

S.2 Technology Education  
TE (A) – Assignment Guidelines

Name: \_\_\_\_\_ Class: \_\_\_\_\_ ( ) Date: \_\_\_\_\_

### **STEAM Project: Smart Home**

Topic: Operation & Manufacturing - Production Process

Requirements: Use different kinds of tools & equipment to finish the project

#### ⇒Challenge (難題)

The concept ‘Smart Home’ is getting common nowadays as it greatly improves our daily life. Yet, some people may still encounter home accidents, or they would like to have better living quality.

#### ⇒Objective (目的)

Students have a basic understanding about the design procedures, space planning, interior design and ‘Smart Home’. Use appropriate communication skills to express the design ideas and use appropriate tools and materials to make the physical model.

#### ⇒Learning Outcome (學生完成專題活動後應能掌握)

Make use of communication skills to express the design ideas; Use hand tools and machines to make the products. Understand the concept of ‘Smart Home’ and utilize it throughout the design project.

#### ⇒Design Brief (設計概要)

Design the assigned living area and integrate ‘Smart Home’ concept. Make a 1:20 physical model with strong characteristics to recreate a new space for your target audiences.

#### ⇒Design Specification (設計細則):

##### **Dimensions (尺寸) of the living area:**

300cm (Length) X 300cm (Width) X 300cm (Height)

##### **Dimensions of the 1:20 physical model:**

15cm (Length) X 15cm (Length) X 15cm (Height)

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**Materials Required (所需物料):**

- (i) Cardboard
- (ii) Wood: Balsa
- (iii) Plastic: Acrylic
- (iii) A combination of different kinds of materials

**Tools:**

- (i) Cardboard & A4 size paper box
- (ii) Acrylic sheets
- (iii) Different kinds of recycled materials and decorative pieces

**Machines:**

1. Jig Saw (線鋸床)
2. Strip Heater (發熱線機) with Protective Gloves
3. Drilling Machine (鑽床)

**Recommended Time (建議時間):**

14 lessons x 35 - 40 minutes

**Safety (安全要求)**

Avoid user injury, sharp corners, loose parts, and toxic substances

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⇒ Contents of Activity

(i) **Research & Investigation** (資料搜集和探究)

Address of the website: \_\_\_\_\_

Summary (e.g. What is this website about? Why do you take it as a reference?)

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Copy and paste some contents of the website below:

Address of the website: \_\_\_\_\_

Summary (e.g. What is this website about? Why do you take it as a reference?)

