

MINECRAFT ESCAPE ROOM

Levels 5-6



This unit of work was created in collaboration with the Digital Technologies specialist teacher from Southmoor Primary School, Victoria

Unit Overview

Australian Curriculum Alignment

Other curriculum areas can be targeted and assessed within this unit.

Other areas of interest may include:

- Design and Technologies
- Critical and Creative Thinking

Further investigation into these areas is required to ensure they align with the following activities. Activities may need to be modified to ensure content descriptions and achievement standards are met.

The following sessions have been created using the Australian Curriculum: Digital Technologies Curriculum. Tasks may need to be modified to ensure state Digital Technologies Curriculum content descriptions and achievement standards are met. ACS has support and documents to help align this unit to other Digital Technology Curricula.

Session

'Session' has been used to define the order of tasks to complete the unit. It does not define a set time required to complete the task. Time allocated to complete a session is the teacher's discretion. This allows for flexibility for the teacher to drive the duration of the task and make modifications if necessary. Sessions can be merged into one set period or sessions may run over multiple periods.

MINECRAFT ESCAPE ROOM

Levels 5-6



Key Preparation

Minecraft is the chosen platform to complete this unit of work. The right platform will depend on the school's resources and access to digital technology. Investigation into other platforms may be required if Minecraft is not suitable.

It is encouraged to explore and understand basic functions within the chosen digital platform. Full knowledge and upskilling is not required. By providing skill development for the students (see Session 3) students will familiarise themselves with the capabilities and functions within the platform.

ACS Resources

Resources have been created to help teachers and students unpack and understand topics found within the Digital Technologies Curriculum. These give brief explanations of the topic and the expectations to teach the topic at the curriculum year level. It is intended the information is presented in a way that will set the foundation for further research.

ACS ICT Educators Community

ACS has resources to support the teaching of the Digital Technologies Curriculum from Foundation to Year 10. Access our resources by joining for free via:

<https://www.acs.org.au/ict-educators.html>. Contact the ICT Educators via our email: icteducators.community@acs.org.au.

Key Understandings

Students will:

- Evaluate how Block by Block uses Minecraft to support community designs.
- Plan an escape room/building
- Plan the code to create the escape room/building
- Use Minecraft to create an escape room/building
- Code in Minecraft to create digital solutions to problems.
- Collaborate in Minecraft to create an escape room

Key Questions

- How has Minecraft been used around the globe to help communities?
- How will you work collaboratively and what protocols will you follow?
- What escape room will you create? What does your design look like?
- What are your challenging in your room?
-

Key Vocabulary

Protocols, ethical protocols, technical protocols, social protocols, design thinking, design solution, algorithms, iteration, branching, user input, visual programming,

MINECRAFT ESCAPE ROOM

Levels 5-6



Session Number	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity
1.	Collaboration	<p>Learning Intention Students will generate and adhere to protocols when working in online spaces.</p> <p>Success Criteria I can create a guideline that I will abide by when using digital technology to work on my app.</p>	Introduce students to a digital collaborative space. Discuss the right and wrong way to use this space.	<p>Each group creates a guideline to include social, ethical and technical protocols to abide by during their time working on their project and working with others in the class.</p> <p>Students will use these platforms to complete any group work activities.</p>
Session Resources	<p>Student Resources</p> <ul style="list-style-type: none"> ACS Student Resource: Online Protocols 		<p>Teacher Resources</p> <ul style="list-style-type: none"> ACS Teacher Resource: Online Collaboration 	
2.	Exploring and evaluating technology	<p>Learning Intention Students will explain how the non-profit company, Block By Block, uses Minecraft to redesign underprivileged communities.</p> <p>Success Criteria I can explain how Minecraft is used to help design and create communities.</p>	Discuss with students how they use Minecraft. Discuss features and uses of Minecraft. As a class, watch the introduction video of Block By Block. Create a class list of the impact that Minecraft can have at a global level.	Students are given time to go through the different worlds and look at the different features in the worlds. Students answer questions about the different worlds.
Session Resources	<p>Student Resources</p> <ul style="list-style-type: none"> What is the name of the project? Where was the project located? What was the purpose of the project? How has the project empowered the local people? What benefits will this project have to local people? How could you use Minecraft to help our community or a community in need? What features of the Minecraft stood out for you? What parts did you like? 		<p>Teacher Resources</p> <ul style="list-style-type: none"> ACS Teacher Resource: Evaluating Digital Solutions Metro Tunnel – Mini Melbourne Block By Block Block by Block Sketchfab 	

