

Student Name: Sophie Voll  
Student Number: S00326674

## TECH306 Creativity Card Game- Critical Reflective Report

### Defining ‘creativity’

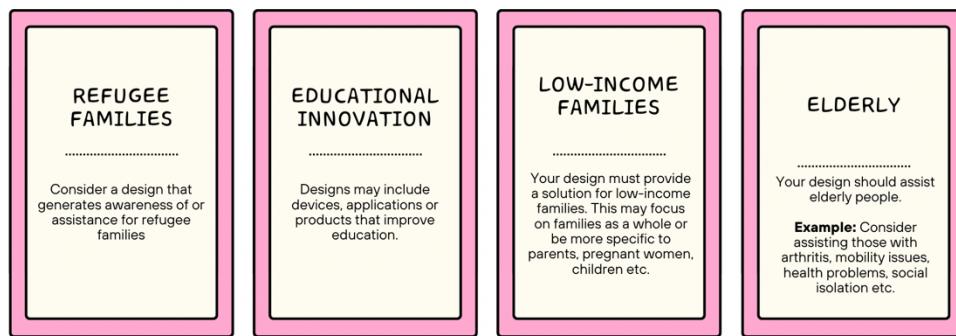
Creativity is an attribute that is inherent to all individuals. It is an ability to generate original ideas, valuable solutions and meaningful work, stemming from individual experiences and perspectives. This differs from my initial definition of creativity which surrounded the concept that it is an ‘ability’ to produce unique and innovative solutions.

I have begun to appreciate that creativity explores far beyond the aesthetic realm, embracing ways of diverse thinking, problem-solving and self-expression.

### Creativity card game: Design Discovery

‘Design Discovery’ is an innovative resource made to inspire creative thought within Design and Technology classes, particularly assisting with the ideation process for major work projects. The game allows for 2-20 players; however, it may be played individually with modification to the Interaction Cards. A card would be drawn from each of the three distinct sets, Idea Cards, Constraint Cards and Inspiration Cards.

**Idea Cards:** The Idea Cards examine prompts or themes that design ideas may be based upon, these generally include global issues, individuals in need, or areas which may be considered for innovation. Students must use these cards as a basis to inform their design.



**Constraint Cards:** These cards provide limitations to the design by encouraging students to consider methods they will use to address their ‘Idea Card’. For example, a student may draw an ‘educational innovation’ Idea Card and a ‘wearability’ Constraint Card. By pairing these together, the student would therefore need to consider how they may design something wearable to assist with education, examples may include a device similar to a watch that assists with reading etc.



**Inspiration Cards:** Inspiration Cards may be interpreted however the player wishes. They may decide to take the image literally or focus purely on the colours and themes. For example, an image of the Australian bush may be interpreted as protecting landscapes by considering sustainability, bushfires, protecting Australian flora and fauna or simply using it as an inspiration of rich colours and textures.



Players will be provided time to brainstorm ideas based upon their three cards, linking them to consider innovative design concepts.

**Interaction Cards:** Following their brainstorm, students will draw an ‘Interaction Card’, introducing an element of unpredictability. The implementation of these cards allows students to collaborate with their group and navigate new challenges. These cards present challenges such as swapping Idea Cards with a partner, picking a new card from the deck and drawing ideas.



The first card game I designed was similar in that it included various prompts to inspire creative thought. Initially, I began with three card decks containing a place (eg. The park, a bus stop, a shopping centre), a factor of consideration (eg. Sustainability, cost, ergonomics) and a wildcard that included unique challenges such as its ability to be multifunctional. I found that this structure was not effective during gameplay as it did not address any issues that are commonly considered in Design and Technology.

After feedback from peers and family, I expanded this idea further to incorporate ‘idea cards’ rather than place cards, creating themes and a need for students to address. I found that this was a far more successful approach as it allowed players to explore multiple methods of resolving the need.

The game was enhanced further by adding additional constraint cards. However, I was mindful of ensuring that these constraints did not limit creative ability; instead, they offered factors for consideration. I was careful to consider this as I found it was commonly emphasised within feedback provided during gameplay trial runs.

