"USP na Escolinha" AND BIOSYSTEMS ENGINEERING

Delaine Goulart da Rocha

"USP na Escolinha" AND BIOSYSTEMS ENGINEERING

PIRASSUNUNGA - SP

2021

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TRANSLATION
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TEXT
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CAROLINA FERNANDA PAVÃO
LUCIANE SILVA MARTELLO
RUBENS NUNES
SUSANA NORI DE MACEDO

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CAROLINA FERNANDA PAVÃO
CLÉLIA DE GODOY

SUMMARY

ANN'S VIEW

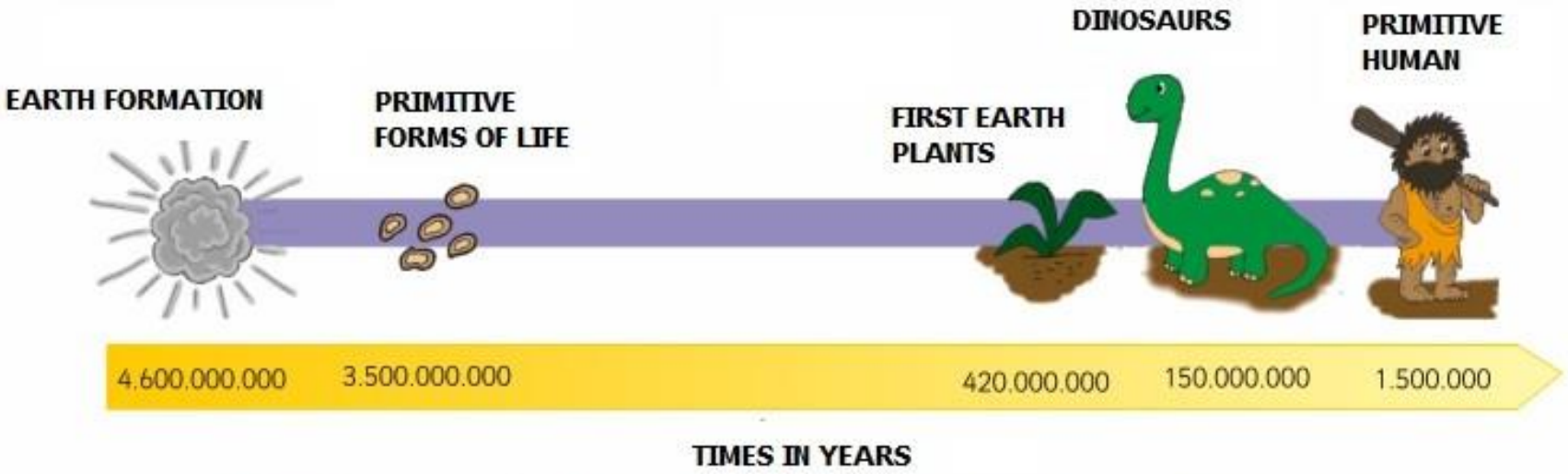
Hi! I am Ann and you know me.
I attended in the visit at University , through the USP Program at school, with my school friends, remember?

Look at me with my best friend Zequinha!

Today I want to tell you the details about we have learned about the Biosystems Engineering course!

After all, do you know what Biosystems Engineering is about?

Well, let's start at the beginning ...



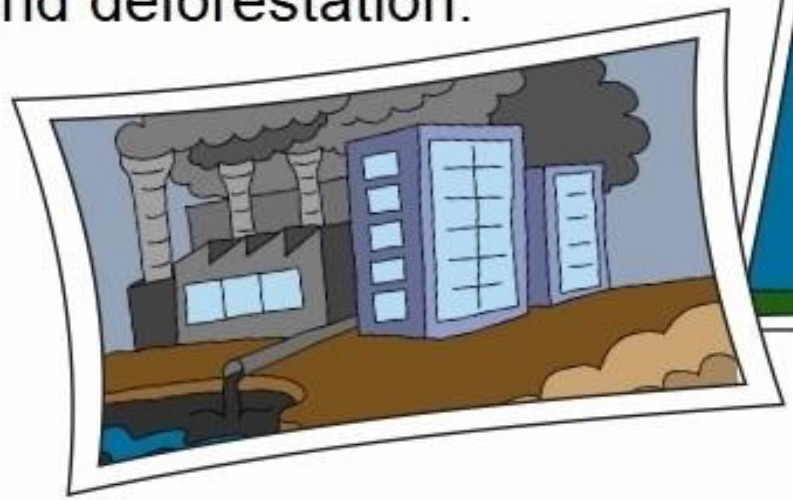
From prehistory onwards, human beings lived with living beings, animals, vegetables and micro-organisms.

These living beings help feeding humanity, as a large part of the products used in human food come from them, such as grains, legumes and vegetables, meat, milk, eggs, honey, the yeast used in baking, cheeses and even drinks.

