TEACHER GUIDE Be Well to Do Well

Managed Project



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Designed for students in years 3-6, this Challenge Course introduces the concept of wellbeing and explores the many skills and habits students can develop to improve their physical, mental and emotional wellbeing, and strengthen their relationships with others.

Students are guided through a design thinking process as they learn about ways in which they can improve their own wellbeing and help promote the wellbeing of those around them.

Students respond to video content through in-app quizzes and design tutorials related to the information shared.

The Challenge Course concludes with a design thinking challenge in which students are asked to design a solution that creates greater awareness of the importance of wellbeing in the development of healthy, happy communities.





SCHEDULE



Before Week 1	Download and familarise yourself with the Teacher Guide. Watch 4 short webinars and set up ready to begin. If you are already familiar with Makers Empire you will only need to view webinar 4.
Week 1	Introduce students to Makers Empire 3D and complete in-app Basic Training Tutorials, if not completed previously. If students are familiar with Makers Empire 3D software, they can refresh their skills by revisiting the Training Lab. Visit the Pro Training Room to practise specific 3D design skills such as cutting and rotating. Visit the Video Room to view step-by-step videos narrated by student designers.
Weeks 2-6	Teachers facilitate learning processes, with students using Makers Empire 3D to complete the in-app Be Well to Do Well Challenge Course.
	Thursday 9 November, 4:00 – 4:30 pm
Weeks 7-9	Teachers support student in their design thinking challenge, employing design thinking methodologies that engage students in an iterative process of empathising, defining, ideating, prototyping and testing their design solutions.
Week 10	Students reflect and share, communicating the key features of their design solution. Teachers complete an online survey. The survey invites schools to select 3 top student designs for inclusion in an Online Gallery created by Makers Empire.



COMPONENTS

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	Challenge Course Components
1	Video #1 - What is Wellbeing?
2	Quiz #1 - What is Wellbeing?
3	Pro-Training Tutorial #1 - Mirror: our mirror represents self-awareness
4	Video #2 - Physical Wellbeing
5	Quiz #2 - Physical Wellbeing
6	Pro-Training Tutorial #2 - A Basketball Hoop: to represent physical wellbeing
7	Video #3 - Mental Wellbeing
8	Quiz #3 - Mental Wellbeing
9	Pro-Training Tutorial #3 - Jigsaw puzzle pieces: let's create some simple puzzle pieces
10	Video #4 - Emotional Wellbeing
11	Quiz #4 - Emotional Wellbeing
12	Pro-Training Design Tutorial #4 - A Heart: a beautiful heart to represent empathy
13	Video #5 - Building Strong Connections
14	Quiz #5 - Building Strong Connections
15	Pro-Training Tutorial #5 - Helping Hands: Hands that represent kindness
15	Design Thinking Challenge - Design a solution that creates greater awareness in your community about the importance of wellbeing in the development of healthy, happy communities.
16	Reflect and Share - Students sharing their thinking and communicating key features of their design solution



CURRICULUM LINKS

LEARNING OBJECTIVES:

- Students will develop their understanding of the concept of wellbeing.
- Students will explore, practise and reflect on skills and habits to improve their physical, mental and emotional wellbeing, and strengthen their relationships with others.
- Students will apply problem solving and design thinking methodologies to design a solution that creates greater awareness of the importance of wellbeing in the development of healthy, happy communities.

