



Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Education and Culture Executive Agency (EACEA). Neither the European Union nor EACEA can be held responsible for them.

STEAME ACADEMY TEACHING FACILITATION LEARNING & CREATIVITY PLAN (L&C PLAN) - LEVEL 1 STUDENT TEACHERS: CREATING BOXES FOR ANIMAL SHELTERS

S

T

Eng

A

M

Ent



1. Overview

Title	Creating Boxes for Animal Shelters		
Driving Question or Topic	How can we be an active part of our community? How can we design and construct durable, comfortable, and safe boxes for animals in shelters? What materials and designs are best suited for different types of animals?		
Ages, Grades, ...	Ages 10-15	Grades 5-9	
Duration, Timeline, Activities	Number of learning hours: 5-6 h.	Timeline/frame, calendar: 8 x 40 min	Number of activities 5
Curriculum Alignment	Science, Engineering, Arts, Community Service (Volunteering), Innovative subjects: <i>Human & the Living Environment</i>		
Contributors, Partners	Students will design and build boxes for animals in shelters, integrating principles of design, engineering, and animal welfare. They will research animal needs, brainstorm and prototype designs, construct full-scale boxes, test and evaluate their designs, and present their projects. This project aims to enhance practical skills in design and construction while contributing to community welfare.		
Abstract - Synopsis			
References, Acknowledgements			

2. STEAME ACADEMY Framework*

Teachers' Cooperation	Teacher 1 – T1 (Science): Introduce animal behavior and shelter needs. Teacher 2 – T2 (Engineering): Teach design and construction principles, safety protocols. Teacher 3 – T3 (Arts):
-----------------------	---

STEAME in Life (SiL) Organization Action Plan Formulation	Guide on aesthetic design and presentation. ● Involve community volunteers for support and feedback. ● Organize visits to local animal shelters. Stage I: Preparation by Teachers: ● Project Introduction: Explain the importance of designing and building animal shelter boxes. ● Demonstrate key aspects of box design and construction. Stage II: Development by Students ● Explore Design Principles: Discuss elements such as durability, comfort, and safety. ● Develop Box Designs: Students outline their designs, choosing suitable materials and features. ● Create Prototypes: Students build small-scale prototypes to test their designs. Stage III: Configuration & Results ● Testing and Feedback: Students use and share their boxes, collecting feedback on usability and comfort. ● Presentation to Class: Each group presents their boxes, explaining design choices and how they meet animal needs. ● Discussion of Improvements
---	--

** under development the final elements of the framework*

3. Objectives and Methodologies

Learning Goals and Objectives	● Understand the needs of animals in shelters. ● Apply design and engineering principles to create practical products. ● Develop skills in design, prototyping, and construction. ● Enhance creativity, problem-solving, and collaboration skills. ● Present results effectively.
Learning Outcomes and expected Results	● Apply design and engineering principles to create durable and safe boxes. ● Understand animal behavior and needs in the context of shelters. ● Create full-scale box prototypes. ● Present and evaluate design projects. ● Relate science, technology, arts, and community service to real-life applications, social service and volunteering.
Prior Knowledge and Prerequisites	● Basic understanding of animal needs. ● Collaboration skills.
Motivation, Methodology, Strategies, Scaffolds	● Project-based learning. ● Collaboration with local animal shelters. ● Encouraging creative thinking and innovation through practical application. ● Motivating through empathy and love for the animals.

4. Preparation and Means

Preparation, Space Setting, <i>Troubleshooting Tips</i>	• Classroom setup for group work. • Access to materials and tools for construction. • Necessary tools. • Safety equipment.
Resources, Tools, Material, Attachments, Equipment	• Materials for box construction (cardboard, wood, etc.). • Safety equipment (gloves, goggles). • Tools for cutting and assembling materials. • Measuring tools and scales. • Projector or screen for demonstrations and presentations. Projector or screen for demonstrations and presentations.
<i>Health and Safety</i>	Safety when handling different tools and materials. Needed protective gear!

5. Implementation

Instructional Activities, Procedures, Reflections	Lesson 1: Introduction to Animal Shelters and Box Design Duration: 40 minutes Activities: • Introduction to the project and its objectives. • Discussion on the needs of animals in shelters. Lesson 2: Brainstorming and Prototyping Duration: 2x40 minutes Activities: • Students brainstorm and outline their box designs. • Begin creating small-scale prototypes. Lesson 3: Design Review and Construction Duration: 2x40 minutes Activities: • Present prototypes for feedback. • Construct full-scale box designs. Lesson 4: Testing and Evaluation Duration: 2x40 minutes Activities: • Test the boxes with real animals. • Gather and discuss feedback. Lesson 5: Final Presentation Duration: 40 minutes Activities: • Prepare and present the box designs. • Reflect on the project and discuss improvements.
Assessment - Evaluation	• Feedback during the development process.

Presentation - Reporting
- Sharing

*Extensions - Other
Information*

- Final evaluation of the boxes based on durability, comfort, and safety.
- Peer and self-evaluation: Students evaluate their own and peers' contributions and learning experiences.
- Class presentations: Students present their box designs with demonstrations.
- Community engagement: Present designs to local shelter representatives.
- Collaboration Opportunities: Foster partnerships with local animal shelters or educational institutions for future projects and mentorship.