However, if on the one hand, living beings feed us, on the other hand, they can also do us harm due to the transmission of diseases, allergies, attacks, and bites.

The world population has quickly increased and, along with that, there was the need to produce more food in a faster way.

The problem is that, throughout history, the increasingly bigger production of food has unexpected and undesirable consequences, such as the pollution of rivers and lakes and deforestation.



Realizing that protecting the environment was vital for the survival of humanity, a search for ways to improve the coexistence between humans and other living beings was started.

And it is at this point that biosystems engineering can help!

This is why biosystems engineering is the application of technologies to create and improve agricultural production. And it not only seeks to promote production increase, but also without forgetting the preservation of natural resources, and the respect to the animals

BIOSYSTEMS IN PHOTOS

During our visit to the university we could see various technologies used in the biosystems engineering course, such as Professor Rubens'Tabile demonstration to high school students on the importance of the drone.

ARCHIVE: DELAINE GOULART DA ROCHA

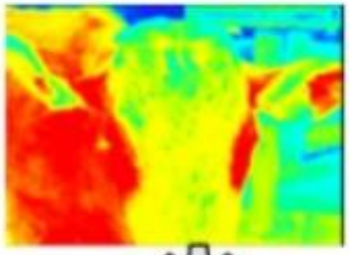
Did you know that a drone can be used to check planting failure and even the deficiency of minerals in plants?

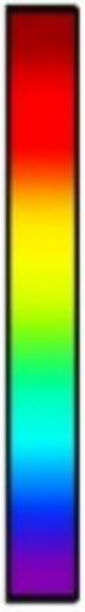
This other image is from the Principal of Campus "Fernando Costa" in Pirassununga. It presents an air conditioning system specifically designed for enviromental control and better plant growth.

ARCHIVE: DELAINE GOULART DA ROCHA

And see how cool! In these other images, with the assistance of a thermographic camera, it is possible to determine the cows' body temperature and check if they are in a comfortable environment. After all, for cows to produce good quality milk, it is fundamental that they are placed in an environment with adequate temperature and conditions.

ARCHIVE: VERÔNICA MADEIRA PACHECO





°C
HIGH TEMPERATURE

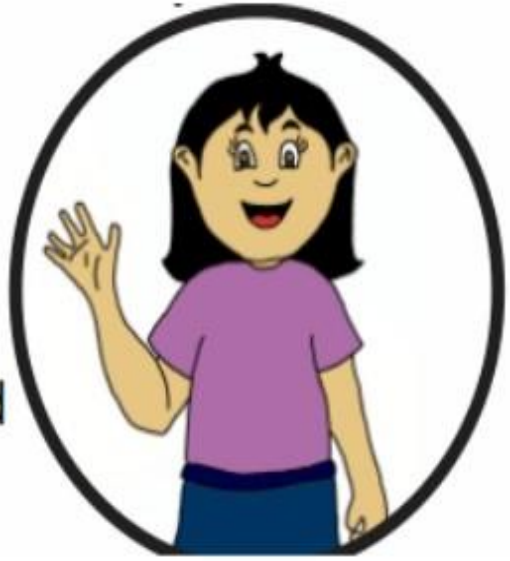
LOW TEMPERATURE

BUT IS THERE ANY BIOSYSTEM ENGINEERING AT SCHOOL OR IN OUR HOME?

What do you think?

If you answered yes, you got it! I will give you an example!