AUSTRALIAN CURRICULUM CONTENT DESCRIPTIONS

Health and Physical Education

Personal, Social and Community Health

- Investigate how success, challenge, setbacks and failure strengthen resilience and identities and how we can create our own positive identities. (AC9HP4P01, AC9HP6P01 - v9)
- Plan, rehearse and reflect on strategies to manage physical, social, and emotional change. (AC9HP4P02, AC9HP6P02 - v9)

Interacting With Others

- Describe how valuing diversity influences wellbeing and positive relationships and identify actions that promote inclusion in their communities. (AC9HP4P05, AC9HP6P05 - v9)
- Explain how and why emotional responses can vary and practise strategies to manage emotions. (AC9HP4P06, AC9HP6P06 v9)

Making Healthy and Safe Choices

• Investigate and apply behaviours that contribute to their own and others' health, safety, relationships and wellbeing. (AC9HP4P10, AC9HP6P10 - v9)

Technologies: Design and Technologies

Technologies and Society

 Students investigate and analyse factors that impact on their designed solution including social, ethical and sustainability considerations. (ACTDEK010, ACTDEK019 v8.4) (AC9TDE4K01, AC9TDE6K01 - v9)

Investigating and Defining

• Students explore needs and opportunities to design a solution to growing community awareness around wellbeing as it relates to the development of healthy, happy communities. (ACTDEP014, ACTDEP024 - v8.4) (AC9TDE4P01, AC9TDE6P01 - v9)

Generating and Designing

• Students generate, iterate and communicate design ideas and processes to address community awareness around the importance of wellbeing for healthy, happy communities. (ACTDEP015, ACTDEP025 - v8.4) (AC9TDE4P02, AC9TDE6P02 - v9)



CURRICULUM LINKS

Producing and Implementing

- Students design accurate, innovative 3D models to scale using Makers Empire 3D modelling software. (ACTDEP016, ACTDEP026 – v8.4) (AC9TDE4P03, AC9TDE6P03, AC9TDE8P03 – v9)
- Students create prototypes of their design ideas and develop tests to assess the suitability of their designed solutions. (ACTDEP016, ACTDEP026 - v8.4) (AC9TDE4P03, AC9TDE6P03, AC9TDE8P03 - v9)

Evaluating

• Students evaluate their designs against given or co-developed design brief criteria and respond to feedback from peers, teachers and community members. (ACTDEP017, ACTDEP027 - v8.4) (AC9TDE4P04, AC9TDE6P04, AC9TDE8P04 - v9)

Collaborating and Managing

 Students work individually and collaboratively to develop project plans and design solutions that meet timelines and design briefs. (ACTDEP018, ACTDEP028 - v8.4) (AC9TDE4P05, AC9TDE6P05, AC9TDE8P05 - v9)

Mathematics

Space

• Students recognise and perform transformations of shapes including rotations, translations, dilations and reflections using Makers Empire 3D software

General Capabilities

- Critical and Creative Thinking: inquiring, generating, analysing & reflecting
- **Personal and Social Capability:** self-awareness, self-management social awareness & social management
- Numeracy: understanding geometric properties, positioning and locating

Cross-Curriculum Priority

Sustainability

- **Design:** Addressing the role of innovation and creativity in sustainably designed solutions, including products and services that aim to restore the health of social and economic systems
- **Futures:** Addressing ways of thinking and acting that seek to empower young people to design action that will lead to an equitable, sustainable and healthy future.







Embedding the Challenge Course within a broader program of online and offline experiences can enhance student opportunities for design thinking. These additional strategies can assist students to build in more time for deeper engagement as they collaborate, research, project manage and engage in creative and critical thinking. Slowing down and deepening the 3D design process provides greater opportunity for students to develop their skills and confidence in problem solving and reasoning and extends their application of design tools.

Many of these suggested strategies are drawn from teachers already using Makers Empire tools and programs and facilitating design thinking. Adopt, adapt or use these strategies as a springboard to innovate and design your own learning strategies that best meet your needs and context.

