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# School Year 2025/2026

## Lesson Plan

Subject: Materials and Technologies

Date: 28 October 2025

Lesson duration: 150 minutes

Teachers: Sofia Alves / Filipe França

### Theme:

PROBLEU Project — Marine Pollution and Coastal Biodiversity

Cycle | Year | Organizing Theme | Essential Learning

Secondary | 12th | Sustainable materials and environmental design | Understand marine ecosystems and develop sustainable sculptural solutions using recovered waste.

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### Objectives:

Understand Portuguese coastal marine life; recognize pollution risks; connect scientific knowledge with material experimentation; prepare collected beach materials.

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**Content:**

Marine pollution; Portuguese coastal species; seafood benefits and contamination risks; recovered materials processing.

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**Methodology:**

Expert lecture; interdisciplinary learning; material preparation workshop.

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**Activity:**

Students will:

- Attend CIIMAR lecture by researcher Dr. Ana Menado at CJD auditorium.
  - Learn about oceans, marine species, and pollution threats.
  - Review Matosinhos beach waste collection (World CleanUp Day).
  - Begin cleaning and sorting collected materials.
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**Assessment:**

Participation; material preparation quality; engagement with scientific content.

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# School Year 2025/2026

## Lesson Plan

Subject: Materials and Technologies

Date: 4 November 2025

Lesson duration: 150 minutes

Teachers: Sofia Alves / Filipe França

**Theme:** PROBLEU Sculptures — Concept and Species Definition

**Objectives:** Define marine species to represent; plan sculpture structures; link biodiversity with artistic interpretation.

**Content:** Portuguese marine species; sculpture planning; recycled plastics.

**Methodology:** Research; sketching; technical planning.

**Activity:**

- Define coastal species to represent.
- Research visual references.
- Create base mold drawings.

**Assessment:** Quality of research and planning.

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# School Year 2025/2026

## Lesson Plan

Subject: Materials and Technologies

Date: 11 November 2025

Lesson duration: 150 minutes

Teachers: Sofia Alves / Filipe França

**Theme:** PROBLEU Sculptures — Material Processing

**Objectives:** Prepare materials safely and effectively.

**Content:** Cleaning, cutting, sorting plastics and debris.

**Methodology:** Technical workshop.

**Activity:**

- Hygienize materials.
- Cut into workable pieces.
- Organize by type and color.

**Assessment:** Technical handling and safety.

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# School Year 2025/2026

## Lesson Plan

Subject: Materials and Technologies

Date: 18 November 2025

Lesson duration: 150 minutes

Teachers: Sofia Alves / Filipe França

Professor: Sofia Alves / Filipe França

**Theme:** PROBLEU Sculptures — Assembly Phase

**Objectives:** Construct species molds using recovered waste.

**Content:** Adhesion techniques; layered composition.

**Methodology:** Guided construction.

**Activity:**

- Glue fragments onto species molds.
- Build surface textures.

**Assessment:** Construction quality.

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# School Year 2025/2026

## Lesson Plan

Subject: Materials and Technologies

Date: 25 November 2025

Lesson duration: 150 minutes

Teachers: Sofia Alves / Filipe França

**Theme:** PROBLEU Sculptures — Structural Composition

**Objectives:** Complete sculptural forms and support structures.

**Content:** Suspension systems; wood trunks; fishing nets; ropes.

**Methodology:** Structural assembly.

**Activity:**

- Mount sculptures on rods and beach-collected trunks.
- Integrate nets and cords.
- Complete 4 final sculptures.

**Assessment:** Structural stability and visual coherence.

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# School Year 2025/2026

## Lesson Plan

Subject: Materials and Technologies

Date: 27 January 2026

Lesson duration: 150 minutes

Teacher: Sofia Alves / Filipe França

**Theme:** PROBLEU Project — Public Installation

Cycle | Year | Organizing Theme | Essential Learning

Secondary | 12th | Public environmental art | Install and communicate sustainable artworks in public space.

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### Objectives:

Promote environmental awareness through public art; understand real-world installation processes; collaborate with institutions.

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### Content:

Public exhibition; installation logistics; environmental communication.

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### **Methodology:**

Field installation; institutional collaboration (Metro do Porto).

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### **Activity:**

Students will:

- Install PROBLEU sculptures in Metro do Porto stations (Aliados and São Bento) according to protocol.
  - Participate in assembly and placement.
  - Present project message on marine pollution and ocean protection.
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### **Assessment:**

Installation participation; teamwork; project completion quality.