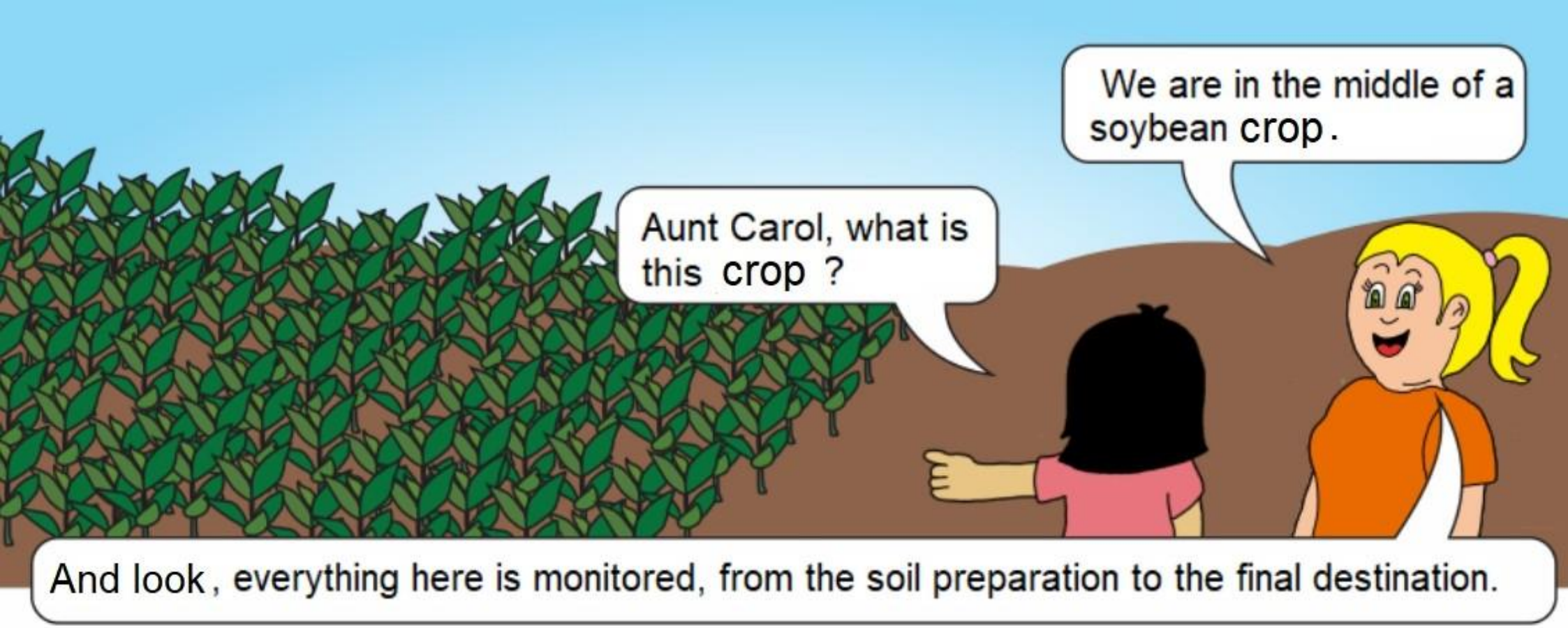
We have seen an increasing use of solar energy in houses and schools. Those are solar panels that capture sunlight and generate energy, which is transported and converted to electricity.



Enjoying the energy supplied by the Sun is very good, as it improves our coexistence with the environment!
And it isn't just at home or at school that we find biosystem engineering. Another day, I went on a visit to Aunt Carol and I learnt a lot more with her!

AT AUNT CAROL'S RANCH

Ann is on a visit to Aunt Carol and we will tell you about this adventure. Is there biosystems engineering in Aunt Carol's ranch?



This crop requires preparation for the growth of grains. For this plant to grow, it needs good soil, water, nutrients and sun ...

The technologies used to monitor the plantation help us increase the quantity and quality of what is produced. Soy is present in our food in many ways, as in soybean oil, tofu, texturized protein, soy cheese and soy yoghurt.

Take a look at these images that show us the progress of soy planting.