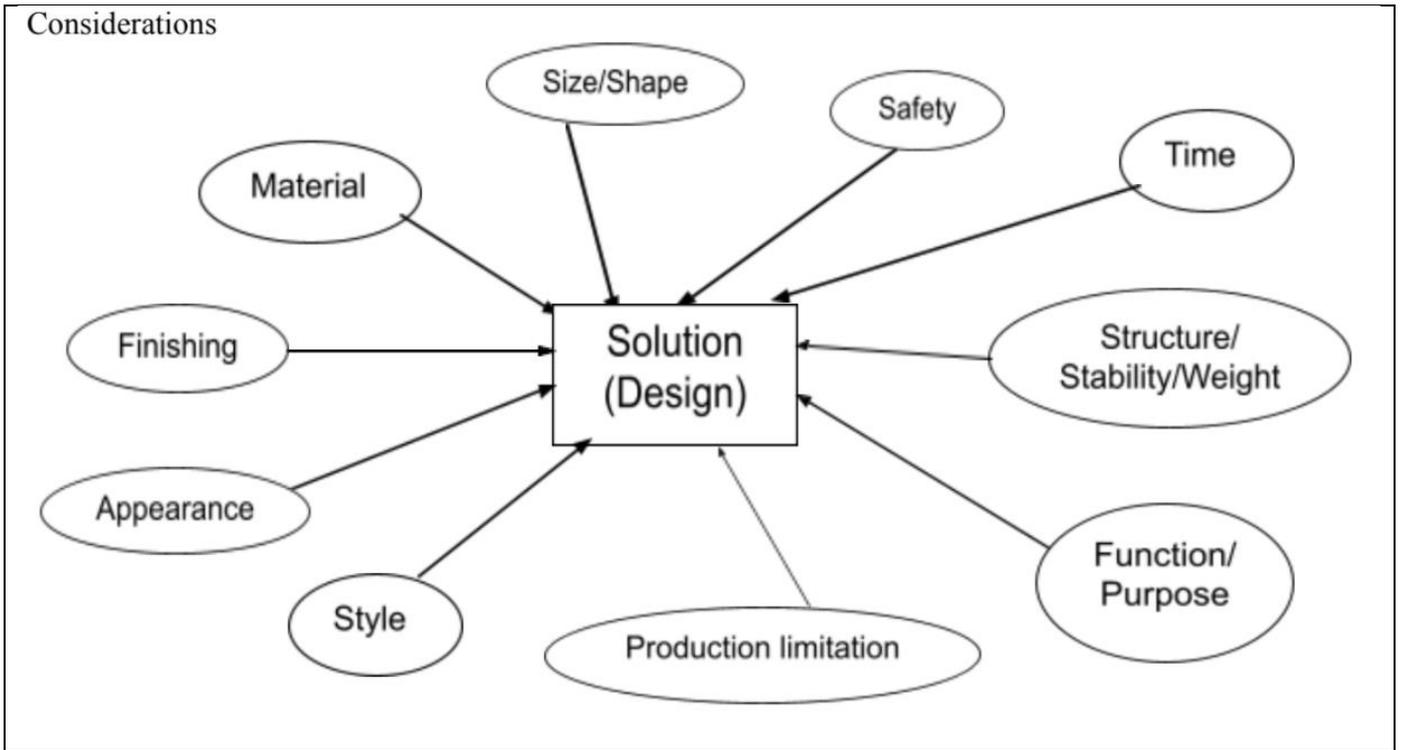
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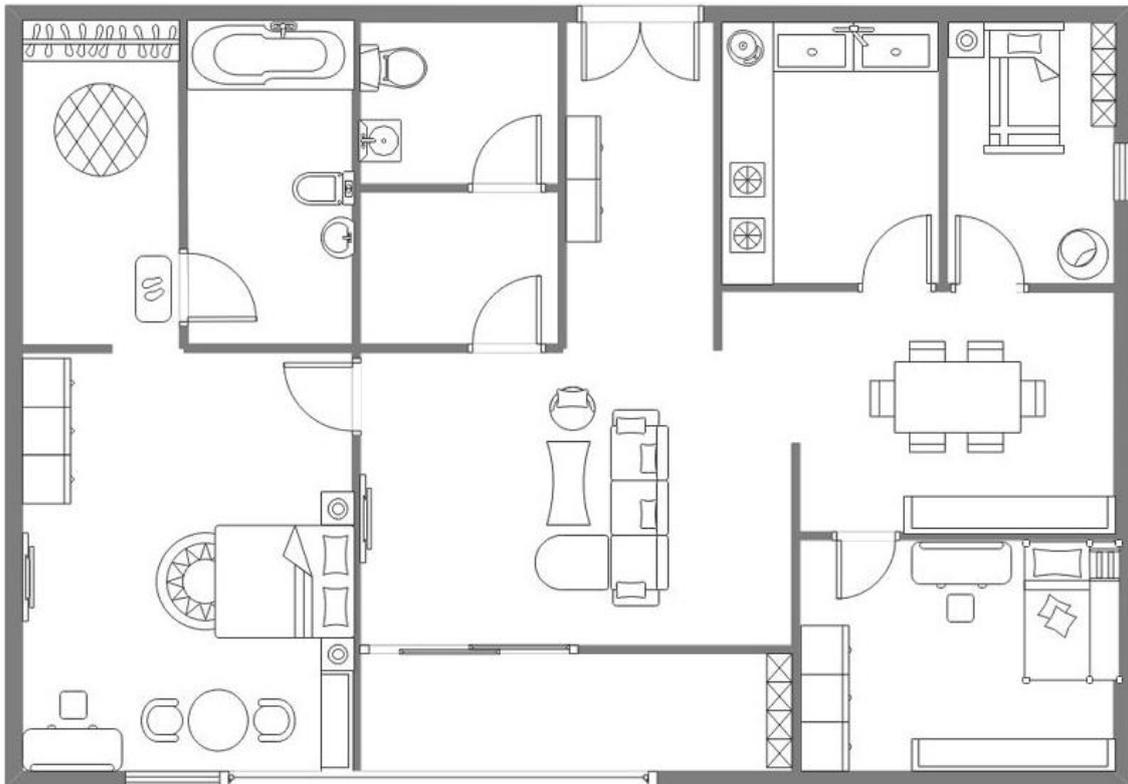
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Copy and paste some contents of the website below:

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Refer to the design and material of similar design in the market.



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(iii) Please visit <https://floorplancreator.net/> and create 2 preliminary floor plans. In the spaces provided below, paste the **screen captures** of your dream space, and explain the design ideas in point form:

Design 1 Preliminary idea (初步設計圖):

Explain your Design 1 ideas:

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**Design 2 Preliminary idea (初步設計圖):**

Explain your Design 2 ideas:

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