

## Didactic Scenario

### 1. Title

Creating 3D Shapes with Everyday Materials

### 2. Keywords

3D Shapes, Creative Art, 3D Constructions, Everyday Materials, Crafts, Formatting, Creative Expression, Upcycling

### 3. Basic information

**STEAM Subject:** ART

**Typical interaction time with the instructional scenario in teaching hours for in-school work:**  
120 minutes

**General description of the script:**

<u>Phases</u>	<u>Stage</u>	<u>Time</u>
Introduction and Preparation	Preparatory Stage	30 minutes
Creating 3D Models from Recyclable Materials	Implementation Stage	60 minutes
Presentation and Discussion	Evaluation Stage	30 minutes

**Age group:** 8-12 years old

**Estimated difficulty level:**

Very Easy	Easy	Moderate	Challenging	Very Challenging
		X		

## **Teaching resources**

### **Materials:**

- Cardboard (various colors and sizes)
- Plastic caps (e.g., from bottles)
- Recycled materials (eg, paper, magazines, plastics)
- Glue (white glue, silicone glue)
- Scissors
- Markers or paints
- Rods or wires (for supports and structures)
- Cotton (for coating or decorative elements)

### **School infrastructure:**

No special school infrastructure is required

### **Additional material from external sources/online tools:**

- Canva: You can create visual materials to support the activity, such as instructions or shape templates. (<https://www.canva.com/>)
- Tinkercad: An online 3D design tool that allows students to create digital models before building them with physical materials. (<https://www.tinkercad.com/>)
- Indicative video from YouTube: [https://www.youtube.com/watch?v=yfL\\_KwJQr5k](https://www.youtube.com/watch?v=yfL_KwJQr5k)

### **Differentiated instruction for students with different abilities and learning styles in the same class:**

- Ability Adapted Activities:  
Difficulty Levels: Create activities at different levels of difficulty. For example, students with better understanding may create more complex 3D shapes, while others focus on simpler designs.  
Choice of Materials: Provide different materials to build with, such as plastic, cardboard, or natural objects, so students can choose what works best for them.
- Support Strategies:  
Small Groups: Divide students into small groups and assign each group a different role or task. This allows for interaction and support between students.  
Individual Support: Provide extra support to students who need help through one-on-one meetings or mentoring.

**Developed by:** Development Center of Thessaly

#### 4. Educational Problem

This scenario solves the problem of the lack of connection between art and environmental awareness in children. Through making 3D projects from recyclable materials, students incorporate environmental sensitivity into the creation process, enhancing their creative skills while learning the importance of recycling and sustainability. The script promotes understanding of the interaction of art and the environment, enhances drawing and crafting skills, and promotes collaboration in the classroom, thus addressing students' needs for a more integrated and environmentally conscious approach to art.

#### 5. Learning Objective (-s)

1. Development of Creative Skills. Students will develop skills in creating 3D artwork using recyclable materials, enhancing their imagination and creativity.
2. Understanding Recycling. They will understand the importance of recycling and reusing materials, enhancing their environmental awareness.
3. Improving Manual Skills. Through construction and assembly, students will improve their craft and construction skills.
4. Collaboration Enhancement. They will learn to collaborate and communicate effectively with their classmates to complete projects.
5. Developing Strategic Thinking. They will enhance their ability to design and implement artwork through strategic thinking and problem solving.
6. Cultivation of Environmental Awareness. They will realize the importance of reducing waste and using recyclable materials in everyday life.

#### 6. Phases of the Scenario

##### Phase 1

**Title:** Introduction and Preparation

Indoor	Outdoor	Mixed
X		

**Phase duration in minutes:** 30 minutes

**Detailed description of the scenario phase:** In the first phase of the scenario, students are introduced to the concept of recycling and creating 3D objects with recyclable materials. The teacher presents the basic materials and tools that will be used, such as cardboard, plastic bottles and other recyclable materials. Through a discussion and a short presentation, students discover the importance of recycling for the environment and how they can make use of materials that are usually thrown away. They then undertake a simple activity where they will create their first designs and ideas for 3D projects, preparing the necessary base for their construction in the next phase.

**Activity Sheets:** N/A

## Phase 2

**Title:** Creating 3D Models from Recyclable Materials

Indoor	Outdoor	Mixed
X		

**Phase duration in minutes:** 60 minutes

**Detailed description of the scenario phase:** In the second phase of the scenario, students proceed to build their 3D projects using the recyclable materials they collected and designed in the first phase. With the teacher's guidance, they learn how to combine materials, glue and shape them to create 3D models. This phase focuses on putting their ideas into practice, enhancing their understanding of the recycling process and encouraging creativity and innovation. Students work in groups or individually, using their craft and construction skills to create complete 3D projects.

**Activity Sheets:** N/A

## Phase 3

**Title:** Presentation and Discussion

Indoor	Outdoor	Mixed
		X

**Phase duration in minutes:** 30 minutes

**Detailed description of the scenario phase:** In the third phase of the scenario, students present the 3D models they have created to the rest of the class. Each group or student explains the process they followed, the materials they used and the idea behind their project. Discussions focus on the innovation, utility and aesthetics of the projects. Feedback from peers and teacher

is encouraged to highlight strengths and areas for improvement. This phase builds students' self-esteem and helps them recognize the value of their work, while promoting collaboration and creative thinking.

### Activity Sheets:

Activity Sheet: Presenting and Analyzing 3D Shapes

Name: \_\_\_\_\_ Date: \_\_\_\_\_

#### 1. Project Presentation

- 3D Shape Name: \_\_\_\_\_
- Materials used: \_\_\_\_\_
  - \_\_\_\_\_
- Brief Description of the Scheme: \_\_\_\_\_
  - \_\_\_\_\_

#### 2. Application of Schemes

- What functions can your shape have? \_\_\_\_\_
  - \_\_\_\_\_
- How do you think you can use it in everyday life? \_\_\_\_\_
  - \_\_\_\_\_

#### 3. Evaluation of Creation

- What did you enjoy most about building the figure? \_\_\_\_\_
  - \_\_\_\_\_
- What difficulties did you encounter during the process? \_\_\_\_\_
  - \_\_\_\_\_

## 7. Evaluation Methodology

Evaluation Method:

- Self-assessment: Each student completes a self-assessment sheet, competing against the assessment criteria.
- Peer Evaluation: Students evaluate their peers' 3D shapes, providing feedback and suggestions for improvement.
- Teacher Evaluation: The teacher evaluates the projects according to the established criteria and provides feedback for each student.

## 8. Additional Resources for the teacher

N/A