Additionally, I expanded the ‘wildcard’ concept to encompass ‘interaction cards’ allowing students to collaborate, share ideas and consider new solutions.

After numerous gameplay tests with the three card decks, I identified a crucial element missing from the experience. My peers were able to successfully identify innovative design ideas, however, it seemed as though something was still missing. To address this gap, I incorporated an element of inspiration to assist with the design process by implementing a card that could be interpreted in multiple ways and therefore not limit ones creative ability.

‘Design Discovery’ was heavily inspired by the games ‘Scattergories’ (1988) and ‘Make it Pop’ (n.d.). Scattergories prompts players to think critically within a time constraint. Whilst it centres around brainstorming words to fit a specific category, my game stimulates design ideas by providing prompts, constraints and inspiration cards. Players in Scattergories are challenged to consider words that fit the category and are encouraged to write them within a time limit. This is similar to one of the Interaction Cards implemented within my game, however, players are required to draw their ideas instead.

The card game ‘Make it Pop’ is designed to provide creative design challenges. Players will draw a task card and client card, followed by a dynamite (challenge) card if they wish to further challenge themselves. These cards then influence a range of design ideas, similarly to my card game.

Within ‘Design Discovery’, I observed elements of creativity that encouraged me to think. This included the way players were able to explore and embrace unexpected connections and interpretations of the cards they had drawn. I noticed that players were encouraged to think beyond conventional boundaries to consider ideas. This often sparked debate and collaboration of ideas which was an unexpected additive to the development of the card game. Furthermore, the implementation of Interaction Cards amplified the collaborative component and the excitement of the game, causing peers to discuss their opinions and ideas, building upon each other’s suggestions.

‘Design Discovery’ incorporates the creativity strategy of both individual and group brainstorming. As documented by Paulus & Brown (2003), brainstorming, particularly in pairs or groups is a highly effective strategy towards creative thought and development. They find that this method works well as students can build upon one another’s ideas (Paulus & Brown, 2003). This strategy influenced my game design as students are provided an opportunity to draw an ‘Interaction Card’ whereby students will share ideas, discuss options and swap cards. Students are also provided a chance to individually brainstorm concepts as they originally pull three cards and are given time to contemplate ideas. They may also draw a card which encourages them to freely sketch as many ideas as possible within a minute time constraint.

This further delves into the concept of collaborative learning as a creativity strategy. Collaborative approaches allow students to share and ‘co-construct’ their ideas. This encourages them to engage in mutual learning and understanding (Molenaar & Chiu, 2014). Collaboration is evident throughout my card game as students are required to play in groups and interact to assist one another with their idea development. It considers design to be a collaborative effort rather than encouraging students to contemplate solutions alone.

Moreover, this game implements the theory of Synectics as it considers creativity by incorporating new ideas (Blosiu, 1999). This links with the strategies of brainstorming as players will be provided with multiple cards that create additional layers to their idea, allowing students time to consider and brainstorm multiple creative concepts. According to Blosiu (1999), Synectics is based on the hypothesis that multiple design ideas can be generated quickly. This is evident throughout the game as students draw cards and collaborate to consider multiple design ideas in a short period of time.

Creativity has played a significant role within 'Design Discovery'. It aims to inspire and promote ideas utilising well researched theories and strategies. Modifications may be made to the game by adding additional idea, constraint and inspiration cards to allow for a continual and updated experience. Moreover, this game may be adapted to be played individually by excluding interaction cards that request collaboration. These cards may be replaced with prompts which require the student to return a card to the deck and take another, rather than swapping with someone beside them.

In conclusion, this card game effectively inspired creative concepts and cultivated design-thinking skills. Drawing inspiration from the theory of Synectics, game-players were encouraged to make connections with unexpected stimuli, creating a truly unique experience and challenging them to consider innovative approaches.

This was evident as players engaged in ongoing discussions, exploring potential design solutions. With the introduction of Interaction Cards, the game gained momentum and ignited several design ideas. By creating a supportive and thought-provoking environment for exploration and ideation, the game 'Design Discovery' challenges players to think critically and creatively by encouraging innovative design ideas.

