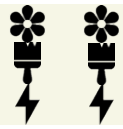
Lesson Plan

Nature
Art
Science



Summary

Curriculum alignments

Craft name	**Illuminated Nature Print**
Subjects	Art; media arts
Year group	Year 4+ UK, Grades 3+ US
Key words	Parallel circuits, art print
English National Curriculum Key Stages 2 and 3	**Nature (geography)** • Use fieldwork to observe, measure, record and present the human and physical features in the local area using a range of methods, including sketch maps, plans and graphs, and digital technologies **Art** • Improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials • Increase their proficiency in the handling of different materials • Use a range of techniques and media, including painting **STEM** • Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery
US Curriculum Grades 3-8	**Nature** • Environmental Education, Knowledge of Environmental Processes and Systems [EE4-S2.4-B, EE4-S2.4-C, EE8-S2.4-B] • Environmental Education , Personal and Civic Responsibility [EE4-S4-D] **Art**

	• Visual arts, Creating: Investigate [VA:Cr2.2.3a, VA:Cr2.2.4a, VA:Cr2.2.5a, VA:Cr2.2.6a] **STEM** • Science (NGSS), Energy [4-PS3-2]

You will need

Illuminated Nature Print storyboard

Part 1

- Rice paper or 100 GSM paper watercolour paper
- Brayer roller
- Gel plate
- Acrylic paint
- Scissors
- Leaves and flowers

Part 2

- Corrugated cardboard
- Coin cell battery (3V CR2016)
- Foam tape
- Conductive fabric tape*

Part 3

- Ruler
- Cardboard stock paper
- Conductive fabric tape
- Chibitronics circuit templates
- LED light stickers
- Photo frame

Learning objectives

Students will investigate natural forms by selecting and printing textured leaves and flowers, developing an understanding of pattern, composition, and multi-layered printmaking techniques.
Students will design and construct a functional illuminated artwork by integrating a paper circuit with their nature print, demonstrating knowledge of basic electrical components and parallel circuits.
Students will apply problem-solving and design thinking skills to assemble a layered artwork that combines visual aesthetics with lighting, exploring how art and technology can work together to enhance storytelling and expression.

* For paper circuit materials, we use chibitronics.

Lesson outline

Duration	Guide
1.5 hour	**Part 1: Creating a nature print** In a guided walk, students will collect leaves, flowers, and long grasses with interesting textures and shapes, then use layered paint and printmaking techniques to create a richly patterned nature print that will form the illuminated surface of their artwork. **Discussion prompts** ✽ What kinds of textures and patterns do you notice on the leaves and flowers you chose? How do they remind you of the environment they came from? 🖌 How did layering different colours of paint change the way your print looks? What choices did you make to create contrast or harmony? 🖌 What was challenging or fun about arranging your nature materials for printing? How did your arrangement affect the final design?
0.5 hour	**Part 2: Constructing your battery pack** Students will build a compact battery holder using cardboard, foam tape, and conductive materials, preparing a power source that can be integrated into their illuminated design. **Discussion prompts** ϟ What do you notice about how the conductive tape connects to the battery? ϟ What might happen if the tape or battery isn't touching properly? 🖌 Can you spot any parts to the batter pack that could be improved? What would you do differently next time?
1 hour	**Part 3: Lighting it up** Students will design and assemble a simple paper circuit beneath their nature print, placing LEDs at key points to light up their artwork and experimenting with how light interacts with texture and form. **Discussion prompts** ϟ What do you notice about how the electricity flows through your circuit? How do the LEDs light up when everything is connected correctly?

	Why is it important to match the positive and negative sides of the LEDs with the circuit? What happens if they're reversed? How does the light change the way your nature print looks? What effect does it create when the LEDs shine through the textures?

Differentiation and extension activities

- Create a composition featuring plants that live in symbiosis (e.g., clover and nitrogen-fixing bacteria, or asters and goldenrod).
- Use a school or local area map to mark where each plant was found, adding notes about habitat and conditions.
- Experiment with different colour palettes to evoke seasonal moods or emotional tones in your nature print.
- Incorporate additional texture-making materials like scrunched up tissue paper, thread, or bubble wrap to enhance texture and depth in your print.
- Create a series of prints exploring symmetry, repetition, or radial balance inspired by natural patterns like flowers or snowflakes.
- Extend your printing techniques. Have a look at our YouTube channel for new ideas!
- Modify your circuit to include a reed switch, allowing the print to be turned on and off manually with a magnet.
- Use a voltometer to measure voltage across different parts of the circuit and discuss how energy flows through the system.