DESIGN THINKING

Empathise

Learn about your audience | Gain deep and meaningful insights into the knowledge and experiences of others to better understand the problem

- Uncover what students already know and understand about the concept of wellbeing.
- <u>Graphic organisers</u> such as KWL charts and concept maps can support students to organise their thoughts and activate prior knowledge.
- Identify individual, class or community needs and goals in relations to wellbeing, highlighting areas where they feel they are dong well and areas for development.
- As a class, summarise and map any feedback and insights around wellbeing onto an empathy map, identifying goals and barriers to wellbeing along the way. This empathy map can support students with their final design challenge to ensure their solution is human-centred, relevant and can make a positive impact.
- As a class, watch <u>Video 1: What is wellbeing?</u> to stimulate discussion.
- Introduce a variety of stimuli such as an artwork, picture book or podcast, to further explore the concept of wellbeing.
- Invite a community counsellor or healthcare professional to the classroom for students to interview and contribute to their research on aspects of wellbeing.
- Engage students in a '<u>structured controversy'</u> process to assist them to argue and understand an issue from many perspectives and surface unconscious bias.
- Students visit the <u>Student Wellbeing Hub</u> created by the Australian Government Department of Education, to explore and discuss a range of topics on wellbeing including respect, belonging, anti-bullying strategies and keeping healthy in mind and body.





Define

Decide how you can best help your audience and where you can you make the biggest difference. Invest time in clarifying the problem to help achieve a more successful solution.

- Encourage students to draw on the feedback and insights they gained at the empathise stage and summarised on their empathy map, to better understand the user experience and identify a challenge or opportunity.
- Remind students that whilst tempting to jump to solution finding, at this stage they are isolating the real problem or challenge they want to solve.
- Students record the problem as a 'How might we...?' question, summarising the challenge as a clear action statement that requires a solution.
- As a class, categorise and prioritise the 'how might we' statements, taking into account factors such as complexity and size of the problem, sustainability and potential reach and impact, to aid in their selection of the most relevant, realistic and impactful problem they wish to follow through to the next stage.
- Identify specific design brief criteria as individuals, small groups or as a class. To increase intellectual challenge for students, consider including design constraints as part of the design brief. These constraints (such as size, cost, user reach), can often prompt creative and innovative thinking.

Ideate

Be creative and think of as many solutions as you can

- Use a range of ideating strategies such as mind mapping, storyboarding, brainstorming and sketching, to encourage students to think beyond the obvious and generate many possible solutions to address the challenge.
- <u>Creative thinking tools</u> such as <u>SCAMPER</u>, <u>Edward de Bonos Six Thinking Hats</u>, <u>Random Word Generation</u> techniques or <u>Reverse Brainstorming</u>, where students consider all the reasons why a solution may not work, can support students to break out of established patterns of thinking, challenge assumptions and generate new possibilities.
- Access online digital collaboration tools such as <u>Padlet</u> and <u>Lucidspark</u>, to assist students to collaborate on brainstorming and mind mapping.
- Structuring the ideation process, such as adding time limits and quantity goals, can promote a free flow of ideas. For example, 'Aim for 100 ideas in 10 minutes.'
- Encourage students to think convergently, synthesize ideas and identify separate ideas that may be combined into one idea.
- Engage students in a process to rank and select one idea to prototype. They may consider variables such as the most original idea, the idea they think will have most success or the idea they think will benefit the most end users or their identified target audience.





Prototype

Make something that explains your best ideas to other people. Rough is okay!

- Students create 3D prototype models of their design solution using natural materials or modelling clay.
- Students sketch their design solution from different angles (e.g. birds-eye view, side view)
- As a class, discuss the importance of investing time in their design to ensure it meets their design criteria. Highlight the 'effort score' with students as one tool that can assist you as their teacher, to measure effort and design skills in the 3D Makers empire 3D app. The <u>effort score</u> is a complex algorithm designed by Makers Empire that incorporates a combination of time, editing and complexity within a student design.
- Students add <u>notes</u> (written or audio) to their prototype within the app to communicate their design choices.
- Students create a video of their prototype to pitch it to others and explain its design features.
- Invite students to share their prototype failures (such as 3D printed models, models constructed with natural materials, in-app designs, sketches) to the class and seek feedback on ways to improve their design solution.

