

NAME: _____

THE FLOATING GATEWAY



Bjarke Ingels is a world-famous architect from Denmark who views buildings as puzzles waiting to be solved. He believes that architecture should be both playful and protective of our planet. He uses a concept called "Hedonistic Sustainability," which is the idea that being environmentally friendly should actually make our lives more enjoyable and beautiful, rather than feeling like a sacrifice. When designing the Gelephu International Airport, Ingels didn't just look at modern runways. Instead, he studied Bhutan's traditional fortresses, known as Dzongs, and the flowing shapes of the Himalayan mountains to create a space that feels like it grew right out of the landscape.



Most airports are flat and paved with concrete, which blocks animals from moving. The Gelephu airport is built like a bridge so animals (like elephants!) can walk underneath the runway.

Bjarke Ingels Group. (2023). Gelephu Mindfulness City: International Airport [Architectural design].

Task: In the space below, draw the airport from a "bird's eye view" (looking straight down). Instead of drawing a straight gray line for a runway, draw it with trees and rivers flowing underneath it. Use green and blue colored pencils to show how nature stays connected.

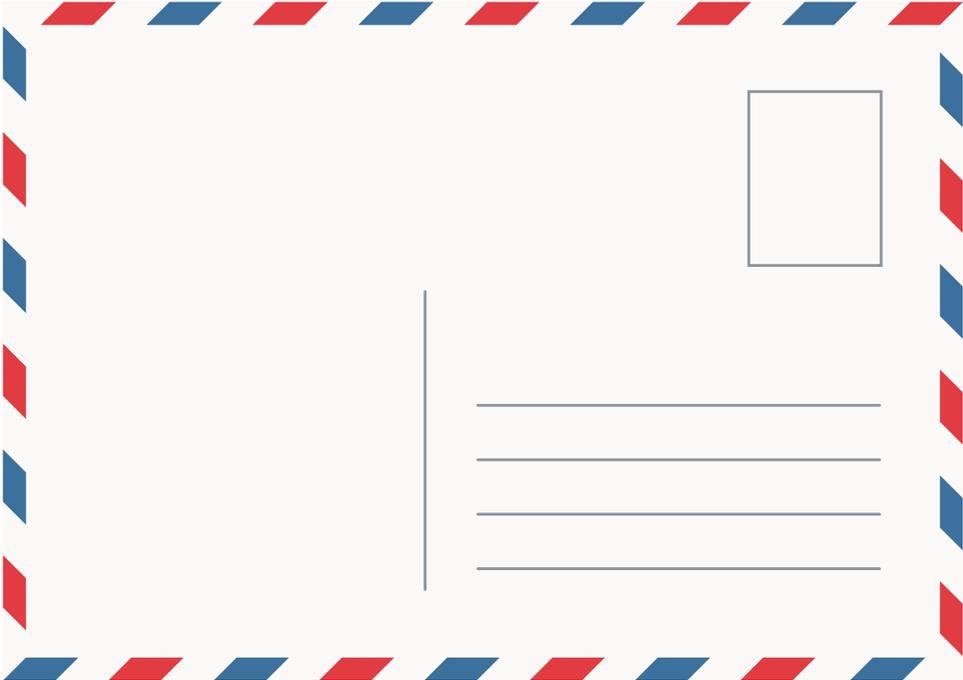


The airport's timber frames will feature intricate carvings inspired by Bhutan's architectural heritage.

Dreith, B. (2025, March 5). BIG bridges tradition and modernity with woodcarvings for Bhutan's international airport. Designboom.

Task: If you were the interior designer for the terminal, list three natural materials you would use to make travellers feel "mindful" and "calm." Explain why these materials are better for a "Mindfulness City" than glass and steel.

Task: Imagine you have just landed at the Gelephu International Airport. You are sitting in a meditation lounge surrounded by the scent of pine wood and the sound of a distant river flowing under the runway. Before you leave for the city, you decide to send a postcard to a family member back home.



Teacher's Guide: The Floating Gateway

This guide is designed to lead a classroom through an exploration of how modern architecture can protect nature and celebrate culture by using the Gelephu International Airport as a model for sustainable, "mindful" design.

Suggested grades 6 to 8

Phase 1: Leading the Discussion

Use these questions to move students from simple observation to a deeper understanding of the relationship between human infrastructure and the natural world.

1. Observation: The Material Reality

- **The Weight of the Land:** Look at the runway. Traditional airports are massive "slabs" of heavy concrete. How does this airport's "bridge" design change how the building sits on the earth?
- **The Evidence of Nature:** Where does the building end and the forest begin? Analyze how the architect uses "porous" spaces (gaps) to allow life to move through the structure rather than blocking it.
- **Organic vs. Industrial:** Compare the "curved" lines of the roof to the "sharp" lines of a typical city building. Why might an architect use curves to mimic the Himalayan mountains?

2. Conceptual Inquiry: Intent and Heritage

- **The Modern Fortress:** The design is inspired by the Dzong (a traditional Bhutanese fortress). If a fortress is meant to protect people, what is this airport protecting? Discuss the shift from protecting against enemies to protecting against climate change.
- **The Mindfulness Mission:** This is the gateway to a "Mindfulness City." How can a building encourage someone to be calm? Discuss why the architect used wood and stone instead of shiny, fast-looking materials like chrome.