MINECRAFT ESCAPE ROOM

Levels 5-6



Session Number	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity
3.	Introduction to Minecraft	<p>Learning Intention Students will familiarise themselves with the Minecraft platform.</p> <p>Success Criteria I can complete a range of tasks so I am familiar with the functions within Minecraft.</p>	Students share different features and uses that they are already familiar with when using Minecraft.	<p>Students complete the Hour of Code: Escape Estate session. They</p> <p>If time allows, students can complete Escape the Pyramid Minecraft Education or other escape style inspired projects.</p>
Session Resources	<p>Student Resources</p> <ul style="list-style-type: none"> • Hour of Code: Escape Estate • Escape the Pyramid • The Fire Escape – MinecrafftEDU • Agent Recall Course 		<p>Teacher Resources</p> <ul style="list-style-type: none"> • Hour of Code: Escape Estate • Access to Minecraft Education • Fuse: Escape Room Challenge 	
4.	Design a solution	<p>Learning Intention Students will plan their space through designing an area using sketching and drawing.</p> <p>Success Criteria I can plan and design an area to create an escape room.</p>	Discuss the different types of features they used in the previous session and go back over how to create those features in Minecraft. Brainstorm a selection of themed Escape houses.	In small groups, students commence designing and creating their own Escape House. Commence the house with 3 different escape rooms. Students will create a birds eye view design of their house, then another plan for each room. They will explain the different features of the room and what actions and steps are required from the user to open the door and complete the room.
Session Resources	<p>Student Resources</p>		<p>Teacher Resources</p> <p>Wiki How: Plan and Escape Room</p>	

MINECRAFT ESCAPE ROOM

Levels 5-6



Session Number	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity
5.	Creating a flowchart	<p>Learning Intention Students will create a flowchart to show how programming can be incorporated into their design.</p> <p>Success Criteria I can create a diagram to show how explicit instructions (algorithms) can be used in my escape house design.</p>	Students share their escape house designs and focus on the rooms and how each room will be solved. Brainstorm with students how to record their explanations, moving the conversation into flowcharts. Discuss with students what a flowchart/diagram. Use the Chatterbox flowchart as an example.	In groups students commence to identify different functions they could code to incorporate into their escaperoom. Students create a flowchart (or list of instructions) written in English to show how the functions would be carried out.
<p>Student Resources</p> <ul style="list-style-type: none"> • ACS Student Resource: Algorithms • ACS Student Resource: Flowcharts • Hour of Code: Minecraft 		<p>Teacher Resources</p> <ul style="list-style-type: none"> • Using a Chatterbox Flowchart • ACS Teacher Information: Visual Programming • ACS Teacher Resource: Algorithms • ACS Teacher Resource: Algorithms Image • Minecraft Education: Coding with Minecraft • Minecraft Maker Code • Tynker: Minecraft Coding 		
6.	Creating the solution	<p>Learning Intention Students will work collaboratively online to build and create the Minecraft escape house.</p> <p>Success Criteria I can work collaboratively with my team to create a Minecraft escape house.</p>	Recap in the rules when working collaboratively in Minecraft. Students go over there design to ensure they are fully aware of what needs to be built for their escape house.	Prior to creating their escape house in Minecraft, students are aware of which room they will be responsible for building and ensure they are aware
Session Resources	<p>Student Resources</p> <ul style="list-style-type: none"> • 		<p>Teacher Resources</p> <ul style="list-style-type: none"> • 	