Test

Show your prototypes to your audience to see if they work, or can be improved

- Invite students to use the 'notes' tool to reflect on how well their design achieved its purpose, how effectively it met the design criteria and how they might change their design in further iterations to better meet the design criteria.
- Students seek critical feedback from peers and teachers.
- Students conduct a survey with end users to gain insight into what they think about the design solution, identifying strengths and issues.
- Students work with a partner to reflect on the design process and communicate their thinking. Reflective questions could include: What did my first iteration teach me? How did I improve my design? How effectively did my design meet the needs of the end user? Is there a way I can adapt my design to make it more inclusive for all end users? What skills did I learn? What did I find hard and how did I overcome any challenges? What might I do differently next time?
- Students visit the Gallery tab in the app, search for a class mate's design and provide them with in-app constructive feedback. Your school's <u>privacy setting</u> can be managed from the Teacher Dashboard.
- View time and effort put into student designs via the Teacher Dashboard. Provide feedback and pose design challenges to nudge thinking.
- <u>Provide tokens</u> to students to acknowledge effort and increase motivation.





Repeat

Your first idea probably won't be perfect. That's okay - keep trying

• Invite students to research prototypes in the everyday world that began their life as <u>prototype failures</u>, from bubble wrap to pacemakers, and discuss the importance of failure as a part of a growth and an innovation mindset.

TIPS FOR MAKERS EMPIRE 3D DESIGN APP

- In Shaper, Blocker and Maze Mania, students will notice a colourful cube on the top right of their work area. This View Cube is a 3D rotation tool to view designs from different orientations within the 3D space.
- Many of the common tools and navigation buttons in the 3D app are summarised in a visual guide, created by the Makers Empire team. Download our <u>Quick Guide Poster</u> for quick reference.
- If students have size constraints built into their design brief criteria then the precision scale tools can be very useful. This tool can enable students to enter exact measurements into the x, y or z coordinates to accurately control the size of their shapes.
- The more students explore the app, the more tokens they can be awarded. Tokens are awarded when students level up. This can happen when another user buys their design (if they set a price on their design), and by completing components such as Training Labs, Daily Challenges or Challenge Courses. You can also <u>award tokens</u> to students for effort. As tokens can unlock more shapes, they can be a great incentive for students to apply focused effort.
- Tokens enable students to unlock and buy shapes, blocks or hero parts, improving the complexity of their designs. One way to <u>buy shapes</u> is to browse the shop. In Shaper or Blocker, click on the shopping cart to open the shop. If the student has enough tokens they will be free to purchase. Students can also click directly on padlocked shapes to make a purchase. They can check how many tokens they have remaining from their personal profile tab.
- Students can <u>import</u> one of their own designs, or a design they have collected from another designer, into the Shaper editing platform. This allows them to make changes and edits to the design and combine designs to create more complexity, whilst retaining the original design.





- The <u>Notes</u> feature is a useful tool built into the app to assist students in explaining the intentions behind their design choices. Notes can be written or recorded and played back to give others a tour of their design. Read the Makers Empire blog below to explore <u>10 different ways to incorporate the notes feature into student learning</u>.
- If you are planning to 3D print designs, students and teachers can use the <u>Print</u> <u>Check</u> tool to scan their design for potential errors, saving time and reducing waste.
- Students use Makers Empire augmented reality capabilities to place their digital designs in a real-world environment, to visualise and test their 3D designs in authentic, place-based contexts. This can assist them to present and pitch their design solution to others. Explore other ways to incorporate <u>AR technologies to enhance learning.</u>
- Students visit the <u>Training Lab</u> and explore the Pro Training Design Tutorials with a partner, taking turns to teach each other new skills and seek support on areas where they are stuck.
- Students create their own Pro Training Design Tutorials using the 'notes' feature to add instructions and teach someone a new skill.
- Students revisit the Training Lab's Video Room to be inspired by the curated and narrated designs shared by others student designers.