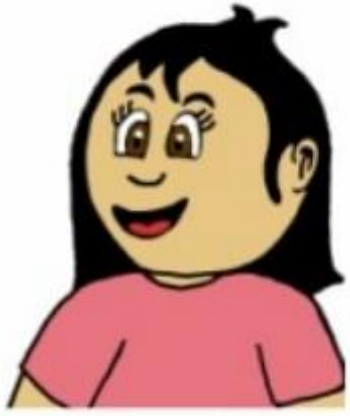



ARCHIVE: CAROLINA FERNANDA PAVÃO

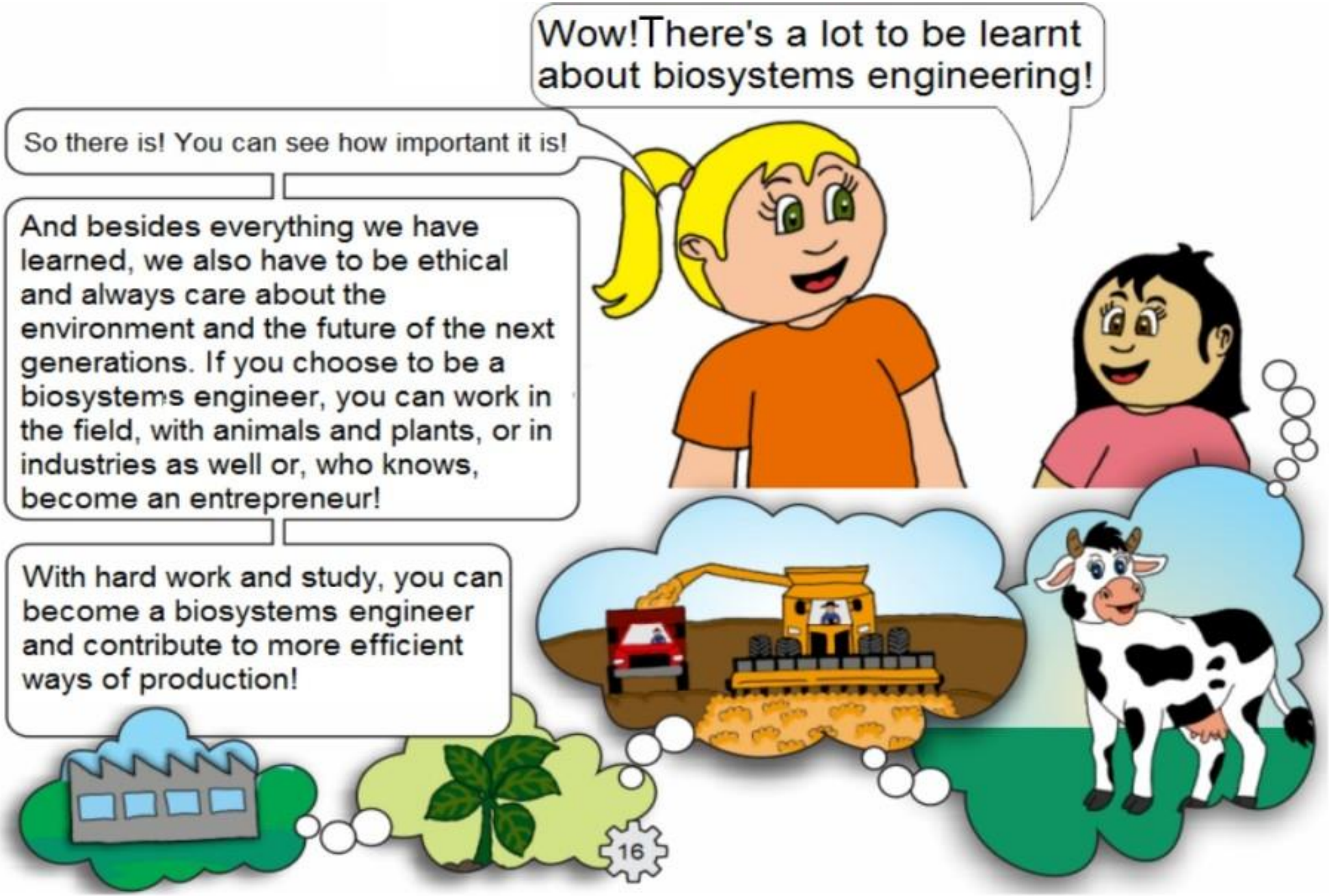
Do you know where the foods you eat every day come from?

They come from the field. From plantations just as this one, isn't it?

That's it! After you grow up you can work in this area, taking care of a plantation like this one. And you will be able to use machines to control the insects that attack the plantations, and by doing that it will be possible to improve even more their quality!

ARCHIVE: CAROLINA FERNANDA PAVÃO


Wow!There's a lot to be learnt about biosystems engineering!
So there is! You can see how important it is!
And besides everything we have learned, we also have to be ethical and always care about the environment and the future of the next generations. If you choose to be a biosystems engineer, you can work in the field, with animals and plants, or in industries as well or, who knows, become an entrepreneur!
With hard work and study, you can become a biosystems engineer and contribute to more efficient ways of production!
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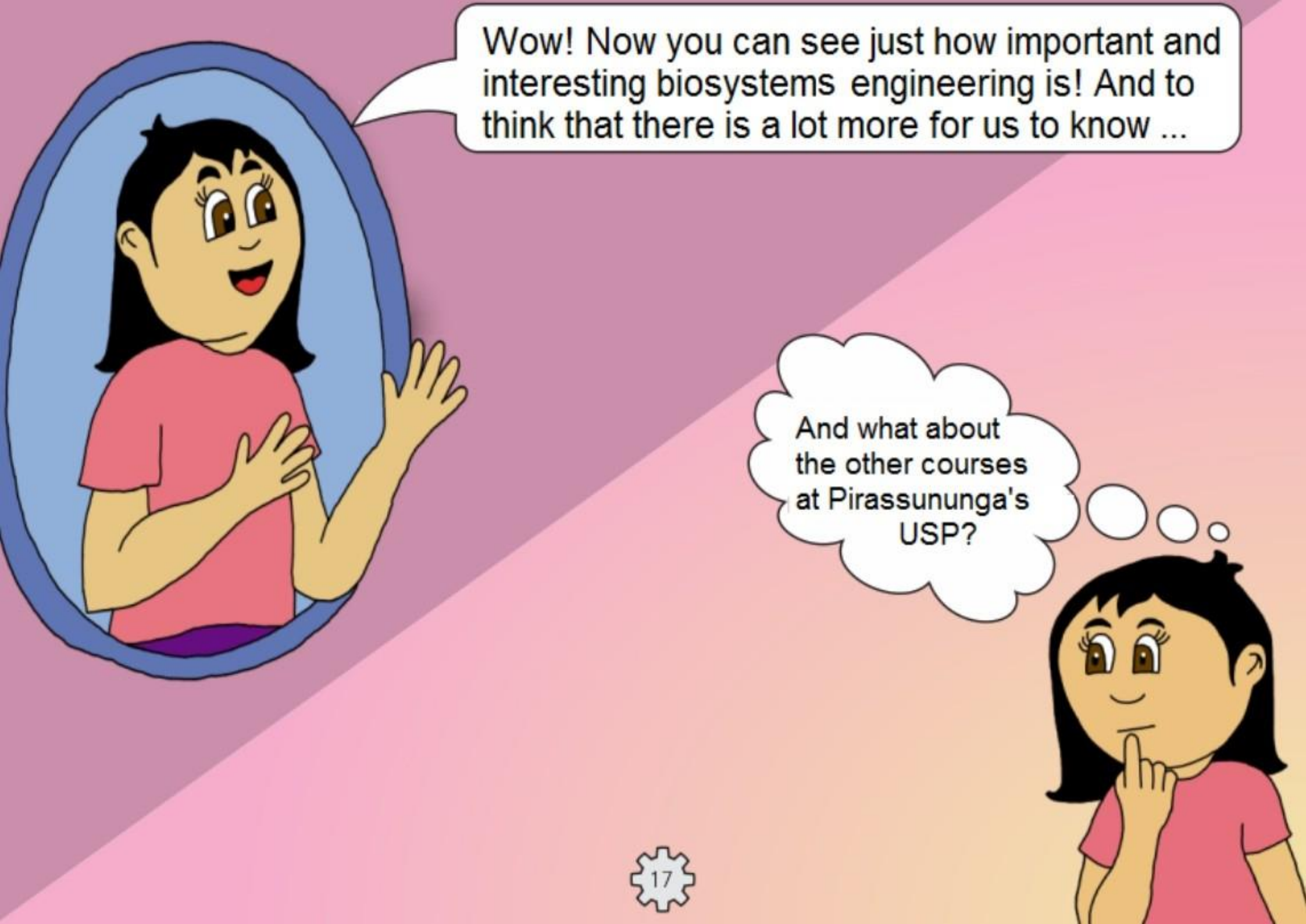