## References

Blosiu, J. O. (1999). Use of Synectics as an Idea Seeding Technique to Enhance Design Creativity [IEEE SMC'99 Conference Proceedings]. In *International Conference on Systems, Man, and Cybernetics*. Japan, Tokyo.  
<https://ieeexplore.ieee.org/abstract/document/823365/authors#authors>

The Board Gamer. (n.d.). *Scattergories Board Game*. Hasbro Gaming.  
<https://theboardgamer.com.au/products/scattergories>

Make It Pop. (n.d.). *Make It Pop Game*. Card Game.  
<https://www.makeitpopgame.com/shop/make-it-pop/>

Paulus, P. B., & Nijstad, B. A. (Eds.). (2003). *Group Creativity: Innovation Through Collaboration*. Oxford University Press.  
[https://books.google.com.au/books?id=6xRnDAAAQBAJ&dq=brainstorming+to+enhance+creativity&lr=&source=gbs\\_navlinks\\_s](https://books.google.com.au/books?id=6xRnDAAAQBAJ&dq=brainstorming+to+enhance+creativity&lr=&source=gbs_navlinks_s)



## IDEA CARDS

These cards provide prompts or themes to base design ideas on. All students will draw **one** idea card.



## CONSTRAINT CARDS

These cards include a specific constraint to consider. All students will draw **one** constraint card.



## INSPIRATION CARDS

These cards feature points of inspiration for students designs.



## INTERACTION CARDS

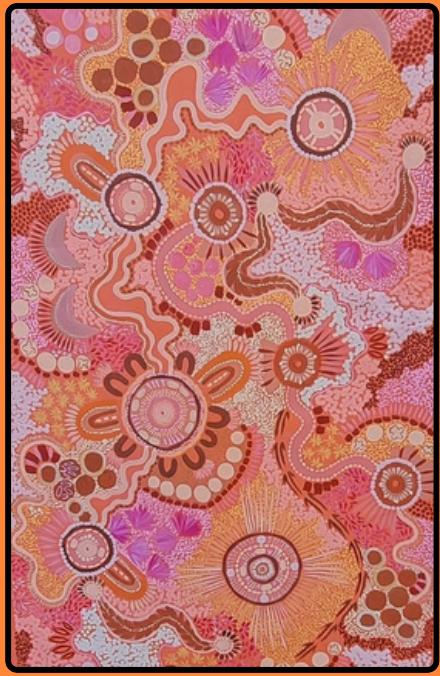
After drawing an inspiration, idea and constraint card, students will draw **one** interaction card. This enables the reconsideration of ideas.

### A PROBLEM IN YOUR LOCAL COMMUNITY

Ideas may include (but are not limited to): traffic congestion, waste management, homelessness, healthcare access etc.

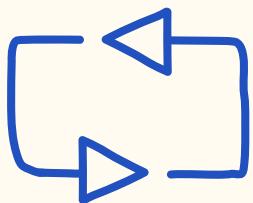
### ENVIRONMENTAL IMPACT

Your design must be made from sustainable materials and use sustainable practices.



### SWAP!

Swap your **idea card** with the person to your left.

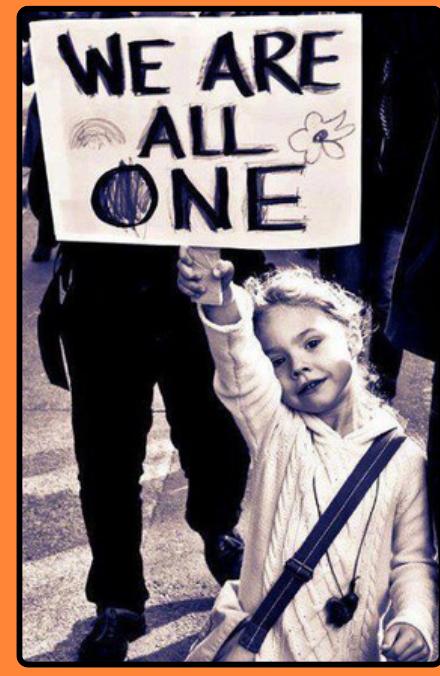


### MENTAL HEALTH AWARENESS

Consider a design which promotes mental health awareness in some way.

