

## Y8 DT B4- Individuality

### Design Strategies

You can use design strategies to come up with initial design ideas without getting you on a bad one. Designing is a really complex process and there are several different ways of doing it:

- **Systems approach:** This means breaking down the process into several different strategies and doing each in turn.
- **User-Centered design:** The wants and needs of the client are prioritised- their thoughts are given a lot of attention at every stage of design and manufacture
- **Iterative design:** Centered around the design process of evaluation and improvement at each stage of designing.

When you are designing a product it is easy to get stuck on an idea. This is called design fixation and it can stop you thinking creatively and coming up with innovative ideas.

Following the design strategy can help you avoid design fixation and encourage you to look at your design in a critical way to make improvements. Other ways to avoid are-

- Collaboration
- Honest feedback
- Focusing on new solutions
- Using fresh approaches

This enables designers to be creative, innovative and open to new ideas.

You can also annotate your designs to fully explain further using ACCESS FM

A= Aesthetics                      F= Function  
C= Cost                                M= Materials  
C= Customer                        S= Safety  
E= Environment                    S= Size

### Prototypes/toile



A toile or prototype is a fabric, card or paper version of your design ideas. You are expected to create a scaled version of your idea that will enable you to evaluate and re-design parts to it function better at its job. This could be to refine a part or changing the design completely. At this stage of the design process it is completed to help you identify any parts which could not work or to refine ideas as you develop samples or designs. You will be expected to create a prototype for your project to represent your idea.

### CYCLE 1 IDENTIFYING & INVESTIGATING DESIGN POSSIBILITIES

- A01: Identify, investigate and outline design possibilities to address needs and wants.
- A03: Analyse & evaluate

**Tasks involved:** Task analysis, client identification, designer/existing products research and conclusions for each piece created.

### CYCLE 2 IDENTIFYING & INVESTIGATING DESIGN POSSIBILITIES

- A02: Generating Ideas, Design & make prototypes that are fit for purpose
- A03: Analyse & evaluate

**Tasks involved:** initial designs, prototyping, modelling, client feedback, developed ideas.

### CYCLE 3 & 4 DEVELOPING DESIGN IDEAS TO ONE FULLY DEVELOPED IDEA

- A02: Design & make prototypes that are fit for purpose Developing design ideas
- A03: Analyse & evaluate

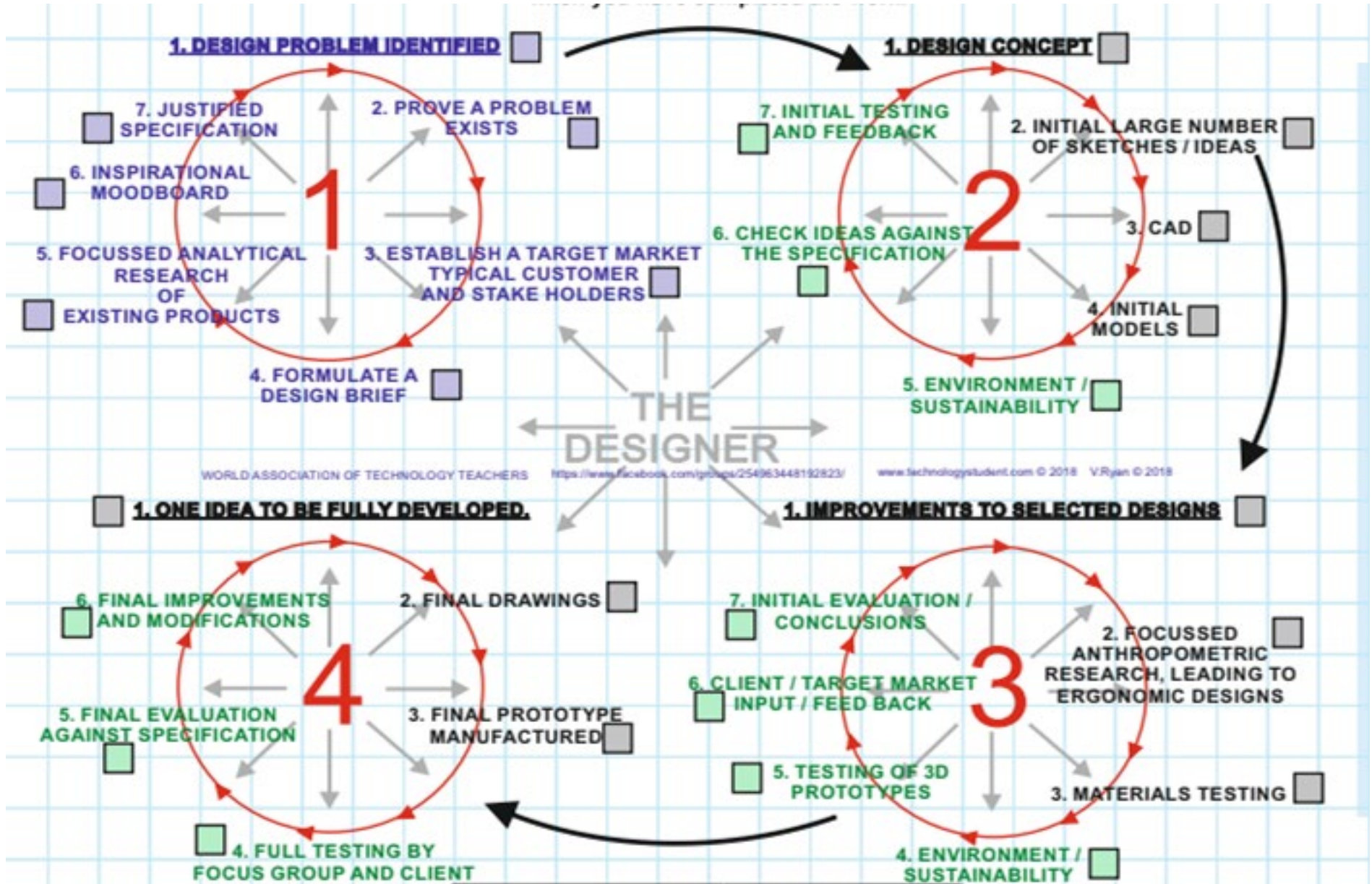
**Tasks involved:** Manufacturing plans, creation of the final piece, evaluation and client evaluations, photographic evidence