Wow! Now you can see just how important and interesting biosystems engineering is! And to think that there is a lot more for us to know ...
And what about the other courses at Pirassununga's USP?

Rodriguinho made notes about animal scientist...

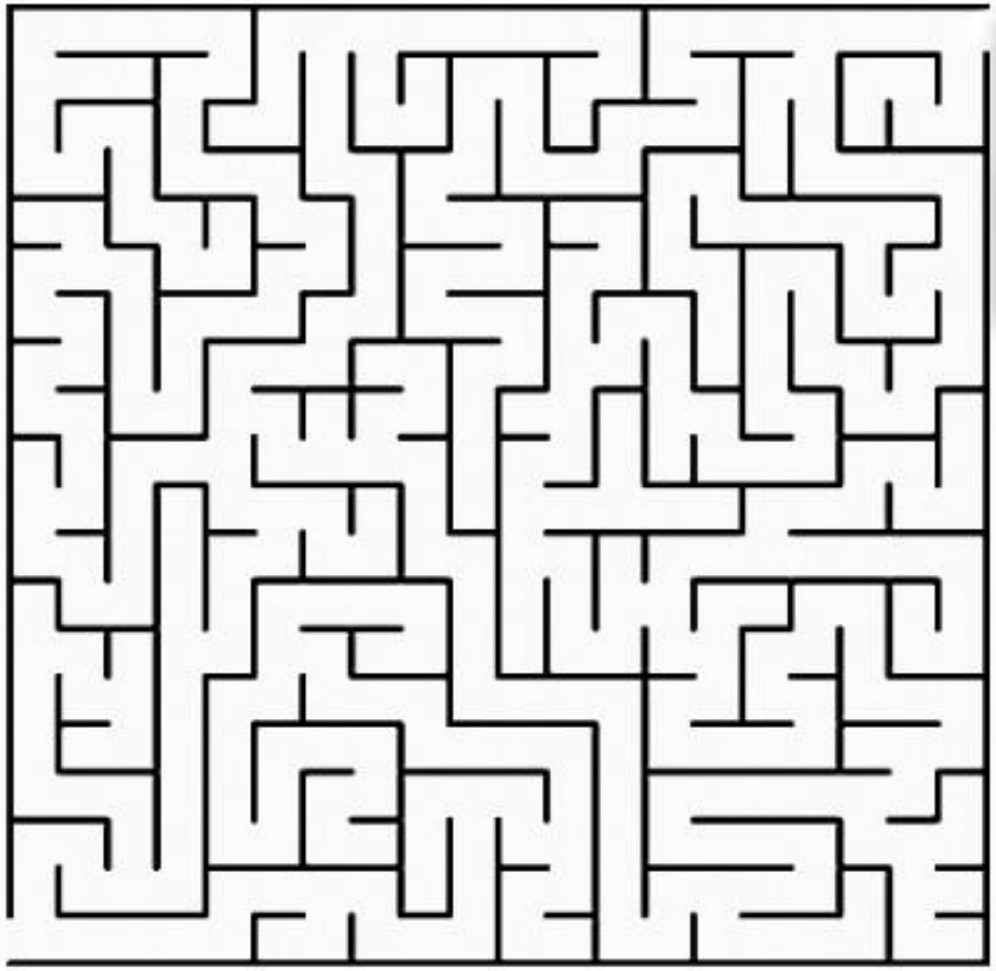
Sara was enchanted with veterinary medicine