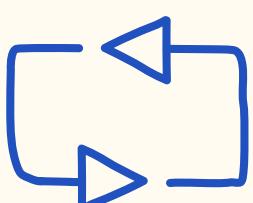
### USER ACCESSIBILITY

Your design must be accessible and usable by individuals with a diverse range of needs.



### SWAP!

Swap your **constraint card** with the person to your left.

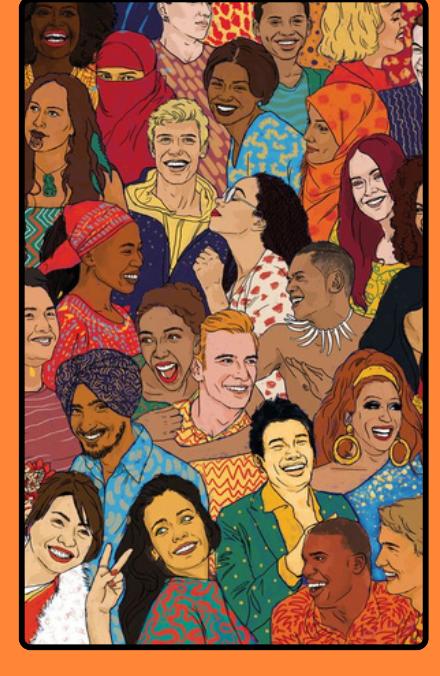


### REFUGEE FAMILIES

Consider a design that generates awareness of or assistance for refugee families

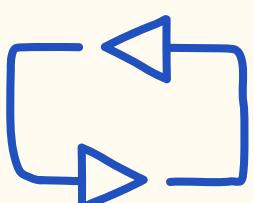
### EMERGING TECHNOLOGY

Your design should consider emerging technologies for example, self-healing fabrics



### SWAP!

Swap your **inspiration card** with the person to your left.

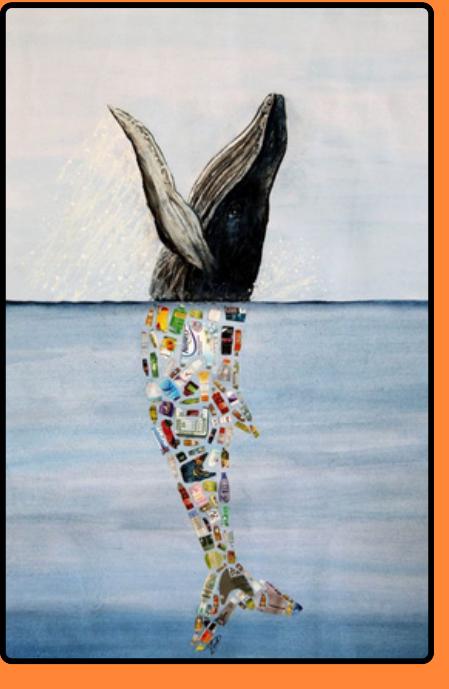


## HOMELESS CHILDREN

Consider a design that assists homeless children in Australia or worldwide.

## MINIMISE WASTE

Your design must consider the minimisation of waste AND/OR promote sustainability

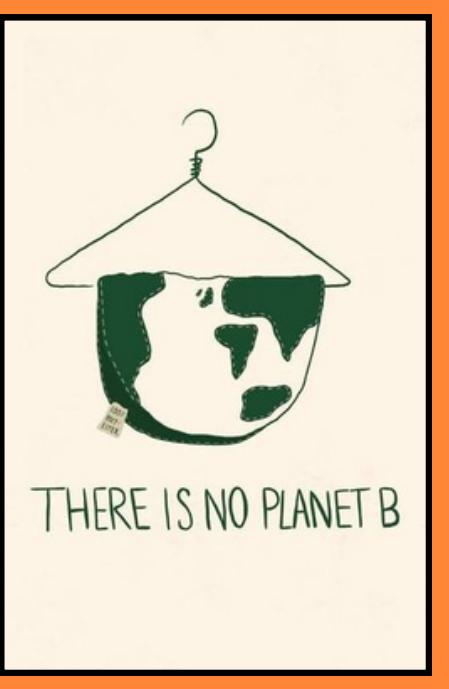


## EDUCATIONAL INNOVATION

Designs may include devices, applications or products that improve education.

