

DESIGN IT

UNIFY Series: Years 5-6 STEM



impact.edu.au/register

BIG IDEA:

Design IT provides young innovators with an exciting series of design challenges. Students use design thinking and technologies to experiment, problem-solve, prototype and evaluate designed solutions.

The practical nature of *Design IT* engages students in critical and creative thinking. They discover the value of planning and reviewing. They learn knowledge and skills that will enable them to create project ideas to take to market and make an IMPACT - big and small.

Design IT helps schools to build staff and student capability simultaneously. Key teachers and leaders can access the [IMPACT STEM Squad](#). Your web conference supervisor can co-teach with our online teacher.

SELECTION CRITERIA:

- ✓ Selection criteria for the UNIFY Series is largely subjective.
- ✓ Many schools use *Design IT* and other UNIFY Series programs as an enrichment opportunity for mid-to-high achieving students.
- ✓ Teacher judgement and student interest in design and technologies should assist selection.

AUSTRALIAN CURRICULUM:

See page 2 for Australian Curriculum links and other important details.

THE COURSE:

LESSON OVERVIEW		
NO.	TITLE	CONTENT
1	<i>Welcome to Design (Tools & Web Conferencing)</i>	<ul style="list-style-type: none">Introduction to online coursesDesign decision making
2	<i>The Design Process</i>	<ul style="list-style-type: none">Evaluating DesignsPre-assessment quiz
3	<i>Famous Designers (Da Vinci)</i>	<ul style="list-style-type: none">Materials used in DesignCollaborative Check in
4	<i>Product Design</i>	<ul style="list-style-type: none">Design ThinkingCheck in 1 – Investigate & Evaluate
5	<i>Graphic Design</i>	<ul style="list-style-type: none">Design ThinkingGraphics – Generate & Evaluate
6	<i>Environmental Design</i>	<ul style="list-style-type: none">Design ThinkingEngineering – Investigate & Generate
7	<i>The Supply Chain</i>	<ul style="list-style-type: none">Ethics & EnvironmentSustainability in Food Industries
8	<i>Famous Designers (Dyson)</i>	<ul style="list-style-type: none">Design ThinkingCollaborative Check in
9	<i>Product Design</i>	<ul style="list-style-type: none">Design ThinkingCheck in 2 – Generate & Evaluate
10	<i>Electronics using Scratch</i>	<ul style="list-style-type: none">Computational ThinkingFunctionalityPost-assessment quiz
11	<i>Electronics using Scratch</i>	<ul style="list-style-type: none">Makey – Makey KitsCheck in 3 - Connecting to Scratch
12	<i>Future Design</i>	<ul style="list-style-type: none">Reflect, Collaborate & EvaluateMakey – Makey Kits & Scratch



Years 5-6

**UNIFY Series
Round 2**

The students have looked forward to the program every week and have carried that knowledge back to the other students in the classroom. The program gives them ideas to apply to subjects in secondary school and later in life. It is a great way to extend the students' thinking and has them working as a team. The principal and other teachers have all had a positive view to the learning achieved.'

Supervisor - 2016

'I remember coming home after school saying things like "Wow! That was amazing! Communicating from another area is so extraordinary!" I was very well educated on what a makey makey is, how to design a sales product and also how to draft different things that you would like to create!'

Student - 2016

[How it Works](#)

[Participation Costs](#)

[Primary Main Page](#)

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Australian Curriculum

Digital Technologies Learning Area

Design and Technologies Knowledge and Understanding Technologies and society

- Examine how people in design and technologies occupations address competing considerations, including sustainability in the design of products, services, and environments for current and future use (ACTDEK019)

Food and fibre production

- Investigate how and why food and fibre are produced in managed environments and prepared to enable people to grow and be healthy (ACTDEK021)

Design and Technologies Processes and Production Skills

- Investigating and defining** - Critique needs or opportunities for designing, and investigate materials, components, tools, equipment and processes to achieve intended designed solutions (ACTDEP024)
- Generating and designing** - Generate, develop and communicate design ideas and processes for audiences using appropriate technical terms and graphical representation techniques (ACTDEP025)
- Evaluating** - Negotiate criteria for success that include sustainability to evaluate design ideas, processes and solutions (ACTDEP027)
- Collaborating and managing** - Develop project plans that include consideration of resources when making designed solutions individually and collaboratively (ACTDEP028)

General Capabilities

Numeracy

Using measurement

- Estimate and measure with metric units

Interpreting statistical information

- Interpret data displays

Using spatial reasoning

- Visualise 2D shapes and 3D objects
- Interpret diagrams

Literacy

Comprehending texts through listening, reading and viewing

- Comprehend texts
- Navigate, read and view learning area texts
- Interpret and analyse learning area texts

Composing texts through speaking, writing and creating

- Compose spoken, written, visual and multimodal learning area texts

Word Knowledge

- Understand learning area vocabulary

Visual Knowledge

- Understand how visual elements create meaning

ICT Capability

Managing and operating ICT

- Select and use hardware and software

Creating with ICT

- Generate solutions to challenges and learning area tasks

Communicating with ICT

- Select and use appropriate ICT tools safely to share and exchange information and to safely collaborate with other.

Critical and Creative Thinking

Inquiring – identifying, exploring and organising information and ideas

- Pose questions
- Identify and clarify information and ideas
- Organise and process information

Reflecting on thinking and processes

- Reflect on processes

Generating ideas, possibilities and actions

- Consider alternatives
- Imagine possibilities and connect ideas

Analysing, synthesising and evaluating reasoning and procedures

- Apply logic and reasoning
- Draw conclusions and design a course of action

NAPLAN Online – ICT Skills Guide

NAPLAN Online requires students to confidently use a computer or device in at least seven ways. As shown below, IMPACT Centre projects develop all seven of these skills and are an excellent way to prepare your students for online testing.

1. Locate and select an answer from a list – YES
2. Type an answer – YES
3. Read the screen and navigate web pages – YES
4. Manipulate objects on screen – YES

5. Read and comprehend digital texts – YES
6. Plan and compose text using word processing – YES
7. Listen using a headset – YES

NB: See [DET's NAPLAN Online ICT Skills Guide](#) for details.

Assessment

1. Pre & Post Assessment (*Knowledge & Understanding*)
2. Check in Tasks (*Processes & Productions Skills*)
3. Design Portfolio (*Processes & Productions Skills*)

Reporting

- Pre-Post assessment data is provided to schools, along with student attendance data.
- Qualitative report card comments are provided to schools. We recommend their inclusion as an OLA on semester report cards.

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