And Arthur with food engineering


Rodriguinho, what have you learnt about animal science?
19
WAIT FOR THE NEXT BOOK

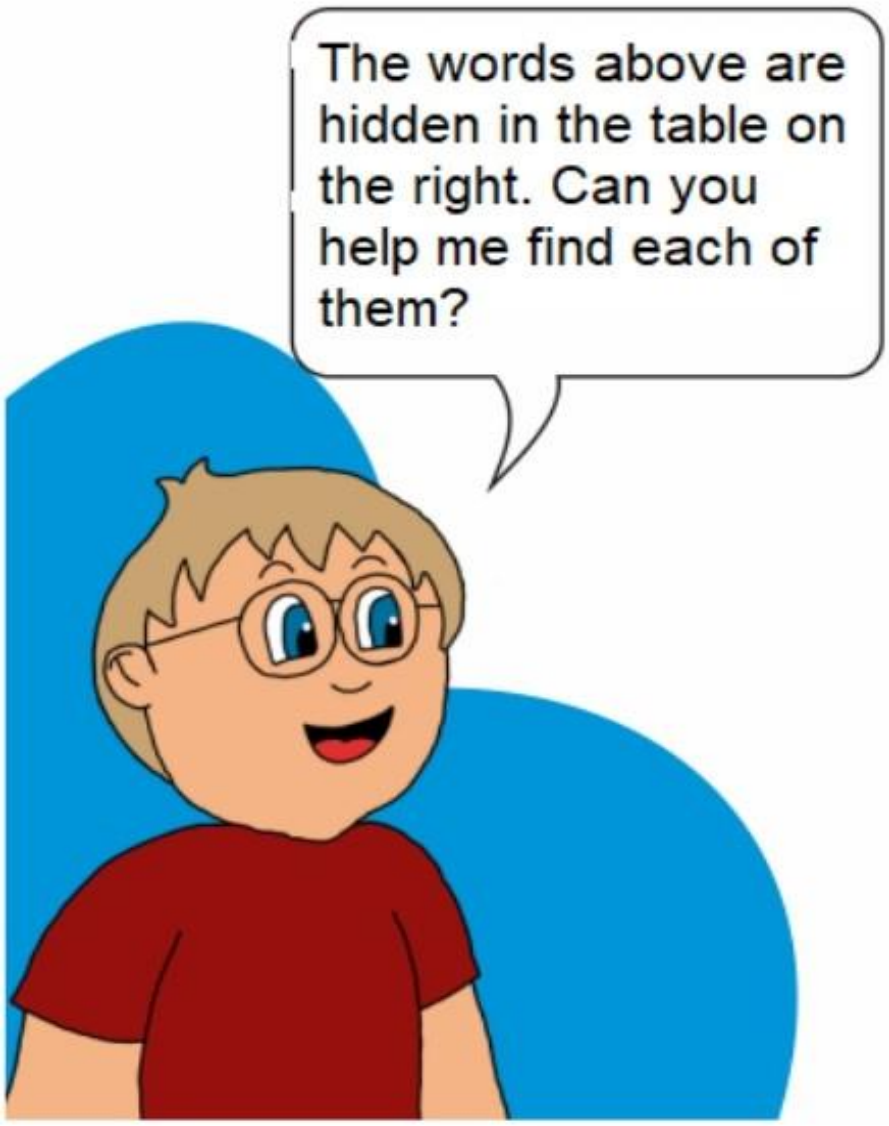
MAZE

LET'S HELP THE SCHOOL BUS ARRIVE AT USP IN PIRASSUNUNGA TO VISIT THE USP PROJECT AT SCHOOL?