## CULTURAL SENSITIVITY

Your design must respect and promote cultural diversity.



## INCLUSIVE DESIGN

Create a design that considers accessibility and inclusivity.

**Example:** Individuals with a particular disability.

## LIMITED BUDGET

Your design must contain a limited budget to consider consumer affordability.

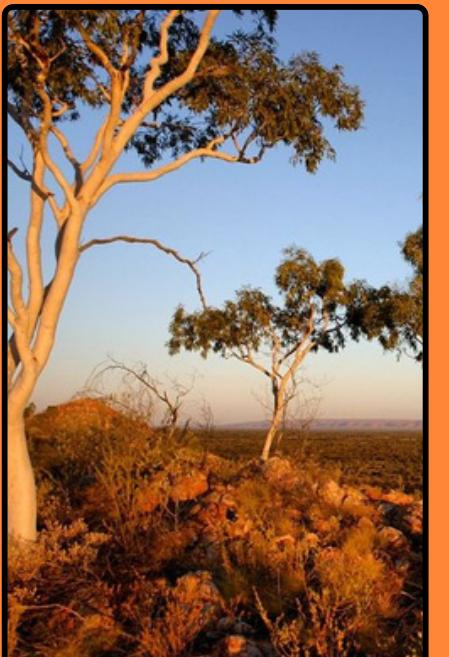


## CONSIDERING INDIGENOUS AUSTRALIANS

Your design must focus on Indigenous Australians. It should consider and encompass concepts of Country, Place, People, Culture and Identity.

## ERGONOMIC DESIGN

Your design should prioritise ergonomics as the main consideration.



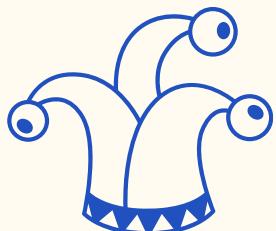
## DOUBLE DRAW

Draw an **additional** constraint card.

x 2

## WILDCARD

Exchange one card of your choosing with a new card from the deck.



## DOUBLE DRAW

Draw an **additional** idea card. You must attempt to combine these cards.

x 2

## WILDCARD

Exchange your entire deck with the person to your right.

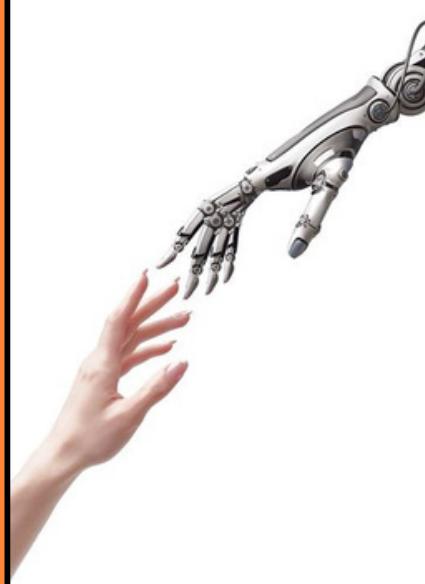


## VULNERABLE WOMEN

Your design must address vulnerable women within society. You have the option to define a specific group or maintain it as a broad umbrella term.

## WEARABILITY

Your design must be wearable. This may include accessories, clothing items etc.



## TECHNOLOGY FOR OUR FUTURE

Design a digital technology based solution that enhances and improves peoples lives.

## RESOURCE SCARCITY

Your design must be made with the consideration of limited resources eg. water, electricity and raw materials



## YOUR INDIVIDUAL HOBBY

Consider your individual hobbies and interests. Propose a design that would make one of those hobbies easier and/or more enjoyable.

## SIZE LIMITATION

Your design must be made suitable for a target market with limited available space.

