

## **AI Design Challenge: One-Day Design Iteration Project**

**Course:** Drafting / Design Technology

**Grade Level:** 10–12

**Time Required:** Approximately 4 Hours

**Total Marks:** 100

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### **Design Brief**

You are a junior designer working for a small design firm.

Your task is to create a simple building concept and use AI to help improve the design through multiple iterations.

The final design should demonstrate how AI can assist in the design process while the student remains responsible for all final decisions.

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### **Scenario**

Choose ONE:

- Tiny House
- Garden Shed
- Workshop
- Bus Shelter
- Park Pavilion
- Small Coffee Kiosk
- Bike Storage Building

Maximum size: 25 m<sup>2</sup>

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### **Part 1 – Initial Concept Sketch (45 minutes)**

#### **Requirements**

Create ONE original design concept.

You may use:

- Hand sketching
- CAD software
- Simple 3D modeling software

Include:

- ✓ Floor plan
- ✓ Front elevation
- ✓ Basic dimensions
- ✓ Labels

The drawing does not need to be highly detailed.

### **Submission**

Take a photo or export an image of your design.

**Marks: 20**

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### **Part 2 – AI Design Consultation (45 minutes)**

Upload your design to ChatGPT.

Ask the AI to analyze your work using at least THREE prompts.

Suggested prompts:

#### **Function**

Analyze this design and suggest three improvements.

#### **Sustainability**

How could this design be made more environmentally friendly?

#### **Accessibility**

Suggest changes that would improve accessibility and user comfort.

#### **Appearance**

How could this design look more modern and attractive?

Save screenshots of all interactions.

#### **Student Response**

For each AI suggestion:

- Did you agree?
- Did you disagree?
- Why?

**Marks: 25**

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### Part 3 – AI-Generated Revision (45 minutes)

Using AI feedback, revise your design.

You may:

- Redraw the floor plan
- Modify dimensions
- Change roof style
- Improve circulation
- Add windows or doors
- Improve sustainability features

Highlight at least THREE changes made because of AI suggestions.

Use arrows or notes to identify changes.

**Marks: 25**

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### Part 4 – Final Design Comparison (30 minutes)

Create a one-page comparison sheet.

Include:

#### Original Design

Insert image.

#### Revised Design

Insert image.

#### Comparison Table

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Design Element	Original	Revised
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Layout

Lighting

Appearance

Sustainability

Accessibility

**Marks: 15**

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**Part 5 – Reflection (15 minutes)**

Answer the following questions:

1. What was the most useful suggestion provided by AI?
2. What suggestion did you reject and why?
3. Did AI improve your design?
4. What decisions could only be made by a human designer?
5. If you were to continue this project, what would you improve next?

150–250 words total.

**Marks: 15**

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**Assessment Rubric**

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<b>Category</b>	<b>Marks</b>
Original Design	20
AI Consultation Process	25
Revised Design	25
Comparison Sheet	15
Reflection	15
<b>Total</b>	<b>100</b>