### CYCLE 5: TESTING & EVALUATION OF THE FINAL CONCEPT

- A03: Analyse & evaluate

**Tasks involved:** Evaluation of final piece against the brief, client, needs/purpose, testing by the client in situ, further development of manufacturing

The iterative design process



**Examples of models and prototypes**



**KEY TERMS**

- MEASURED:** carefully marked out (using a ruler/measuring equipment)
- ACCURATELY:** That is correct (measurements and angles)
- PRECISE:** Strictly correct (measurements, angles and cutting)
- TOLERANCE:** Within variation (of measurements)
- THEME:** What is the topic or item it is based upon
- ENVIRONMENTAL IMPACT:** How much of a negative impact will the product have on the environment (either through use or once it is thrown away/recycled)
- PRODUCT LIFE CYCLE:** A new product progresses through a sequence of stages from introduction to growth, maturity, and decline. This sequence is known as the product life cycle and is associated with changes in the marketing situation, thus impacting the marketing strategy and the marketing mix.
- REDUCE:** Minimise the amount of materials and energy used throughout the process
- REUSE:** Using the parts or materials of a product
- RECYCLE:** reclaim the raw materials
- REFUSE:** make the choice to not generate waste
- RETHINK:** consider and question consumption habits
- REPAIR:** next time consider recycled and green content
- PROTOTYPE:** a first or preliminary version of a device or vehicle from which other forms are developed.  
"the firm is testing a prototype"
- MODEL:** a three-dimensional representation of a person or thing or of a proposed structure, typically on a smaller scale than the original.  
"a model of St Paul's Cathedral"
- DIMENSIONS:** a measurable extent, such as length, breadth, depth, or height.  
"the final dimensions of the pond were 14 ft x 8 ft"
- CRITICAL:** expressing adverse or disapproving comments or judgements.
- COLLABORATION:** the action of working with someone to produce something.
- INDIVIDUALITY:** the quality or character of a person or thing that distinguishes them from others of the same kind, especially when strongly marked. "clothes with real style and individuality"
- IMPROVEMENT:** an example of improving or being improved.
- REFINEMENT:** the process of removing impurities or unwanted elements from a substance.

**Challenge:** Within your prototype/product, how will you ensure a high quality of finish whilst ensuring you use recycled or reused materials? What needs to be checked before using the materials?