**Example:** People living in apartments, students needing to carry the item to school etc.



## NATURAL DISASTERS

Your design must consider natural disasters eg. bushfires, floods, cyclones.

You may design something to assist people or the environment before/during/after a natural disaster.

## TEXTILE WASTE

Your design must consider issues of fast fashion and textile waste in Australia.



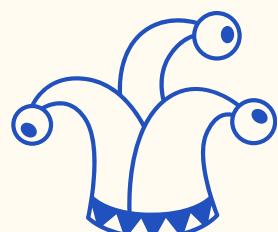
## DOUBLE DRAW

Draw an **additional** inspiration card.

x 2

## WILDCARD

Exchange two cards of your choice with the person to your right.



## CHALLENGE

Each person in the circle must name one idea for your card selection.



## CHALLENGE

You must list two ideas for your card selection.



## HEALTHIER FOOD OPTIONS

Your design should consider the lack of access to healthy, **affordable** food options. Consider ways of making healthier food options more accessible.

## DESIGN A SPACE

Your design must be an architectural space. It may be indoors/outdoors.



## HOMELESS AUSTRALIANS

Your design must focus on the homeless population in Australia.

## AESTHETIC REQUIREMENTS

Your design must draw inspiration from an Australian artist.



## ELDERLY

Your design should assist elderly people.

**Example:** Consider assisting those with arthritis, mobility issues, health problems, social isolation etc.

## PORTABILITY

Your design must be portable and therefore easy to use wherever/whenever.



## OCEAN/MARINE CONSERVATION

Your design must raise awareness or propose solutions about ocean conservation issues.

## TARGET MARKET

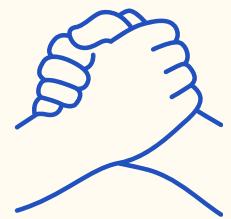
Your design should focus mainly on elderly individuals (65+).

**Note:** If your idea card specifies a different target market, this card overrides it OR may be combined with it.



## TEAMS

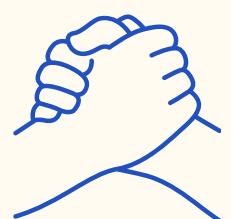
Pick a partner and together you must brainstorm three ideas for your card selection



## TEAMS

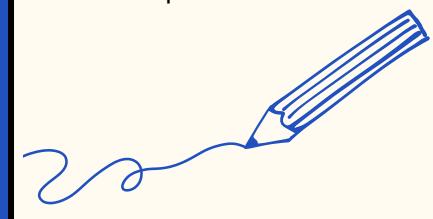
With a partner, combine your cards and generate at least two ideas.

**Note:** you do not need to use all six cards



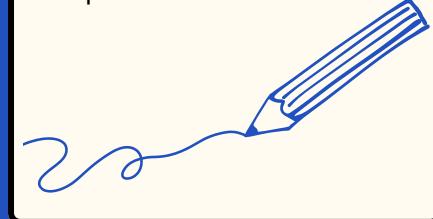
## DRAW

You have 1 minute to draw as many ideas as possible.



## DRAW

Use your image card to inspire colour, shape, pattern etc. Draw as many ideas as possible in 1 minute.



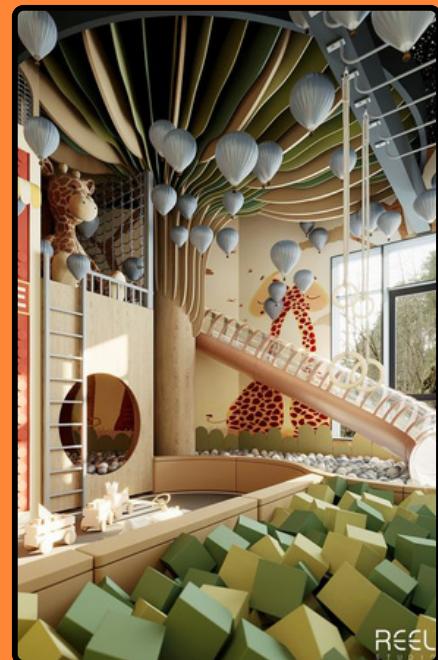
## HEALTH AND WELLBEING

Your design should promote individual health/wellbeing.

