



# A LEVEL ART AND DESIGN: three- dimensional design

AQA (7205)

**Mrs Dhaliwal**  
**Miss Cambridge**

## Rough timing for the session

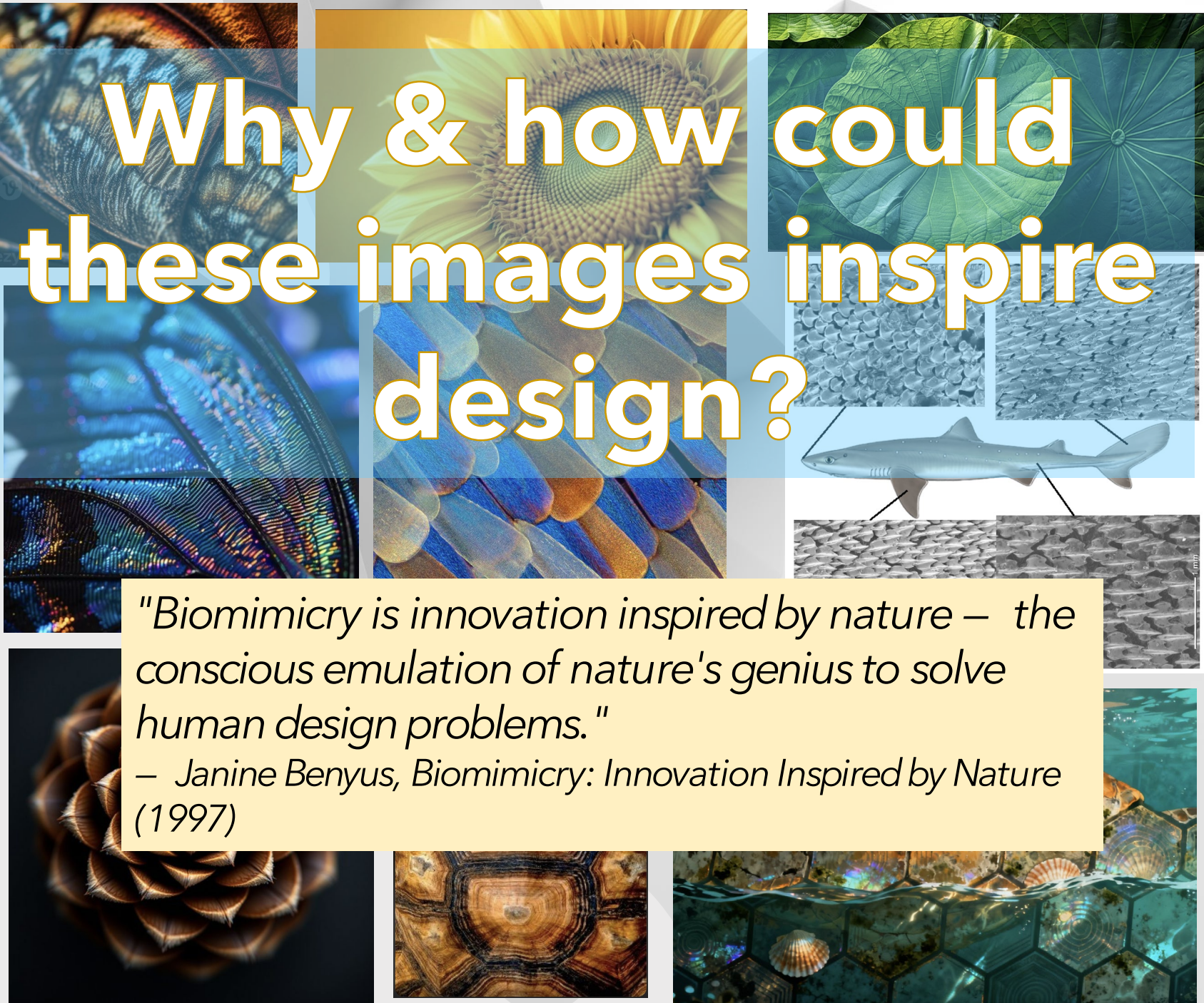
| Time      | Activity                                              |
|-----------|-------------------------------------------------------|
| 0-5 min   | Welcome, show what they're making, open template file |
| 5-18 min  | Students design in LightBurn                          |
| 18-20 min | You/technician review designs, send to queue          |
| 20-25 min | Cutting runs (students watch first cut)               |
| 25-30 min | Collect pieces, debrief, introduce bridging task      |



