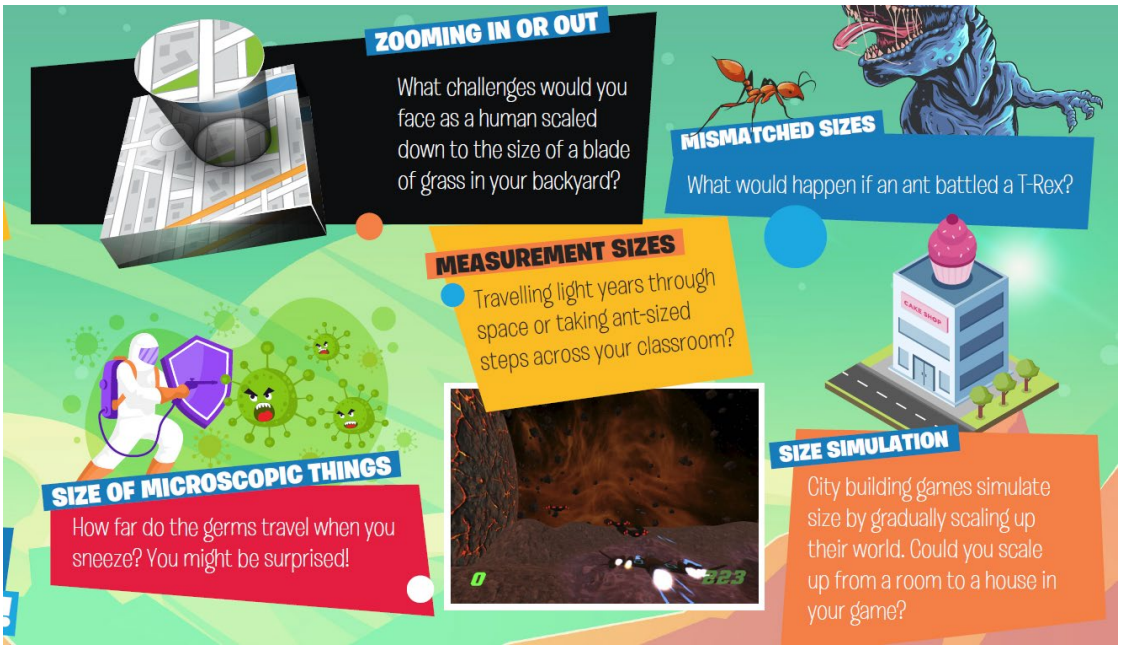
T4L Kids Issue #1 Teacher Notes

The teacher notes will walk you through T4L Kids and provide guidance to implement in the classroom. The notes include:

- An overview of the main digital technology design challenge.
- Sample ideas to get you thinking.
- Clear explanation of all components of the magazine.
- Demonstrations of key technology tools.
- Ways to share their completed design challenge with their teacher

The video game design challenge has a Theme of 'Size.' Students need to consider this theme while designing their video game and weave it through their creation.

Some samples are given to provide students with ideas.