**Example:** Design a solution to increase hydration, promote meditation, promote exercise etc.

## HEALTH AND WELLBEING

Your design must focus on individual health and/or wellbeing.



## LOW-INCOME FAMILIES

Your design must provide a solution for low-income families. This may focus on families as a whole or be more specific to parents, pregnant women, children etc.

## TARGET MARKET

Your design should focus mainly on vulnerable children.

**Note:** If your idea card specifies a different target market, this card overrides it OR may be combined with it.



## A SPORT YOU PLAY/SUPPORT

Your design should consider a need within a particular sport.

**Example:** You may design an item to assist with transporting equipment etc.

## AESTHETIC REQUIREMENTS

Your design must draw inspiration from an Indigenous Australian artist.



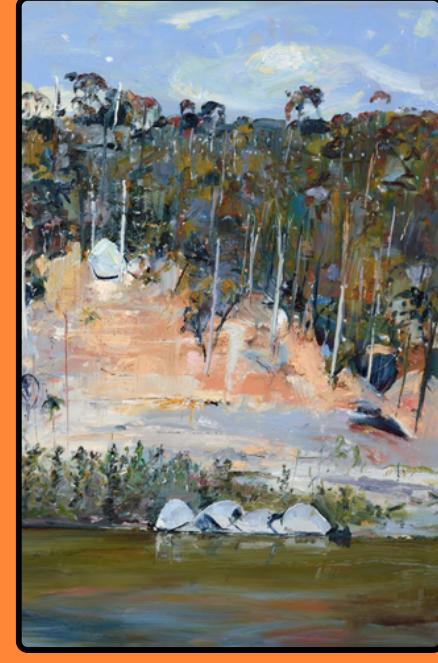
## RURAL AUSTRALIA

Your design must consider the needs of rural Australians.

**Example:** Educational support, need for resources etc.

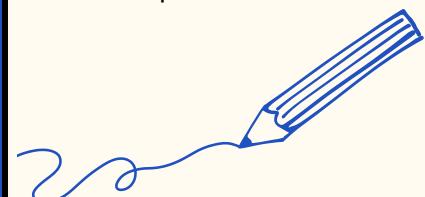
## DIGITAL TECHNOLOGIES

Your design must use digital technologies.



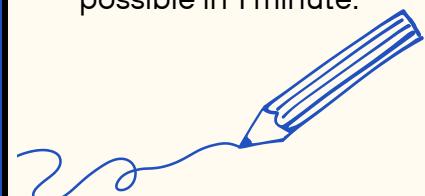
## DRAW

You have 1 minute to draw as many ideas as possible.



## DRAW

Use your image card to inspire colour, shape, pattern etc.  
Draw as many ideas as possible in 1 minute.



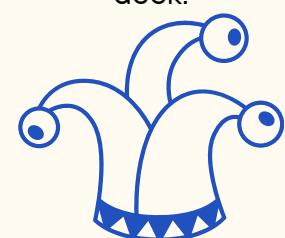
## DOUBLE DRAW

Draw an **additional** constraint card.

x 2

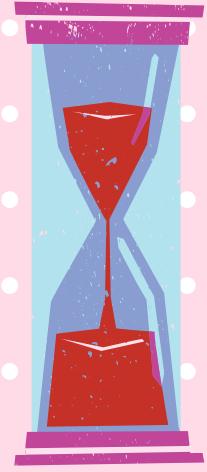
## WILDCARD

Exchange one card of your choosing with a new card from the deck.



# Design Discovery

## Design Challenge Card Game



**Number of players:** 2-20 (best played in table groups of 5-6)

**Objective:** The objective of Design Discovery is to spark creativity and innovative ideas.

### Setup:

1. Shuffle the pink Idea Cards, green Constraint Cards, orange Inspiration Cards and blue Interaction Cards.
2. Place all cards face down in their corresponding sections on the game play mat.
3. One at a time, each player draws one Idea Card, one Constraint Card and one Inspiration Card.



