Lesson Plan by Alex Sargent Capps for The Global Fish Garden Collective

Course Context

This lesson is designed for undergraduate students in **art, design, sustainability studies, fashion studies, or environmental humanities**. The project combines **art-making, environmental education, and collaborative design** to explore textile waste, plastic pollution, and creative reuse.

Duration

- **Fast Workshop Version:** 2–3 hours
- **Extended Studio Version:** 1–2 class sessions (4–6 hours total)

Project Description

The **Global Fish Garden Collective** is a collaborative art project in which participants create **denim fish forms treated with bio-resin** and suspend them as part of a growing mobile installation.

Students transform discarded materials—including **used denim and plastic bottles**—into sculptural forms that collectively become a **garden ecosystem of mobiles**. The installation evolves as participants continually add and rebalance elements.

Through the act of making, students explore how **waste materials can be reimagined as meaningful design objects**, while reflecting on sustainability, collective authorship, and environmental stewardship.

Learning Objectives

By the end of this lesson students will be able to:

1. **Explain key environmental issues** related to the textile waste stream and single-use plastics.
2. **Identify differences between natural and synthetic fibers**, with a focus on denim.
3. **Apply sustainable design principles** through the upcycling of discarded materials.
4. **Create sculptural textile objects** using bio-resin techniques.
5. **Participate in a collaborative art installation**, contributing to a collective artwork.

6. **Reflect on circular economy principles** and how art can inspire environmental change.

Key Concepts

- Sustainable fashion
- Fast fashion and textile waste
- Circular economy
- Upcycling
- Collective art practice
- Ecosystems and environmental metaphors
- Bio-based materials

Materials Needed

Bio-Resin Materials

- Gelatin
- Glycerin
- Water
- Food coloring
- Heat source or burner
- Used non-stick cooking pots
- Sustainable gloves
- Wooden spoons

Fish Construction Materials

- Used denim in various colors
- Fish patterns

- White paper or cardstock
- Rulers
- Fabric scissors
- Paper scissors
- Sharpies or acrylic paint markers
- Non-stick cookie sheets

Additional shapes students may create:

- Globes
- Flowers
- Clouds
- Suns
- Bubbles
- Water forms

Additional Installation Materials

- Embroidery hoops (3–8 inch diameter recommended)
- Clean PET plastic bottles
- Heat gun
- Belt hole punch or hole punch

Mobile Construction Materials

- Hanging grid structure
- Hanging clips
- Wire, silamide thread, or ribbon
- Mobile wire with curved ends
- Turning hooks

Bio-Resin Recipe

Ingredients

- ½ cup water
- 3 tablespoons gelatin
- 1 teaspoon glycerin
- A few drops of food coloring

Instructions

1. Combine gelatin and water under **low heat**.
2. Stir thoroughly until dissolved.
3. Add glycerin and food coloring.
4. Heat for **at least 15 minutes without boiling**.
5. Longer cooking reduces water content and **shortens drying time**.

Instructional Procedure

1. Introduction Presentation (30–40 minutes)

Students view a slide presentation covering:

Sustainability Topics

- The fast fashion industry
- The global textile waste stream
- Natural vs. synthetic fibers
- Denim: fiber content, weave, durability, cultural history
- The history of single-use plastics
- Links between synthetic fabrics and plastic waste
- Connections between waste streams and ocean ecosystems

Conceptual Discussion

- What is a garden?
- Gardens as ecosystems
- Gardens as metaphors for growth and regeneration
- Imagining a “global garden” made from reused materials

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2. Design and Planning (15–20 minutes)

Students:

- Examine fish patterns and reference images.
- Determine the **scale and design** of their fish.
- Sketch possible forms and surface designs.

Optional design strategies:

- Patchwork denim
- Quilted surfaces
- Mixing denim tones (white, light blue, medium blue, dark blue)
- Decorative stitching
- Exterior seams for sculptural texture

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3. Fish Construction (45–90 minutes)

Students:

1. Cut fish shapes from denim.
2. Decorate using markers or stitched embellishments.
3. Sew or assemble fish forms.
4. Apply bio-resin treatment to stiffen and preserve the fabric.

Students **sign their fish** to acknowledge their contribution to the collective installation.

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4. Additional Sculptural Elements (Optional)

Students may also create:

- Plastic bottle flowers using heat guns
- Globes or bubbles from plastic forms
- Bio-resin filled embroidery hoop elements

These elements expand the installation into a **garden-like ecosystem**.

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5. Mobile Assembly (30 minutes)

Participants collectively:

- Attach fish and other elements to mobile wires.
- Balance the structures.
- Adjust placement to maintain equilibrium.

The mobile is **continually rebalanced** as new pieces are added, reflecting the evolving nature of ecosystems.

Project Outcome

The final artwork is a **dynamic installation of suspended mobiles** composed of:

- Bio-resin treated denim fish
- Plastic bottle flowers
- Globes and environmental symbols
- Embroidery hoop structures

The work represents a **global garden ecosystem**, emphasizing creativity, regeneration, and collective responsibility for the natural world.

Assessment and Reflection

Discussion Questions

1. What did you learn about **textiles, denim, and sustainability** through this project?
2. How did the process of **upcycling materials** influence your thinking about waste?

3. How did working as part of a **collective art project** affect your creative decisions?
4. After this experience, is there anything you might do differently regarding **clothing consumption or plastic use**?

Possible Extensions

- Students research **global textile recycling initiatives**.
- Create a **digital map showing where participants contributed fish**.
- Study **kinetic sculpture and mobile design**, referencing artists such as Alexander Calder.
- Exhibit the installation in a gallery, museum, or public space.

Instructor Preparation (To Do)

- Create slide presentation (PowerPoint/PDF) OR use the one provided as part of this prepared Lesson Plan
- Document the process with photographs:
    - Materials
    - Bio-resin process
    - Students constructing fish
- Produce prototype examples:
    - Quilted fish
    - Mixed denim fish
    - Resin-treated textile samples
- Photograph finished mobile installation