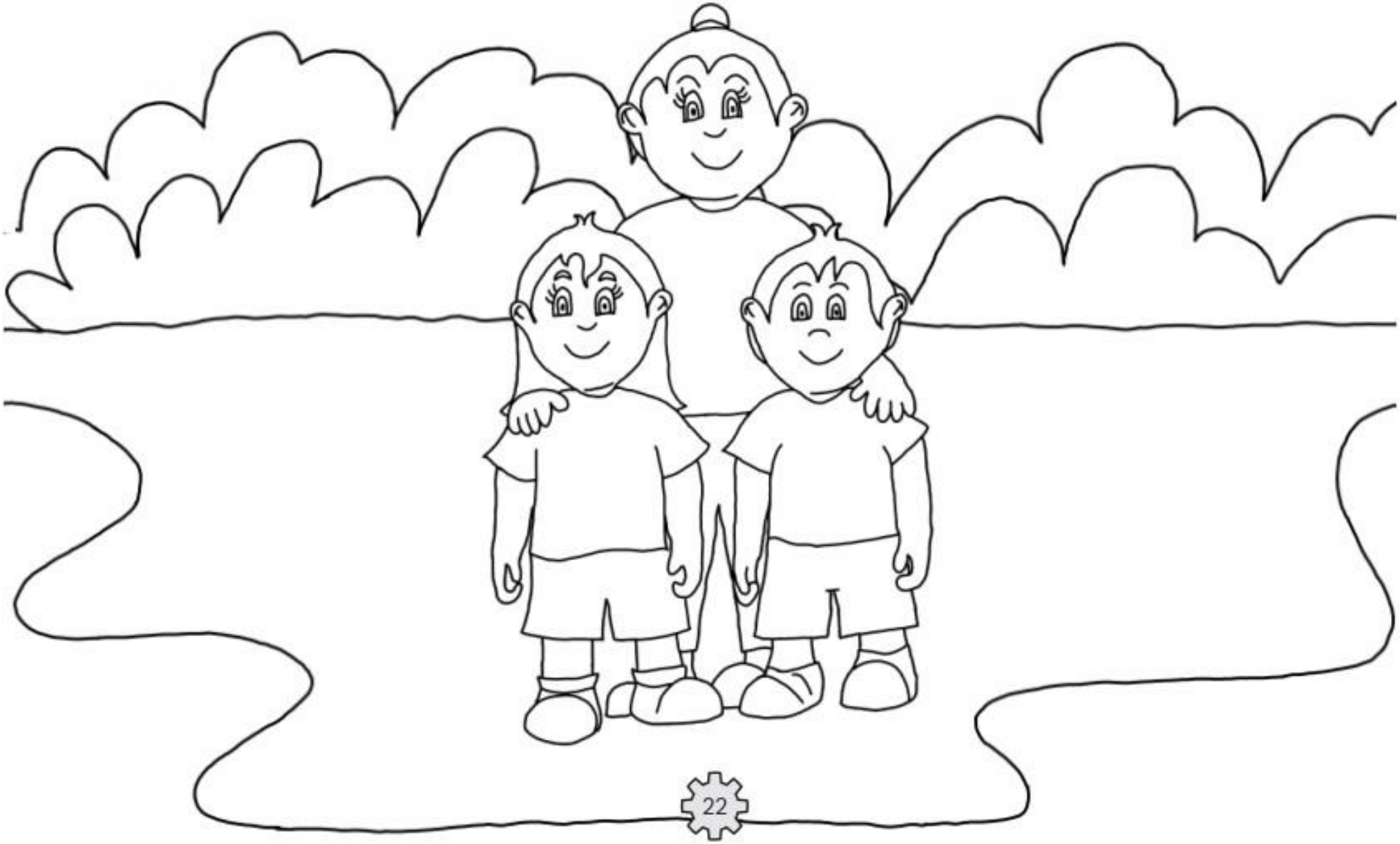
WORD SEARCH

AGRICULTURAL - FOOD - BIOSYSTEMS - ENVIRONMENT - PRESERVATION - QUALITY - NATURAL- RESOURCES - TECHNOLOGY



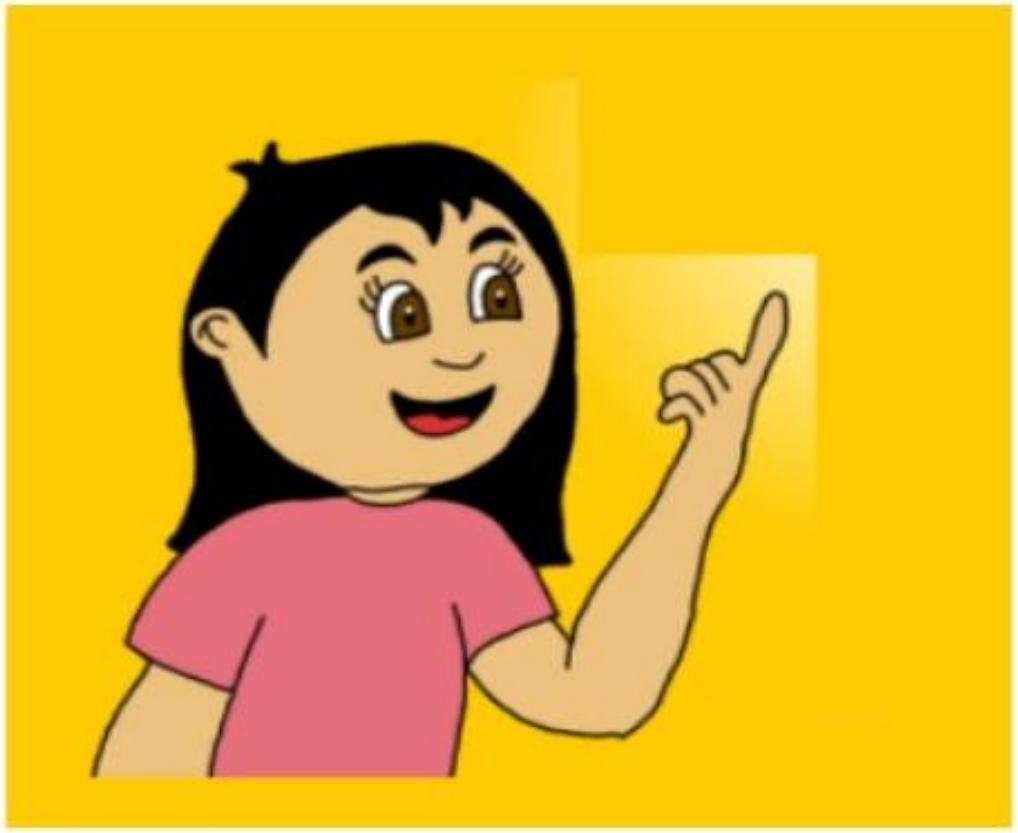
A	G	R	I	C	U	L	T	U	R	A	L
Q	U	A	L	I	T	Y	H	F	E	I	O
E	S	D	A	U	I	S	H	I	N	E	N
R	E	S	O	U	R	C	E	S	V	I	M
P	R	E	S	E	R	V	A	T	I	O	N
N	A	T	P	R	R	T	K	N	R	F	S
A	A	T	E	C	H	N	O	L	O	G	Y
T	V	O	S	R	E	A	S	O	N	L	I
U	L	N	R	I	N	W	D	W	M	O	P
R	U	B	I	O	S	Y	S	T	E	M	S
A	O	L	H	N	T	E	M	D	N	O	I
L	T	G	S	A	A	S	A	I	T	S	U

LET'S COLOR?



WORD SEARCH

DRONE - TEMPERATURE
ENGINEERING
SOY
MONITORING
SITE
CULTIVATION



H P P A H K E A L T E N
A E N G I N E E R I N G
C U L T I V A T I O N T
H E M O N I T O R I N G
T H L L M O E E L C N D
N A N B R E I F S I T E
S O N Y T A O E S O P U
M A O A E D E E O T T C
T E M P E R A T U R E A
A M G E S O E R V E S M
I E B T I N E S K Y O A
N H D N D E P O M H Y S

Entrance gate of the Pirassununga campus - photo: Rodrigo Mangetti

The Pirassununga campus is USP's largest campus in territorial extension. In fact, it is a farm that started its activities in 1945 as Fernando Costa Practical School of Agriculture. It was integrated to the Faculty of Veterinary Medicine and Animal Science and, in October 1989, it became a USP campus.

Currently the campus comprises the following units:

PRINCIPAL OF CAMPUS FERNANDO COSTA - PUSP-FC

FACULTY OF ANIMAL SCIENCE AND FOOD ENGINEERING - FZEA

FACULTY OF VETERINARY MEDICINE AND ANIMAL SCIENCE - FMVZ

