



Key concept

Micro-gardening and vertical gardening

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CONCEPT: Micro-gardening and vertical gardening

1 - BRIEF DESCRIPTION OF THE CONCEPT

"Micro-gardening" is the intensive cultivation of a wide range of vegetables, roots and tubers, and herbs in small spaces, such as balconies, patios and rooftops.

Micro gardens are designed to be highly productive; energy and space efficient; sustainable; affordable; and grown in healthy living soil.

Permaculture gardening using micro-gardening techniques, means to pay attention on the selection of companion plants to put together in order to grow your own food in a way that guarantees best quality produce even if you only have a small area to grow.

2 - Activities of the LivingStem project that may be related to this concept

The micro-gardening concept is related to the Micro-polyculture-garden in the "**Permaculture and Biology**" activity and to the Phase D: the Micro Kitchen Garden Lab, of the "**Ideal Kitchen Garden Game**" which includes the cultivation in a garden box. In this case more emphasis will be given to the application of the principles of the garden in permaculture.

This concept is related to the **Vertical Garden** activity too. In this case more emphasis will be given to the process of creating a vertical micro garden.

The videos are intended to make students highlight the reasons for their choices while cultivating the micro garden.

3 - Methodology proposal for the implementation of the activity described above

In the production of videos, it is essential that students motivate the reasons for their choices as growers. For example, they can motivate the choice of a vertical garden, or motivate the choice to plant certain seeds, rather than highlighting the relationship between the choices of seeds and the current season.

Each video can contain one or more explanations. It will be useful to link the motivations to the scientific notions that students have and to the principles of permaculture.

In the videos, the students impersonate growers, so it might be interesting to show the tools they use, the seeds they have, the plans for garden designs and so on. The teacher can play the role of an off-screen interviewer, asking questions to the team of growers, such as:

- Why did you choose a vertical garden?
- With what tools did you build it?
- How do you take care of the micro garden?

And so on...

Each team can decide how to answer the question and which tools and materials to show in the video. It is advisable to provide students with a poster on which to pin the line-up of their video presentation.

In addition, the team will have to elect a video maker.

These videos will be very useful for other young growers!

4 - Children involvement in the activity

It is important to remember that the concept of micro-gardening is linked to two activities that already see a high degree of involvement of students who have many practical activities to do. Videos are a moment of reflection or debrief.

Students are therefore involved precisely in this: to provide scientific or ethical reasons for their choices as cultivators.

Choices that must refer to the design phases of the garden (vertical or permaculture), the choice of tools, seeds, sowing methods, the garden care plan and so on.

5 - Links between this concept and science (STEAM) and permaculture

The concept is related on the one hand to basic Permaculture principles (biodiversity protection and improving, reuse and recycle, balanced ecosystems) on the other hand to science:

- Math: develop the calculations for the division of spaces
- Design: planning an efficient use of a small space
- Biology: vegetal biology, pollination, intercropping.