Built to last?

Unit 1 · New and emerging technologies · matches the "Built to last?" lesson slides (about 60 minutes)

Teacher notes for someone teaching this lesson without a Design and Technology background, including a cover or supply teacher standing in for the usual class teacher.

IF YOU ONLY DO ONE THING (RUSHED COVER LESSON)

If you only do one thing: make sure every pupil can say what "Planned obsolescence" means in their own words before the lesson ends. Designing a product to have a limited useful life. Ask two or three pupils to explain it back to you - do not just ask "does that make sense?".

Key facts in plain language

These are the facts this lesson depends on. They are written in plain English, not subject jargon, so you can say them in your own words while you teach.

Planned obsolescence:
Designing a product to have a limited useful life.

Design for maintenance:
Designing so a product can be cleaned, serviced and repaired.

Modular:
Built from units that can be replaced separately.

Feasibility:
Whether an idea can realistically be made, sold and supported.

Ethics:
What is morally right, for example fair treatment of workers.

Common misconceptions

Drawn from the wrong answers pupils pick in this lesson's own question bank, paired with the explanation that is already written for the right answer.

Pupils may think: "Style (aesthetic) obsolescence" is correct.
Why it is wrong: the correct answer is "Technological obsolescence". Technology moves on and support ends, even though the phone still works.

Pupils may think: "A battery glued in place" is correct.
Why it is wrong: the correct answer is "Standard screws and modular parts". Standard fixings and modules let owners open the product and replace a single part.

Pupils may think: "Make it easier to recycle" is correct.
Why it is wrong: the correct answer is "Cost more and waste material". Making it stronger than needed uses more material and money for no real benefit.

Pupils may think: "Less waste goes to landfill" is correct.
Why it is wrong: the correct answer is "Customers buy again more often". Repeat purchases keep sales going, although the brand's reputation can suffer.

Pupils may think: "Recycling" is correct.
Why it is wrong: the correct answer is "Reuse". Reuse keeps the product in its original form; recycling breaks the material down to make something new.

Talking points to follow the slide deck

The slide deck for this lesson follows the usual DT Classroom shape: a retrieval starter, then each key term below in turn, worked examples, exam-style practice, then an exit ticket. Use these lines as you reach each part - they are the same facts as above, just phrased as something you can say out loud.

When the deck reaches "Planned obsolescence": say — Designing a product to have a limited useful life. Ask: "can someone give me an example?"

When the deck reaches "Design for maintenance": say — Designing so a product can be cleaned, serviced and repaired. Ask: "can someone give me an example?"

When the deck reaches "Modular": say — Built from units that can be replaced separately. Ask: "can someone give me an example?"

When the deck reaches "Feasibility": say — Whether an idea can realistically be made, sold and supported. Ask: "can someone give me an example?"

When the deck reaches "Ethics": say — What is morally right, for example fair treatment of workers. Ask: "can someone give me an example?"

Worked answers to this lesson's questions

The same question bank used for this lesson's knowledge organiser self-check and worksheet exam practice. Use this page as the answer key, or cover the right-hand explanation and hand out the questions as a silent task (see the cover lesson box below).

1. A phone stops getting software updates, so it feels useless. This is…

a) Technological obsolescence, b) Style (aesthetic) obsolescence, c) Design for maintenance, d) Market pull

Answer: a) Technological obsolescence. Technology moves on and support ends, even though the phone still works.

2. Which feature makes a product easier to repair?

a) A battery glued in place, b) Tamper-proof security screws throughout, c) A one-piece sealed case, d) Standard screws and modular parts

Answer: d) Standard screws and modular parts. Standard fixings and modules let owners open the product and replace a single part.

3. Over-engineering a disposable fork would most likely…

a) Make it easier to recycle, b) Cost more and waste material, c) Make it more hygienic to use, d) Reduce the amount of waste

Answer: b) Cost more and waste material. Making it stronger than needed uses more material and money for no real benefit.

4. Which is a benefit of short product lifespans for manufacturers?

a) Less waste goes to landfill, b) Customers buy again more often, c) A better reputation for quality, d) Lower energy use in factories

Answer: b) Customers buy again more often. Repeat purchases keep sales going, although the brand's reputation can suffer.

5. A glass milk bottle washed and refilled is an example of…

a) Recycling, b) Repair, c) Reuse, d) Upcycling

Answer: c) Reuse. Reuse keeps the product in its original form; recycling breaks the material down to make something new.

READY-TO-RUN COVER LESSON

Project the existing lesson slides as normal; read the key facts and talking points above before the lesson starts.

Low-prep silent task (needs no workshop tools or machinery): write or display the numbered questions above without the "Answer:" line, and have pupils answer them in silence on paper. Mark from the answers above at the end, or next lesson.

If the lesson plan calls for tools, machinery, heat or anything hands-on, do not run that part as a non-specialist cover teacher - set the silent task above instead and leave the practical for the subject teacher. See the general workshop safety guide in the Teachers hub.