

EDUCATOR LED VISIT POWERHOUSE, ULTIMO

TECHNOLOGY MANDATORY & DESIGN AND TECHNOLOGY DESIGN THINKING

Stage 4

In this program school groups examine four historical technologies including a 1920s German-made Bauhaus Telephone, the Apple 1 Computer manufactured and sold by Steve Jobs and Steve Wozniak in the mid 1970s, a 1995 Nintendo Game Boy and a school slate chalkboard from the early 1900s. Using active inquiry techniques, learners will assess functional requirements of the technologies and consider the economic, environmental and social impacts that resulted from the designs.

EXHIBITION	OBJECT	THINKING ROUTINE
Interface	Bauhaus Telephone	Options Diamond 1. Identify a couple of obvious options. Usually there are trade-offs or tensions between them that make the decision hard: Choose one and you get X but lose Y; choose the other and you lose X but get Y. 2. Make a diamond diagram, putting at the left and right corners the one or two main tradeoffs (the X's and Y's) pulling in opposite directions (see example in PDF). 3. Now have students brainstorm one to three solutions for each corner of the diamond. Left side: go with that trade-off. Right side: go with that trade-off. Bottom: compromise between them. Top: Clever solutions that combine the seeming opposites and get the best of both. 4. Ask: What have we learnt about the situation from finding these options? This is a way of understanding the situation better.
	Apple I Computer	
	Nintendo Game Boy Game Console	
	School Slate	

SYLLABUS LINKS

OUTCOME/S		
Technology Mandatory	TE4-1DP	Designs, communicates and evaluates innovative ideas and creative solutions to authentic problems or opportunities.
Design and Technology	DT4-3	Describes the impact of past, current and emerging technologies on the individual, society and environments.

CONTENT		
Stage 4	Technology Mandatory	<ul style="list-style-type: none"> Define and decompose real-world problems, taking into account functional requirements and a range of constraints, eg economic, environmental, social, technical and usability. Consider innovative applications of advancing technologies to increase efficiency of time and/or materials in the production of models or products.
	Design and Technology	Explore the work of past and current designers in commercial, historical and industrial settings from different focus areas of design.

THINKING SKILLS	
Design thinking – DT	Design thinking involves a process where a need or opportunity is identified and a design solution is developed. The consideration of economic, environmental and social impacts that result from designed solutions are core to design thinking. Design thinking methods can be used when trying to understand a problem generate ideas and refine a design based on evaluation and testing.

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TAS Stage 4

EDUCATOR LED EXPERIENCE	
Sample Itinerary for a 10am booking	
9.45am	Arrive at Powerhouse, main entrance, Harris St, Ultimo. Learners can use this time for a toilet break or to have a snack.
9.55am	Museum Visitor Service Officer (VSO) meets group and checks booking details.
10.00am	VSO leads group into the Museum to cloak school bags, toilet stop if needed, welcome and Acknowledgement of Country.
10.10am	Educator/s – groups of 15 learners + teacher/supervisor Expert museum educators engage small groups of learners (15:1) at two selected artefacts or galleries. Discussions and activities are aligned with the Design Thinking content.
10.55am	Whole group reunited, wrap up, farewell to Educators. Free exploration of galleries with teachers/supervisors until 11.50am.
11.50am	Reclaim cloaked bags, toilet stop if needed.
12 noon	Depart Museum.