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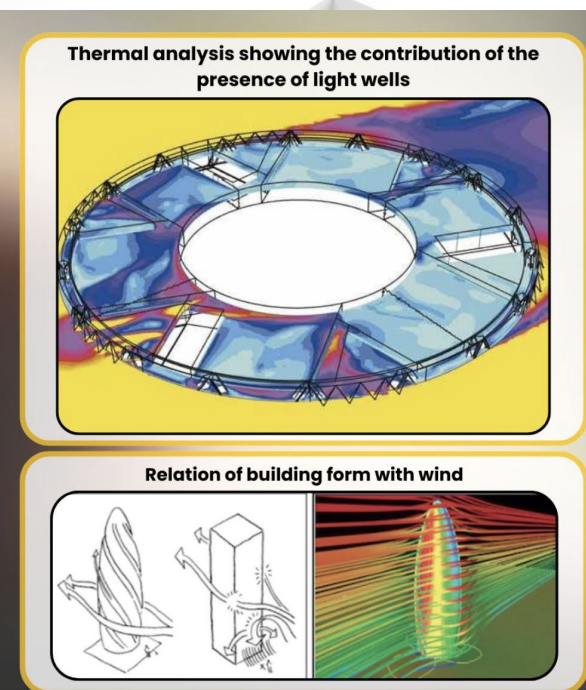
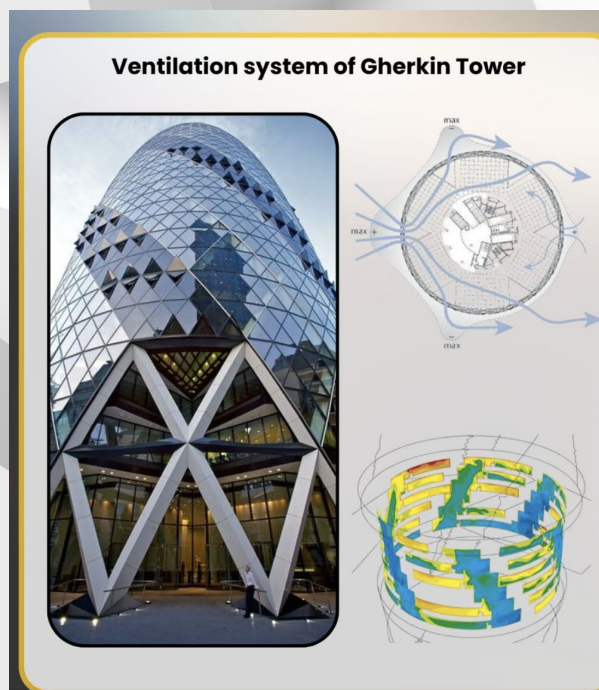
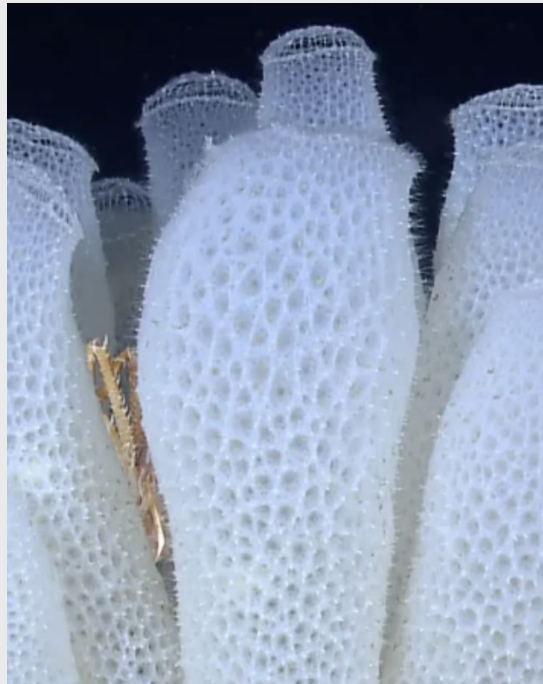
**Mrs Dhaliwal**  
**Miss Cambridge**