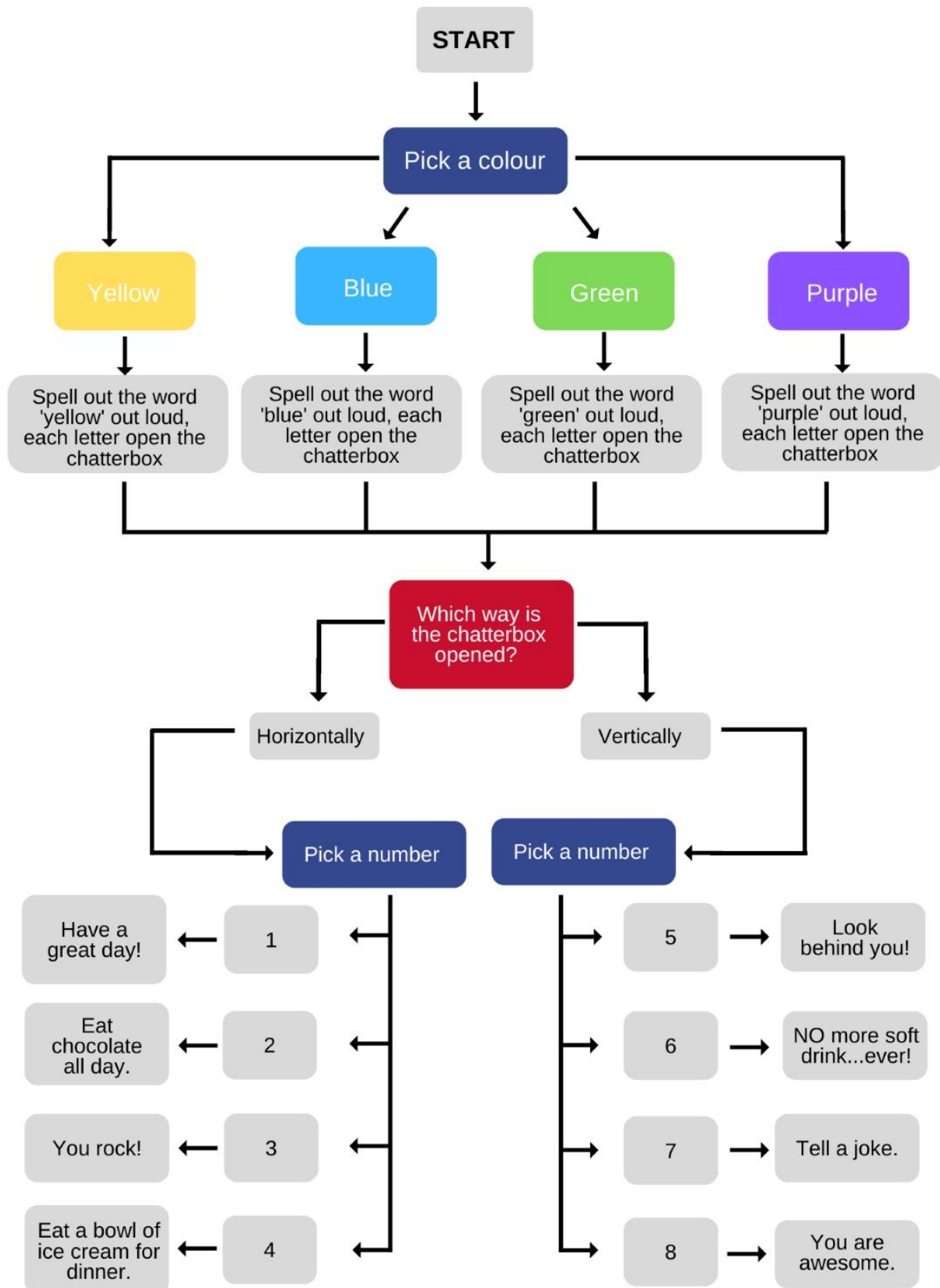
MINECRAFT ESCAPE ROOM

Levels 5-6



Session Number	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity
7.	Evaluating student solution	<p>Learning Intention Students will evaluate their design based on a set of questions and prompts.</p> <p>Success Criteria I can create a video explanation of my Minecraft design by answering a set questions.</p>	Discuss with students their project and what parts of making the escape room was the most entertaining and the most challenging.	Students will create a recording of their escape house. Within their recording, they answer the questions and prompts.
Session Resources	Student Resources <ul style="list-style-type: none">• Evaluation questions and prompts<ul style="list-style-type: none">○ Take us through your escape room/building. Why did you design it that way?○ How did you work collaboratively to complete this design? What did you do well as a group? What parts of the design did you focus on?○ Rate your design out of 10 – why did you give it that mark?○ What’s a key feature of your design that you really liked?○ How could technology like this be used for other projects?		Teacher Resources <ul style="list-style-type: none">•	

