TEMPLATE for BEST PRACTICE EXAMPLES - SOLVED TASK

1. Name of the project: Bicycle and scooter hut project

2. Subjects covered from STEAM areas: Design and technology, mathematics, arts, IT

3. Target group (age range and size of the group): 12-18 y.o., 30 pupils

4. Duration of the activity: 7 lessons

5. Key words: architecture, 3D design, cost calculation, ecological transport

6. Key sentence describing context of the activity, followed by short description (200 words):
Design the (3D) project for bicycle and/or scooter hut with roof, and perform the project cost analysis to select the most suitable design.
A survey of students revealed a lack of safe spaces where the means of movement by which students arrive at school can be left. Taking into account the ecology and promoting at environmentally friendly way of moving, it was decided to create a bicycle and scooter shelter project with the students. After choosing the right space in the school territory, using ecological materials, students will plan an aesthetic, attractively designed roof model project. According to the developed project, students will research possibilities for the building materials, their properties and select the most suitable hut project. Pupils will make a cost estimation of selected construction project.

7. Description of the activity environment, including the list of materials and tools needed:
Tools: computer, tablet or phone, drawing and drafting tools, measuring tools.
Activity might be also performed online, if the school blueprint or model are available (for the selection of the best location of the hut).

8. Step by step, detailed description of the activity, including teaching and learning strategies:
Activity:
A survey is carried out on how pupils arrive at school.
Lesson 1: Introducing the topic. Discussion on "What should a hut look like?".
Lesson 2: Collecting information (from different sources).
Lesson 3: Systematizing and discussing the information collected.
Lesson 4: Finding suitable spaces for the hut. Sketching huts on paper or in 3D modelling apps or software.
Lesson 5: Presenting and discussing ideas for the shelter. Selecting suitable building materials.
Lesson 6: Mathematical calculations according to the tasks prepared by the teacher (by age group).
Lesson 7: Reflection - discussing the topic, choosing the best projects.
Methods: discussion, brainstorming, independent work, group work, presentation and discussion of results.

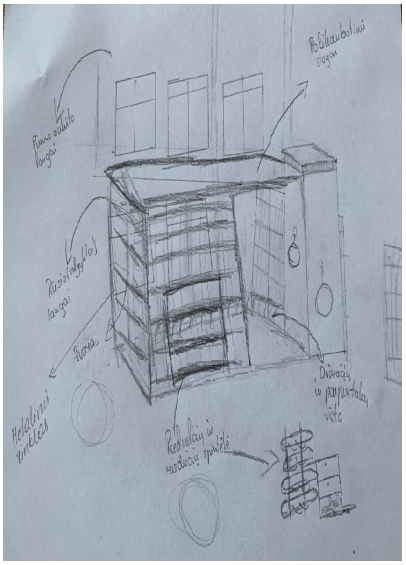
9. Learning objectives/competencies:
Pupils will design an aesthetically pleasing, attractively designed hut model using eco-friendly materials and selecting a suitable space on the school grounds.
Objectives:
- To encourage pupils to choose an environmentally friendly way of moving around.
- To design a space where pupils' vehicles (scooters, bicycles, skateboards) will be stored.
- To analyse and select the most suitable sustainable materials.
- Perform mathematical operations to calculate the area of the shelter and the quantity of materials.

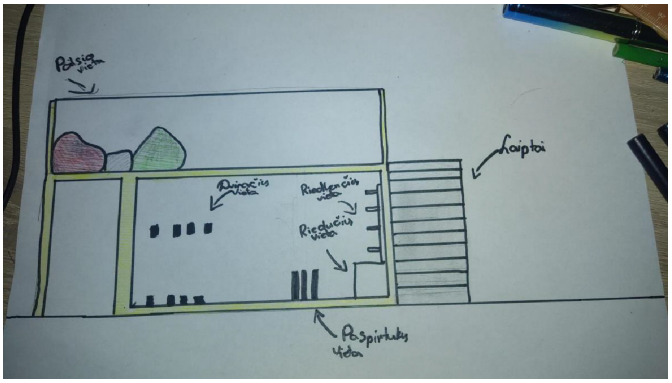
Develop communication, learning, cooperation, cognitive and social competences.

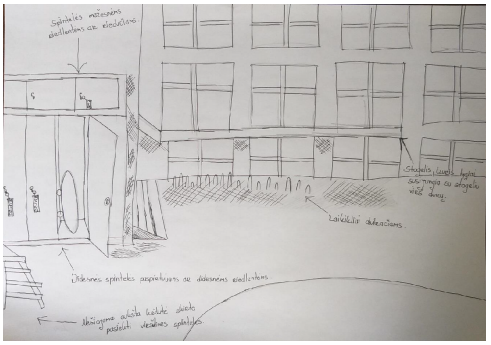
10. Evaluation/Assessment guidelines:
During the lessons, pupils presented their hut designs and discussed whether these designs meet the established criteria. The evaluation criteria were: innovativeness, innovation, eco-friendliness, aesthetics, presentation of the project. The best project ideas were presented and pitched to the local Entrepreneur club members.
The work is based on a weighted approach, a cumulative evaluation, and the presentation of the project is graded.

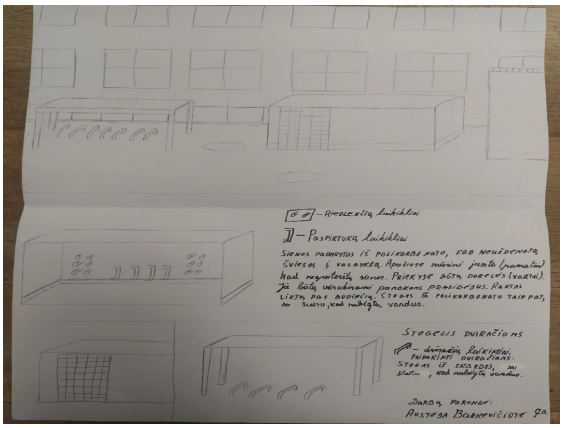
11. Lessons learned:
Pupils discovered an issue they were interested in, carried out a survey, and had the opportunity to make suggestions for the design of school spaces. As a result, the pupils' suggestions will be taken into account in the construction of the hut.

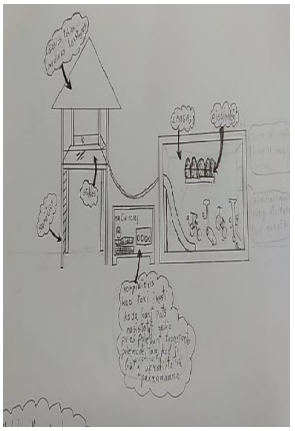
12. Additional information/Links:
Selected designs:











More designs from the activity are available:
https://drive.google.com/file/d/1Sps4ennXfSrVm2_pGGmVGV7EybHDPIxL/view

13. Contact person:

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