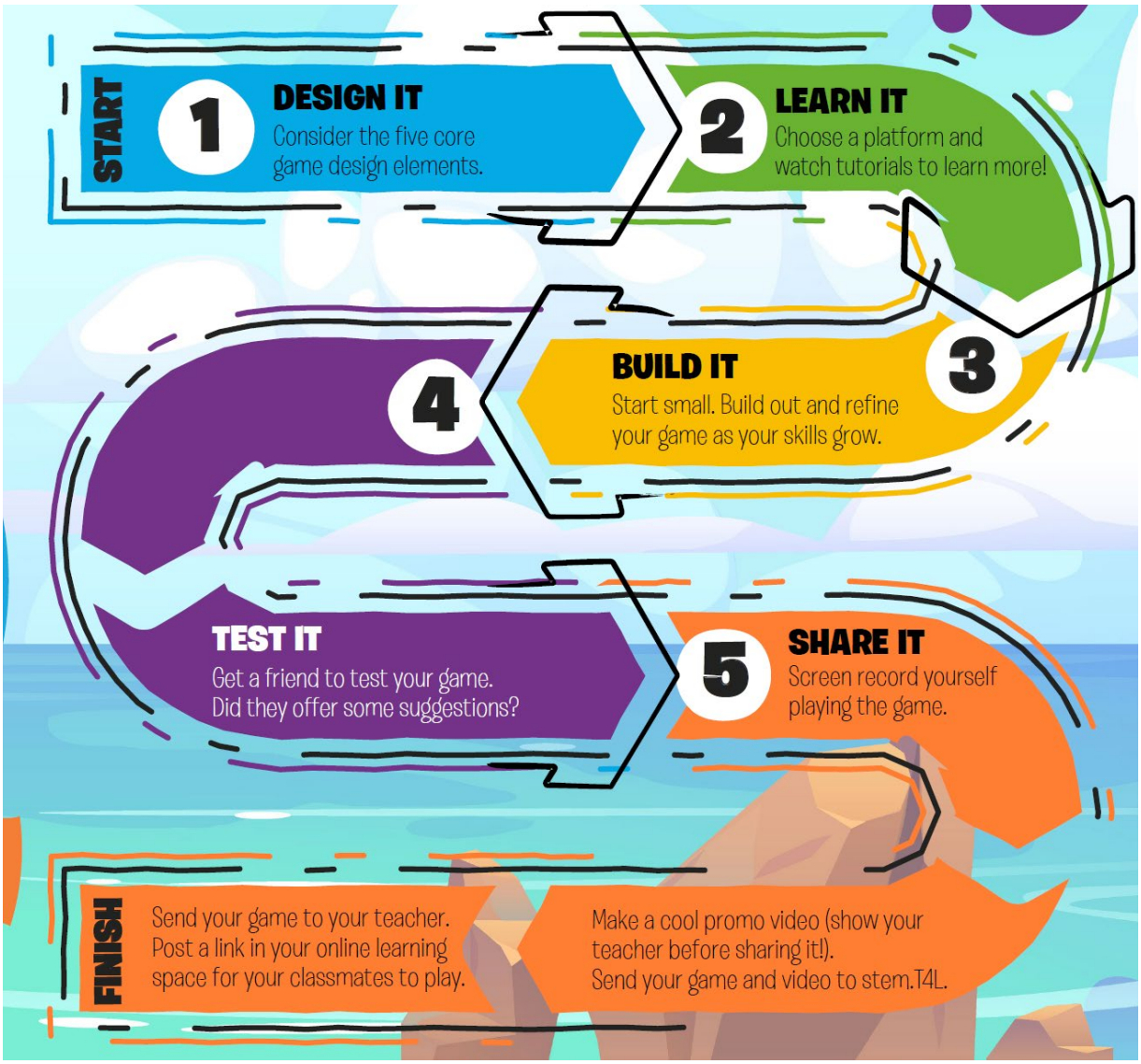


The T4L team have also created some sample games to help get students thinking.

To successfully create a video game and complete the challenge, students will need to complete 5 steps:

1. Designing the game.
2. Learning the tools to create the game.
3. Building the game.
4. Testing it.
5. Sharing it.

A flowchart has been provided for students on Page 5 to guide them through the steps.



The rest of the pages are provided to help students complete these steps.

Page 4 provides students examples of things to consider when designing their game. While we all know students will want to dive straight into the coding, having a solid game plan is really important in assisting students to develop a cohesive gaming experience.

Page 6 and 7 contain examples of game engines the T4L team recommend. There are a range of tools catering from beginners to advanced users to enable you to use this resource across several stages. There is also information about which platforms the engine can be used on to help students selection process.

Whilst all of the Engines provided have free account options, the links below provide information on creating more feature rich accounts for your students if available.

- If your students would like to utilise the paid version of **CoSpaces Edu** and **Tynker**, these can be accessed on the **stem.T4L learning library.**

- If your students are interested in using Minecraft , more information about helping your students access Minecraft: Education Edition can be found HERE.

Page 8 contains some video demonstrations from 2 stem.T4L leaders on how to use some of the tools to make a game. These videos are simple step by step guides for the students to follow.

Ryan Noonan demonstrates how to create a MakeCode Arcade Maze game and Jarrod Bourke helps students create a fun and simple Tynker game.

Providing students' the opportunity to test and share their work is an important step in any purposeful project. The Playtest provides some simple questions the testers can be asked during testing. As part of the design cycle, students should revisit their game and make some modifications based on the constructive feedback received before they submit their final work.

Page 9 emphasises some built in tools on Windows PCs and iPads for students to create a promotional video of their creation. One of the main elements of their promotional video is a screen recordings of their game. Students can use a variety of tools to add music, edit their clips, provide voiceovers and titles to further improve their videos.

If you have any questions or need some extra support with utilising digital technologies with your class feel free to contact stem.T4L via email at: stem.t4l@det.nsw.edu.au

Learning across the curriculum

Although this design task lends itself to the outcomes below, video games can be designed to meet a variety of Key Learning Area content specific needs.

It is recommended that as part of the planning stage, students identify how their video game can be designed to demonstrate understanding in another area of study. This gives context and purpose to the design and production process.

NSW Syllabus Outcomes

Syllabus	Stage	Outcomes
English	Stage 2	**EN2-4A** uses an increasing range of skills, strategies and knowledge to fluently read, view and comprehend a range of texts on increasingly challenging topics in different media and technologies.
	Stage 3	**EN3-3A** uses an integrated range of skills, strategies and knowledge to read, view and comprehend a wide range of texts in different media and technologies
	Stage 4	**EN4-2A** effectively uses a widening range of processes, skills, strategies and knowledge for responding to and composing texts in different media and technologies
	Stage 5	**EN5-2A** effectively uses and critically assesses a wide range of processes, skills, strategies and knowledge for responding to and composing a wide range of texts in different media and technologies
Science & Technology K-6	Stage 2	**ST2-3DP-T** defines problems, describes and follows algorithms to develop solutions **ST2-11DI-T** describes how digital systems represent and transmit data
	Stage 3	**ST3-3DP-T** defines problems, and designs, modifies and follows algorithms to develop solutions **ST3-11DI-T** explains how digital systems represent data, connect together to form networks and transmit data
Technology Mandatory	Stage 4	**TE4-1DP** designs, communicates and evaluates innovative ideas and creative solutions to authentic problems or opportunities

		TE4-4DP designs algorithms for digital solutions and implements them in a general-purpose programming language **TE4-7DI** explains how data is represented in digital systems and transmitted in networks **TE4-10TS** explains how people in technology related professions contribute to society now and into the future
Design and Technology	Stage 5	**Context areas** - Digital Technologies - Information & Communication Technologies
Information & Software Technologies	Stage 4	**4.1.1** recognises and uses software programs that are suitable for specific tasks **4.2.3** justifies decisions made when creating information and software technology solutions **4.4.1** describes a range of past, current and emerging information and software technologies
	Stage 5	**5.1.1** selects and justifies the application of appropriate software programs to a range of tasks **5.2.3** critically analyses decision-making processes in a range of information and software solutions **5.4.1** analyses the effects of past, current and emerging information and software technologies on the individual and society