USING A CHATTERBOX



FLOWCHART OF A COMMAND IN MINECRAFT

START



MINECRAFT ESCAPE ROOM

Levels 5-6



Assessment – Australian Digital Technologies Curriculum			
Content Description	Session Number	Assessment Piece	Assessment Statement
Examine the main components of common digital systems and how they may connect together to form networks to transmit data (ACTDIK014)	N/A		
Examine how whole numbers are used to represent all data in digital systems (ACTDIK015)	N/A		
Acquire, store and validate different types of data, and use a range of software to interpret and visualise data to create information (ACTDIP016)	N/A		
Define problems in terms of data and functional requirements drawing on previously solved problems (ACTDIP017)	N/A		
Design a user interface for a digital system (ACTDIP018)	N/A		
Design, modify and follow simple algorithms involving sequences of steps, branching, and iteration (repetition) (ACTDIP019)	5	Flowchart/written instructions	Students identified different tasks they could add to their design in Minecraft. They created a flowchart/set of instructions to show the sequence of steps to complete their tasks. The sets incorporated branching and iteration.
Implement digital solutions as simple visual programs involving branching, iteration (repetition), and user input (ACTDIP020)	8	Code written in Minecraft	Students converted their flowchart/written set of instructions to code in Minecraft. The code they created used branching, iteration and user input.
Explain how student solutions and existing information systems are sustainable and meet current and future local community needs (ACTDIP021)	2 & 8	Block by Block evaluation & Escape room design reflection	Students explained how Block By Block (an organisation that uses Minecraft to help design communities) meets the needs of local and global communities.
Plan, create and communicate ideas and information, including collaboratively online, applying agreed ethical, social and technical protocols. (ACTDIP022)	1	Working collaboratively to design and create space	Working in the collaborative environment (Minecraft) students worked together to design and create an escaperoom. They followed protocols (identified within their group) and followed these to ensure all teams members contributed to the project.

MINECRAFT ESCAPE ROOM

Levels 5-6



Assessment – Victorian Digital Technologies Curriculum			
Content Description	Session Number	Assessment Piece	Assessment Statement
Examine the main components of common digital systems, and how such digital systems may connect together to form networks to transmit data (VCDTDS026)			
Examine how whole numbers are used as the basis for representing all types of data in digital systems (VCDTDI027)			
Acquire, store and validate different types of data and use a range of software to interpret and visualise data to create information (VCDTDI028)			
Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols (VCDTDI029)		Working collaboratively to design and create space	Working in the collaborative environment (Minecraft) students worked together to design and create an escape house. They followed protocols (identified within their group) and followed these to ensure all teams members contributed to the project.
Define problems in terms of data and functional requirements, drawing on previously solved problems to identify similarities (VCDTCD030)			
Design a user interface for a digital system, generating and considering alternative design ideas (VCDTCD031)			
Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration (VCDTCD032)		Flowchart/written instructions	Students identified different tasks they could add to their escape house. They created a flowchart/set of instructions to show the sequence of steps to complete their tasks. The sets incorporated branching and iteration.
Develop digital solutions as simple visual programs (VCDTCD033)		Code written	Students converted their flowchart/written set of instructions to code in Minecraft. The code they created used branching, iteration and user input.
Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs (VCDTC034)		Escaperoom design reflection	Students explained how Block By Block (an organisation that uses Minecraft to help design communities) meets the needs of local and global communities.