STEM AND DESIGN THINKING

PICTURE BOOKS

- The Most Magnificent Thing, Ashley Spires, Kids Can Press, 2014
- **Rosie Revere, Engineer**, Andrea Beaty (Author), David Roberts (Illustrator), Abrams, 2013
- **The Imagineer**, Christopher Cheng (Author), Lucia Masciullo (Illustrator), National Library of Australia, 2022
- The First Scientists: Deadly Inventions and Innovations from Australia's First **Peoples**, <u>Corey Tutt</u>, <u>Blak Douglas</u>, Hardie Grant Explore, 2021

YOUTUBE

• Above and Beyond, FableVision, 2011

WELLBEING

PICTURE BOOKS

- **The Red Beast**, Kay Al-Ghani (author), Haitham Al-Ghani (illustrator), Jessica Kingsley Publishers, 2022 Picture Book that explores emotional regulation
- **The Giving Tree,** Shel Silverstein, Harper Collins, originally published 1964
- Mr Huff, Anna Walker, Hardie Grant Books, 2015
- **Marcy's Having All the Feels,** Allison Edwards (author), Valeria DoCampo (illustrator), National Center for Youth Issues, 2020
- Rose Meets Mr Wintergarten, Bob Graham, Walker Books, 2004
- The Red Tree, Shaun Tan, Hodder Children's Books, 2001
- **Blue Flower,** Sonya Hartnett (author), Gabriel Evans (illustrator), 2022, <u>Reading on</u> <u>ABC Education website</u>

PODCASTS FOR STUDENTS

- <u>Grow your Mind:</u> Kids teaching kids about their mental health and ways to build resilience
- <u>Short and Curly:</u> Search for episodes that examine curly questions about wellbeing

ONLINE RESOURCES FOR STUDENTS

• Student Wellbeing Hub Australian Government Department of Education, 2020,



FURTHER RESOURCES

TEACHER RESOURCES

- <u>Be You Programs Directory</u>: searchable database of mental health and wellbeing programs for learning communities (Be You is led by <u>Beyond Blue</u> with delivery partners <u>Early Childhood Australia</u> and <u>Headspace</u>)
- <u>Australian Student Wellbeing Framework</u>, Australian Government Department of Education, 2020
- <u>Wellbeing for Learning and Life:</u> A framework for building resilience and wellbeing in children and young people, Department for Education, South Australia
- <u>Makers Empire blog on Emotional Intelligence</u> for a series of articles around building Emotional Intelligence
- <u>Healthy Kids Association</u> promoting and influencing healthy food choices for kids, NSW Department of Health
- <u>Better Health Channel</u>, focus on healthy living and wellbeing, Victorian Government
- <u>Creating a Yarning Circle</u>: example of how to build on established routines such as sharing circles or yarning circles as an avenue for students and teachers to check in on wellbeing, manage conflict and enhance a sense of belonging.
- <u>Dollar Street</u>: Scootle contains a range of resources on wellbeing that take a global perspective on wellbeing, such as Dollar Street, supporting students to explore, empathise and understand diverse standards of living around the world.





CONNECTING



WEEKLY EMAILS

You will receive a weekly email from Makers Empire to support your involvement in the Managed Project. These emails will outline helpful information aligned to the schedule, a tip of the week and suggestions for enhancing learning and engagement.



SUPPORT SESSION

An Online Support Session will be offered to support your involvement with the Managed Project and share strategies: Focus: Exploring the 3D Design App & Sharing Handy Tips

Thursday 9 November 4:00PM - 4:30PM <u>https://us02web.zoom.us/j/4875989195</u>

Sessions will be facilitated consecutively to coincide with the 4:00-4:30PM timeslot in your time zone.

Additional zoom calls can be facilitated as the need arises. Contact us at **info@makersempire.com** to book a session.

NEED HELP?

CONTACT US: info@makersempire.com

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