14	17	18	20	20	20	-
	4	11	17	21	22	23	24	24	24	-
	5	12	16	18	18	21	23	23	23	-



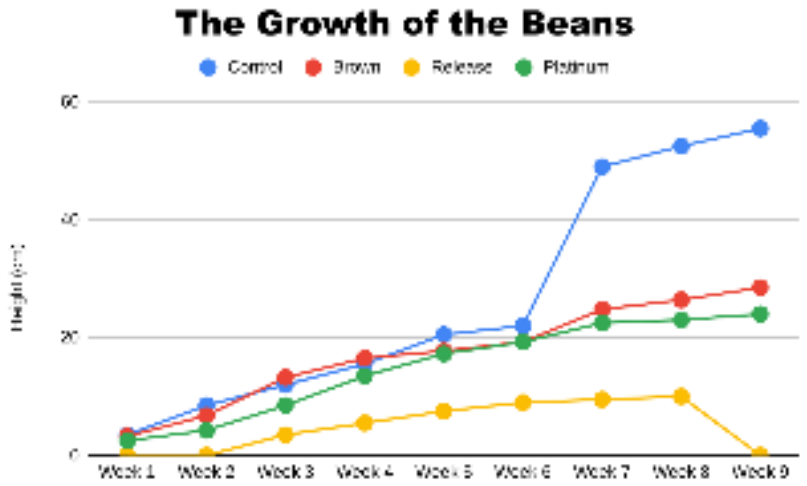
BEANS







Beans	22/01/18									
Control	1	-	-	-	-	-	-	-	-	-
	2	-	3	9	13	19	21	44	48	54
	3	3,5	11	15	18	22	23	54	57	57
	4	-	-	-	-	-	-	-	-	-
	5	-	-	-	-	-	-	-	-	-
Brown	1	4,5cm	13	20	20	19	20	30	35	35
	2	2cm	8	18	24	25	26	32	33	33
	3	-	5	7	8	10	12	23	24	24
	4	-	1	8	14	17	19	19	19	-
	5	-	-	-	-	-	-	20	21	22
Release	1	-	-	-	-	-	-	3	3	8
	2	-	-	-	-	-	-	3	3	-
	3	-	-	-	-	-	-	-	-	-
	4	-	-	3	4	7	9	10	10	-
	5	-	-	4	7	8	9	9	-	-
Platinum	1	-	3	8	14	18	20	20	20	22
	2	3	6	13	18	20	22	24	24	25
	3	-	2	7	14	19	21	24	24	25
	4	-	-	-	-	-	-	-	-	-
	5	-	6	6	8	12	14	22	24	24



Conclusions:

In general, all the plants without fertilizer have lasted longer than those with fertilizer. Apart from that they have grown more. We think that the fertilizer stops the plants growing. The results have surprised us because we thought that plants without fertilizers would not grow as much.

AKNOWLEDGMENTS

We would like to thank Elhuyar for giving us the opportunity to participate in Zientzia Azoka. We would also like to thank Naima El Bani Altuna for agreeing to be our mentor and for helping us to solve the problems we have had in our project.

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