### Gameplay:

1. The player who originally picked up their cards begins by picking an Interaction Card from the Interaction Cards pile.
2. The Interaction Card will specify an interaction that must be implemented by the player. For example, “swap your Inspiration Card with the person to your left”, in which case both players would swap their cards.
3. Once the first interaction is complete, the next player clockwise will pick up an Interaction Card and complete the same process.
4. Players who pick up a drawing card will be provided with a minute timer to complete the challenge.
5. Once all players have completed an interaction card, they will have time to brainstorm ideas before returning their cards to the base of the pile.
6. Repeat the gameplay process for multiple rounds, enabling players to explore new combinations to generate innovative ideas.

## Image References: Card Game

ABC Brisbane. (2017, May 10). *The ABC's War on Waste*.

<https://www.abc.net.au/brisbane/the-abcs-war-on-waste/8514876>

Adobe Behance. (n.d.). *Cultural Diversity*.

[https://auth.services.adobe.com/en\\_US/deeplink.html#/deeplink](https://auth.services.adobe.com/en_US/deeplink.html#/deeplink)

*Ai Robotics Against Humans*. (n.d.). Image.

<https://i.pinimg.com/originals/9b/8c/1c/9b8c1c242838ec02c769c20cb4a9c3ef.png>

*Australian Bushland*. (n.d.).

<https://i.pinimg.com/originals/24/93/01/24930132c3e7bb452e2e49cef68f4e56.jpg>

Boyd, A. (1993). River Bank and Four Rocks [Oil on canvas]. In *painting*. Art Gallery NSW.

<https://www.artgallery.nsw.gov.au/collection/works/11.2011/>

Bullock, S. (n.d.). *Meet the Terrific Teens with Pollution Solutions!* Greenpeace.

<https://www.greenpeace.org/usa/stories/meet-terrific-teens-pollution-solutions/>

Butler, M. (n.d.). *Nakamarra*. Japingka Aboriginal Art Online - Australian Indigenous Artworks.

<https://japingkaaboriginalart.com/>

*Futuristic Ai Landscape*. (n.d.). Image.

<https://i.pinimg.com/originals/51/36/fe/5136fe30e7aeb3acd5e06373d3741347.jpg>

*Man vs Nature*. (n.d.). Image.

<https://i.pinimg.com/originals/1a/7a/a2/1a7aa2796576a154f116d0896aeebbb1.jpg>

McCulloch, G. (n.d.). *Kalkatungu Country*. Cungelella Art. <https://www.cungelellaart.com/>

Neumeister, K. (n.d.). *What is the All-In Price to Install Solar Panels?* EcoWatch.

<https://www.ecowatch.com/solar/solar-panel-cost>

Petagadget. (n.d.). *Ditto Pro 3D Printer*. <https://www.petagadget.com/gadget/ditto-pro-3d-printer/>

Puksand, G. (2017). *Childcare Centre Turns Brisbane Heritage Building Into Inverted Garden*.

Architecture Design.

[https://www.architectureanddesign.com.au/projects/education-research/childcare-centre-turns-brisbane-heritage-building?utm\\_source=Newsletter+Lists&utm\\_campaign=679c875281-Architecture%2520and%2520Design%2520Newsletter%2520-%2520201&utm\\_medium=email&utm\\_term](https://www.architectureanddesign.com.au/projects/education-research/childcare-centre-turns-brisbane-heritage-building?utm_source=Newsletter+Lists&utm_campaign=679c875281-Architecture%2520and%2520Design%2520Newsletter%2520-%2520201&utm_medium=email&utm_term)

Thursd. (2020, July 22). *Innovative Self-Sustaining Village.*

<https://thursday.com/articles/innovative-self-sustaining-village>

Torres, J. (2022, November 1). *Nebula is a Transforming Chair Concept that Looks a Tad Uncomfortable at First Glance.* Yanko Design.

<https://www.yankodesign.com/2022/11/01/nebula-is-a-transforming-chair-concept-that-looks-a-tad-uncomfortable-at-first-glance/>

We Are All One. (2017).

<https://i.pinimg.com/originals/83/4e/58/834e581a8dd4c86c27fa42ae1ece5948.jpg>