ART X HABITAT FRAGMENTATION

Age Range:	4th-6th Grades (Ages 10-12)		
Subject:	Art	Lessons: 2	#2 United in Biodiversity - Habitat Fragmentation
Topic:	Upcycled Habitat Gardens		
Lessons focus and goals:	**Focus:** Learn about habitat fragmentation, which happens when human activities break up natural habitats. Relate it to the school playground and how birds and insects can be reintroduced to an area which would have formally been grassland prior to humans repurposing the land for a hard surfaced playing area for children. **Goals**: ● Deepen pupils' awareness of the adverse impacts of habitat fragmentation on biodiversity and fostering an understanding of the intricate interdependence between ecosystems and wildlife. ● Furthermore, the lesson aims to empower students to actively contribute to habitat restoration through the design and implementation of upcycled gardens, which function as interconnected sanctuaries for local wildlife.		
Learning objectives:	*Students will be enabled to:* ● Understand how habitat fragmentation impacts biodiversity and how humans contribute to habitat fragmentation. ● Creatively repurpose discarded materials into useful ecological resources.		
Materials	- Upcycled materials (old containers, wooden pallets, discarded planters, etc.) - Soil and compost - Native plant seeds or seedlings - Art supplies (paint, markers, etc.) - Garden tools (small shovels, gloves, etc.) - Interactive maps to visualise fragmentation in the local area (e.g. Google Maps) - Screen to show short videos on the topic		
Differentiation	-Students are put into mixed ability groups -Gardening tools and gloves are provided for students with sensory needs -Questioning -Instructions are kept simple and repeated where necessary		
Digital tools	- iNaturalist app to explore wildlife and plants in the local area - WWF Biodiversity Risk Map to visualise biodiversity loss on a global scale - Biodiversity Mapping to explore species and plants at risk		

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Structure and activities	**Introduction** (20 minutes): Discussion: Start with a discussion on habitat fragmentation, defining the concept and discussing its impact on biodiversity. Discuss how disruption of wildlife is impacted by human settlements, and why this is important for biodiversity. Introduce wildlife corridors and how they can help keep habitats connected. Online resources: How does habitat fragmentation affect biodiversity? The devastating impact of blocking wildlife corridors Example: Oslo creates world's first bee highway to protect endangered bees Visuals: Use visuals or videos to illustrate how habitat fragmentation disrupts ecosystems and wildlife habitats. Look at maps of the local area and ask the class to identify areas that are blocked to wildlife. Ask them to suggest ideas of how you could connect these areas. What is habitat fragmentation and what can we do about it? Video: Wildlife Corridors: WWF 'Koala corridors' to save Australia's endangered marsupial **Design Planning Using Upcycled Materials** (40 minutes): Encourage pupils to consider the dimensions of the available materials and how they can arrange them to create a habitat-friendly space. - Discuss the concept of upcycling, showing examples of different types of upcycled gardens for inspiration. - Discuss potential features that can serve as habitat corridors, such as varying heights, hiding spots, and water elements. - Emphasise the importance of thoroughly cleaning and preparing materials before planting. - Provide guidance on soil and compost usage to create a healthy growing environment. **Garden Implementation** (30 minutes): Assist with planting native seeds or seedlings in the designated areas, ensuring proper spacing and soil coverage.

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	- Encourage creativity in incorporating additional elements, such as rocks or branches, to enhance habitat features. **Decoration** (40 minutes) Show students work by artists like Andy Goldsworthy (Artnet) who use nature to create art in the natural environment. Students will decorate their habitats using natural and upcycled materials. They can also create signposts to direct the wildlife around their habitat, (e.g. directing to water sources, shelter, plants and other habitats). Encourage their creativity, using upcycled materials, paint and markers to create colourful signage. **Gallery walk and presentation** (20 minutes): After completing the gardens, organise small group discussions where students share their design choices and the habitat features they incorporated. - Encourage reflections on the practical challenges faced and how their gardens address habitat fragmentation in a small-scale context. **Follow-up** - After the lesson, encourage the class to remain engaged by checking on the garden regularly, making adaptations to accommodate wildlife. - This will encourage them to continue learning about habitat fragmentation, building awareness.

Assessment based on the presentation of their work.

	Initiating	Developing	Excelling
Description of performance	**LO 1:** The child demonstrates some awareness of habitat fragmentation and its effects on biodiversity but struggles to articulate specific examples or fully grasp the human activities that contribute to fragmentation. **LO 2:** The child attempts to repurpose discarded materials but struggles to do so in a way that effectively contributes to ecological goals.	**LO 1:** The child demonstrates a solid understanding of habitat fragmentation and its impact on biodiversity. They can explain how human activities such as deforestation or urban development contribute to habitat fragmentation with specific examples. They show an awareness of the importance of preserving habitats for wildlife. **LO 2:** The child	**LO 1:** The child exhibits an advanced understanding of habitat fragmentation and its complexities. They can articulate detailed examples of how various human activities contribute to habitat fragmentation and the cascading effects on biodiversity at both local and global scales. Their insights may extend to discussing potential solutions and proactive measures to mitigate habitat fragmentation's adverse impacts on ecosystems.

	Their creations may lack innovation or practicality in addressing ecological needs.	effectively repurposes discarded materials into useful ecological resources, demonstrating creativity and practicality in their creations. They show an understanding of the concept of upcycling and can apply it to address ecological needs. Their projects exhibit innovation and demonstrate a commitment to environmental sustainability.	**LO 2**: The child demonstrates exceptional creativity and ingenuity in repurposing discarded materials to address ecological challenges. Their projects go beyond basic upcycling techniques, showcasing innovative approaches and imaginative solutions to environmental problems.