UrbSTEAM

Teaching STEAM through Urban Garden Based Learning in the kindergarten

Educational Material
Module 3.
STEAM education in young ages - the most appropriate approach

Co-funded by the European Union

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Learning objective:

- What is STEAM
- Why we should teach STEAM in kindergarden
- Identifying the best time to start STEAM
- Introducing an approach to STEAM to follow

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Expected Results

- understand the reasoning for teaching STEAM
- identifying the right time for introducing STEAM
- introducing STEAM mindset
- learning an approach in teaching STEAM

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WHAT IS STEAM

STEAM is a modern educational approach that exposes students to diverse fields and their interconnectedness, while encouraging deep thinking and meaningful research. The acronym “STEAM” stands for Science, Technology, Engineering, Arts and Mathematics. The “A” (Arts–which include liberal arts, language arts, music, design thinking, and fine arts) is a relatively new and welcome addition that enhances the completeness of the STEM approach.

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WHY TEACHING STEAM IN YOUNG AGES?

Science, Technology, Engineering, Art, and Math, or STEAM. Some of these topics may appear too complex for young children to understand, in your opinion. That is accurate in certain respects. It's possible that young kids aren't yet equipped to comprehend computers or multiplication.

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WHY TEACHING STEAM IN YOUNG AGES?

However, they can set a solid basis for future learning by playing, talking about, and applying STEAM preschool concepts and abilities before playing some more.

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WHY TEACHING STEAM IN YOUNG AGES?

Here are a few justifications for why STEAM education is among the best investments for the future of today's kids.

- Critical thinking abilities
- Collaboration
- Development of soft skills
- Better preparation for higher education

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THE BEST TIME TO TEACH STEAM

Somewhere around the end of September in a regular school year is the best time to begin introducing STEAM. For many of them, this is the first time they have heard the word in a new context. It is an acronym. This is the first thing to begin helping them understand. Yes, it's word, but each letter stands for something else. The easiest way to get them excited is to pump each letter of STEAM up with a "hook" of an introduction.

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WHAT IS THE STEAM MODEL?

The STEAM model suggests organising each project following the 5 steps below:

1. Focus
2. Detail
3. Discovery
4. Application
5. Presentation

buildingbetterbrains.com.au/steam-education/

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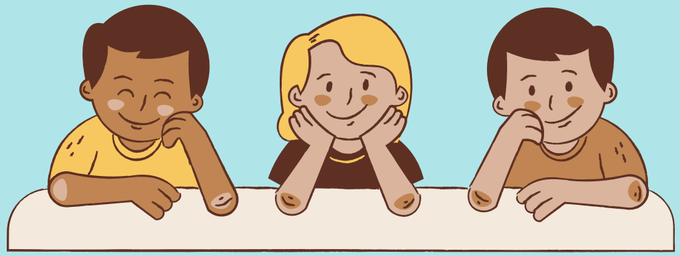
BEST APPROACH - STEP 1

Focus

In this first step, select a question to answer or a problem to solve, making sure it's clear how it relates to one or more STEAM topics.



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BEST APPROACH - STEP 2

Detail

Now students dive deeper into the problem, trying to identify the elements that contribute to it and possible correlations to other areas.

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BEST APPROACH - STEP 3

Discovery

Students scrutinise already existing solutions to figure out what works and what doesn't.
Teachers address any skill or knowledge gaps so that students can proceed with the project on their own.

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BEST APPROACH - STEP 4

Application

After analysing the current solutions, students begin to understand their own solutions using the skills, knowledge, and processes they learned during the discovery phase. What matters here the most is not whether the students reach the right conclusion or create a perfectly functional object, but rather how creative they were in their approach.

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BEST APPROACH - STEP 5

Presentation

The students present their solution, explaining how they got there and their perspective on the problem they had to solve. During this stage, they learn how to receive and give feedback

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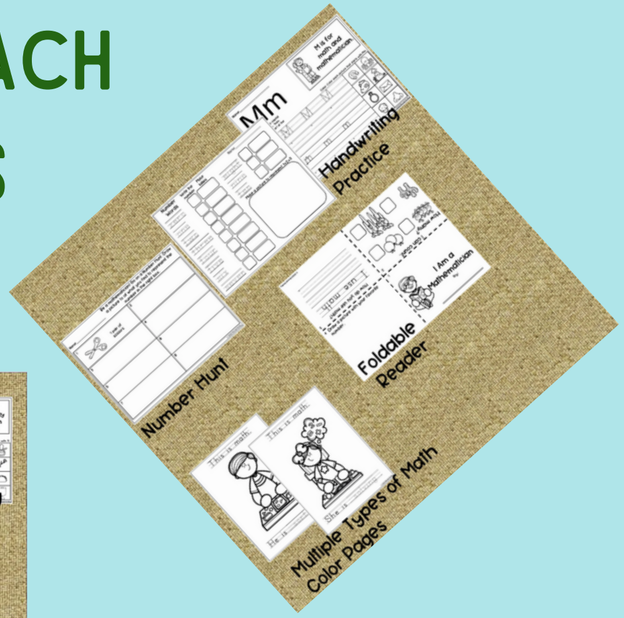
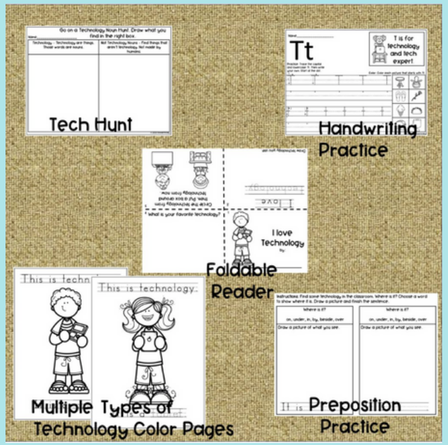
BEST APPROACH EXAMPLES





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Thank for your attention