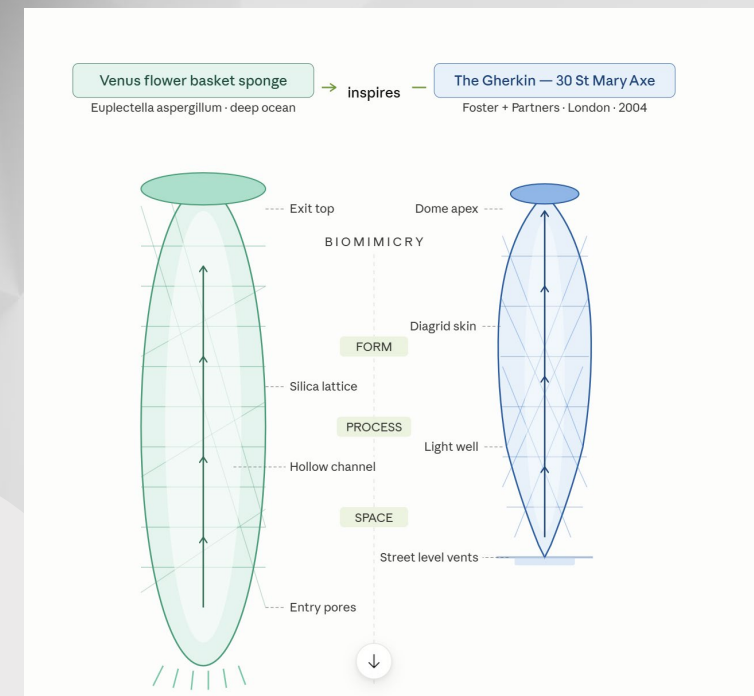
# Why & how could these images inspire design?

*"Biomimicry is innovation inspired by nature – the conscious emulation of nature's genius to solve human design problems."*

*– Janine Benyus, Biomimicry: Innovation Inspired by Nature (1997)*



**The Gherkin, City of London** (Foster + Partners, 2004)  
 Inspired by the Venus flower basket sea sponge, whose cylindrical lattice exoskeleton withstands powerful ocean currents – the building's rounded form deflects wind smoothly around it, and the diagrid structure channels air upward through the building by natural pressure differences. The result uses around half the energy of a comparably sized conventional skyscraper.



# Year 12 Taster Day

- Introduction to Lightburn laser engraving and cutting software.
- **Design and laser cut a personalised coaster to take home today.**



# Task

- Use LightBurn to design a personalised laser-cut coaster.
- LightBurn is already set up and ready – no installation needed today.

Open the **S: Drive > Design & Technology > Work > Laser Cutter > Y12 Induction > Coaster Template**

# Task



## Key

Fill line

Engrave line

Cutting line

- The template shows your 100mm x 100mm coaster shape – work inside it.
- Keep your design **simple and bold**: your name or initials, a shape, a motif, or a simple pattern.
- Fine detail is hard for the laser – avoid very thin lines or tiny text.

## Next step... .

- **Miss Cambridge** will queue your design and laser cut it during the session – you may collect it before you leave.
- No assembly needed – your coaster is ready to use straight away.

# Year 12 Bridging Task (submission 1<sup>st</sup> lesson back in September)

## **Investigate a Designer: Isamu Noguchi**

**Explore the life and work of Japanese-American sculptor and designer Isamu Noguchi. Produce a research and personal response portfolio.**

### **Stage 1 - Research**

- ▶ Who is Isamu Noguchi? Key dates, background and influences.
- ▶ Collect 6-10 images of his sculptures, furniture, and lighting design.
- ▶ Identify recurring themes: organic form, negative space, balance, material contrast.
- ▶ Research ONE specific piece in depth (e.g. Akari Light Sculptures or the Noguchi Table).

### **Stage 2 - Investigation**

- ▶ Visit a gallery, sculpture park, or museum and sketch objects in 3D (photograph your sketches).
- ▶ Find 2 contemporary designers inspired by Noguchi – who are they and what connects them?
- ▶ Write 150-200 words analysing how Noguchi bridges art and functional design.

### **Stage 3 - Personal Response**

- ▶ Design and make a small-scale 3D model (card, wire, foam, clay) inspired by Noguchi's principles – not a copy of his work.
- ▶ Annotate your model: what decisions did you make and why?
- ▶ Write a 100-word personal statement: what does your piece say about you as a designer?