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Quarterly Problem

- *Science Edition* -

Hunting microorganisms

Microorganisms are part of our daily lives and they are present in our environment. They live anywhere, surrounding us, both in our body and/or the outside. Many of them do not have effects on our health, but some of them compromise our quality of life to a greater or lesser extent. Now more than ever we are aware of the importance of keeping out those microbes that could be harmful to our health.

There are objects and surfaces, some more than others, that are prominent to accumulating microorganisms. Handling mobile phones, keyboards and computers devices, video consoles, railings, doorknobs, etc. potentially lead to situations where microorganisms could spread..

After a stage of reproduction, some of these microbes (usually bacteria, yeast or fungi) can be observed with the naked eye. We invite you to make a map, making the "hot spots" of microorganisms in your home visible, using slices of bread to seed them in different rooms. For making them visible, samples should be kept protected, in a warm environment (approx. 20 to 25ºC) for about a week. Later, you will be able to observe on which slices more microorganisms or more varieties of them have grown.

Brainstorm-Box
How can you discover where harmful microorganisms reside? Could you come up with a 3D map, pointing out microorganism hot spots?

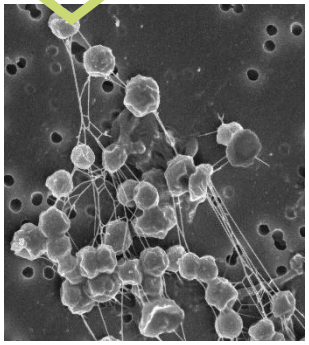

Image by NASA Hubble Space Telescope on Unsplash

Inquiry and report microorganism hot spots

First: Design the experiment, identifying places where you will place the samples. Then, you perform the sample placement. Make sure to talk to your parents about your experiment. After the growth of the microorganisms, try to identify which microorganisms have grown. Report microorganism hot spots in your 3D map. Always wash your hands after working with your samples!
Tip: Control samples should also be part of the experiment. Therefore, also place samples where you expect no or less growing of microorganisms. Carry out the experiment, remembering the characteristics and values that good experimental work must have (meticulousness, accuracy, rigor, care, etc.).

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