The Faculdade de Zootecnia e Engenharia e Alimentos is composed of five departments: Department of Basic Sciences, Department of Zootechnics, Department of Veterinary Medicine, Department of Food Engineering and Department of Biosystems Engineering.

The Department of Biosystems Engineering, created in October 2012, has a staff of twenty-two professors. The staff consists of ten members.

The research, teaching and extension activities of the Department of Biosystems Engineering (ZEB / FZEA) are divided into four areas of competence and performance, namely: technology for agricultural systems, systems dynamics, materials and environment and applied social sciences.

"USP na Escolinha"

USP na Escolinha is a program that has been held at the **Faculdade de Zootecnia e Engenharia de Alimentos** since 2013, with the support of the Culture And Extension Commission.

The main objective of this program is to take advantage of the children's training process to present concepts related to sustainability, animal welfare, recycling, among others, and to cultivate in children from six to ten years old the desire and curiosity for the professions related to the courses that the university currently offers.

PERSONAL ARCHIVE
DELAINE GOULART DA ROCHA

ACKNOWLEDGEMENTS

PRINCIPAL OF CAMPUS FERNANDO COSTA - PUSP-FC

FACULTY OF ANIMAL SCIENCE AND FOOD ENGINEERING - FZEA

FACULTY OF VETERINARY MEDICINE AND ANIMAL SCIENCE - FMVZ

USP NA ESCOLINHA THANKS ALL PROFESSORS, STUDENTS AND EMPLOYEES

Prefeitura do Campus USP de Pirassununga

FZEA USP

Ciência e inovação da fazenda à mesa

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