MINECRAFT ESCAPE ROOM

Levels 5-6



Assessment – New South Wales Science and Technology Syllabus (Stage 3)			
Outcomes and Objectives	Session Number	Assessment Piece	Assessment Statement
Explains how digital systems represent data, connect together to form networks and transmit data (ST3-11DI-T)	N/A		
Acquire, store, access and validate different types of data, and use a range of software to present, interpret and visualise data (ACTDIP016)	N/A		
Examine and critique needs, opportunities or modification using a range of criteria to define a project define a need or opportunity according to functional and aesthetic criteria Consider availability and sustainability of resources when defining design needs and opportunities Examine and determine functional requirements to define a problem	N/A		
Identify data required to formulate algorithms to improve a process (ACTDIP017)	N/A		
Defines problems, and designs, modifies and follows algorithms to develop solutions (ST3-3DP-T) Design, modify and follow simple algorithms extend sequences of steps to provide a series of possibilities through branching Develop solutions through trialling and refining using iterations (ACTDIP019)			
Implement digital solutions as visual programs involving branching, iteration and user input (ACTDIP020)			
Plans and uses materials, tools and equipment to develop solutions for a need or opportunity (ST3-2DP-T) negotiate criteria for success, based on defined needs, sustainability and aesthetics Develop appropriate and fair processes to test a designed solution according to criteria			
Explain how students' solutions and existing information systems meet current and future local community needs (ACTDIP021)			
Work collaboratively to share, appraise and improve ideas to achieve design purposes Identify, organise and perform strategic roles within a group to solve a problem			

MINECRAFT ESCAPE ROOM

Levels 5-6



Assessment – Western Australian Digital Technologies Syllabus			
Year 5			
Content Description	Session Number	Assessment Piece	Assessment Statement
Digital systems have components with basic functions that may connect together to form networks which transmit data (ACTDIK014)	N/A		
Data is represented using codes (ACTDIK015)	N/A		
Collect, store and present different types of data for a specific purpose using software (ACTDIP016)	N/A		
Design solutions to a user interface for a digital system (ACTDIP018)	N/A		
Design, follow and represent diagrammatically, a simple sequence of steps (algorithm), involving branching (decisions) and iteration (repetition) (ACTDIP019)			
Implement and use simple programming environments that include branching (decisions) and iteration (repetition) (ACTDIP020)			
Create and communicate information, including online collaborative projects, using agreed social, ethical and technical protocols (codes of conduct) (ACTDIP022)			
Define a problem, and set of sequenced steps, with users making a decision to create a solution for a given task (WATPPS27)			
Identify available resources (WATPPS28)			
Develop and communicate alternative solutions and follow design ideas, using annotated diagrams, storyboards and appropriate technical terms (WATPPS29)			
Select, and apply safe, procedures when using components and equipment to make solutions (WATPPS30)			
Develop negotiated criteria to evaluate and justify design processes and solutions (WATPPS31)			
Work independently, or collaboratively when required, to plan, develop and communicate ideas and information for solutions (WATPPS32)			

MINECRAFT ESCAPE ROOM

Levels 5-6



Assessment – Western Australian Digital Technologies Syllabus			
Year 6			
Content Description	Session Number	Assessment Piece	Assessment Statement
Digital systems have components with basic functions and interactions that may be connected together to form networks which transmit different types of data (ACTDIK014)	N/A		
Whole numbers are used to represent data in a digital system (ACTDIK015)	N/A		
Design, modify, follow and represent both diagrammatically, and in written text, simple algorithms (sequence of steps) involving branching (decisions) and iteration (repetition) (ACTDIP019)			
Implement and use simple visual programming environments that include branching (decisions), iteration (repetition) and user input (ACTDIP020)			
Manage the creation and communication of information, including online collaborative projects, using agreed social, ethical and technical protocols (ACTDIP022)			
Define a problem, and a set of sequenced steps, with users making decisions to create a solution for a given task (WATPPS33)			
Identify available resources (WATPPS34)			
Design, modify, follow and represent both diagrammatically, and in written text, alternative solutions using a range of techniques, appropriate technical terms and technology (WATPPS35)			
Select, and apply safe, procedures when using a variety of components and equipment to make solutions (WATPPS36)			
Develop collaborative criteria to evaluate and justify design processes and solutions (WATPPS37)			
Work independently, or collaboratively when required, considering resources, to plan, develop and communicate ideas and information for solutions (WATPPS38)			