3. Modern Connection: The Sustainable Future

- **Calculated Harmony:** We often think of technology and nature as opposites. Is this airport a "machine" for flying, or is it a "living" part of the forest?
- **Animal Architecture:** If a building is designed for humans and elephants, does that make it more or less successful? Discuss the idea of "shared space" in the 21st century.

Phase 2: Analyzing Art Elements & Principles

- **Symmetry & Balance:** Notice how the airport layout mirrors itself, inspired by the Vajra (spiritual thunderbolt). Discuss how this perfect balance creates a sense of "order" and "stability."
- **Texture & Materiality:** Compare the visual texture of traditional woodcarvings and rammed earth to the smooth glass of the windows. How do these "earthy" textures connect the building to the ground?
- **Negative Space:** Observe the "voids" or empty spaces under the terminal bridges. In this architecture, the space under the building is just as important as the building itself because it allows for river flow and animal migration.
- **Rhythm:** Identify the repeating wooden beams and pillars. This creates a visual "heartbeat" that guides the traveler through the long terminal.
- **Colour Palette:** Notice the use of "terracotta," "warm timber," and "forest green." Why are these colors used to signal "happiness" and "peace" in Bhutanese culture?

Phase 3: The "Five Senses" Postcard:

Instructions for the Guide:

1. **Set the Scene:** Ask students to close their eyes. Tell them: "You have just stepped off a plane in Bhutan. The air is fresh, and instead of a noisy hallway, you are standing on a wooden bridge inside a forest."
2. **Prompt the Senses:** Briefly mention the "Forest Spine" (the indoor trees) and the sound of the river flowing beneath the floorboards to help them visualize the space.
3. **The Writing Task:** Instruct students to write a 3-5 sentence postcard to a family member or friend.
4. **The Requirements:** Ensure their message includes these three specific elements:
 - **See:** One specific detail (e.g., the "Forest Spine" garden or hand-carved dragons).
 - **Feel:** One texture or emotion (e.g., the warmth of the timber or a sense of quiet).
 - **Why:** One reason this specific design makes them feel "mindful" or happy.

Phase 4: Context & Background

The Architect: Bjarke Ingels & the BIG Vision

- Bjarke Ingels is a Danish architect who describes himself as an "architect by chance"—he originally wanted to be a cartoonist! This early passion for storytelling is visible in his buildings, which often look like something out of a science fiction graphic novel. In 2005, he founded BIG (Bjarke Ingels Group), a firm that has grown into a global powerhouse with a very specific motto: "Yes is More." While other architects might say "No" to difficult requests, Ingels says "Yes" to everything: Yes to a ski slope on top of a power plant (CopenHill), yes to a building shaped like a giant LEGO brick (LEGO House), and yes to an airport that protects elephants. His core philosophy, Hedonistic Sustainability, teaches that being "green" should be the most fun and high-tech way to live. He believes architecture is not just about making things look good, but about "realizing our dreams" for a better world.

The Space: Gelephu Mindfulness City (GMC)

- The Gelephu International Airport is the crown jewel of the Gelephu Mindfulness City, a massive project spanning over 2,500 square kilometers (about three times the size of Singapore!).
- A "Nation-Building" Project: This isn't just a city; it's a Special Administrative Region created by His Majesty the King of Bhutan to protect the country's future.
- Gross National Happiness: The city is built on the nine domains of happiness, focusing on spiritual well-being and nature over just money and tall buildings.
- The Forest Spine: Inside the airport, a central courtyard called the "Forest Spine" brings the actual subtropical forest indoors. Travellers can walk through treetop walkways and use dedicated lounges for yoga, meditation, and gong baths to stay calm during their journey.

Traditional Craft (The "Kachen"): The airport's design is a love letter to Bhutanese heritage. The wooden pillars, called Kachen, are adorned with hand-carved dragons representing the Past, Present, and Future. These are created using four traditional Bhutanese arts:

- Shing-Zo: Master Carpentry
- Par-Zo: Intricate Woodcarving
- Lha-Zo: Traditional Painting
- Tshar-Zo: Weaving

Sustainable Innovation

- The building is a "Carbon-Negative" masterpiece. It uses a modular diagrid structure made of mass timber (strong, layered wood). Because the frames are independent, the airport can be taken apart and expanded like a giant puzzle as the city grows, without wasting materials. The roof is covered in solar panels, and the wooden walls even help regulate humidity by "breathing" in the subtropical air.

References (APA 7th Edition)

Bjarke Ingels Group. (2024). Gelephu Mindfulness City: Gelephu International Airport [Architectural Design]. The Space: The airport is the anchor of the Gelephu Mindfulness City (GMC), a special region in Bhutan focused on "Gross National Happiness." It is designed to withstand heavy monsoon rains while doubling as a flood barrier.

Dreith, B. (2025, March 5). BIG bridges tradition and modernity with woodcarvings for Bhutan's international airport. Designboom. The Space: The airport is the anchor of the Gelephu Mindfulness City (GMC), a special region in Bhutan focused on "Gross National Happiness." It is designed to withstand heavy monsoon rains while doubling as a flood barrier.

World Architecture Community. (2025, November 21). Future Project of the Year 2025 goes to Gelephu International Airport by BIG. The Space: The airport is the anchor of the Gelephu Mindfulness City (GMC), a special region in Bhutan focused on "Gross National Happiness." It is designed to withstand heavy monsoon rains while doubling as a flood barrier.