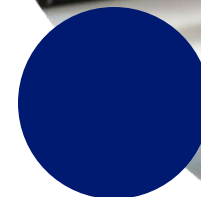




# Planning and Preparing for Your Year

Presented by: Catherine Newington

---



A large, semi-circular graphic on the left side of the slide. It features a central area filled with intricate Indigenous Australian dot art patterns in various colors (blue, green, yellow, purple) on a black background. This central area is framed by a thick blue border, which is itself surrounded by a thick red border. The entire graphic is set against a white background.

## Acknowledgement of Country

---

The ACS would like to acknowledge the traditional custodians of all the lands from which we join. We pay our respects to the Elders past, present and emerging and extend that respect to other Indigenous Australians present.



# Meet Catherine

**ACS ICT Educators' Specialist**

---

I was a teacher for 12 years before moving into the ICT Educators role at ACS. I work with teachers across Australia to help them implement the Digital Technologies Curriculum. I have a passion for things technology!

# Agenda



01

## **Start from the very beginning**

Start from the beginning. Let's look at the benefits of having a yearly planner, how to produce a yearly planner and how to keep track of your year

02

## **Examples of planners**

Take you through and explain our yearly planners, 2 different versions of a unit of work planner. Take you through examples of units of work for F-6

03

## **Create a scope and sequence**

Time dedicated in this session to start planning and preparing for 2023

# Preparing Scope and Sequence



Not providing a finished Scope and Sequence



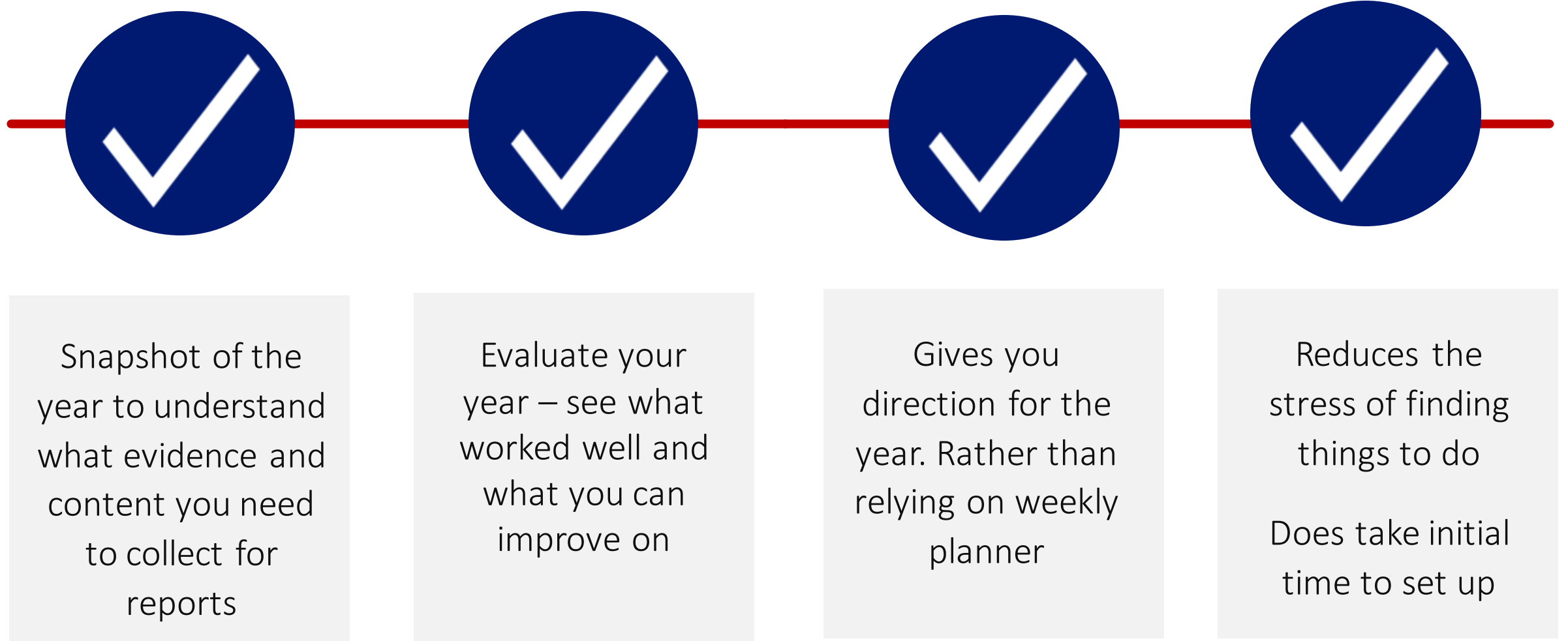
Each school is different and will implement the Digital Technologies differently



The tools and processes to create the scope and sequence and yearly planners



# Preparing Scope and Sequence



# Preparing Scope and Sequence



Inspiring our students to think and solve problems with digital technologies



To see a purpose to using digital technology to improve our society



Make the learning authentic for your students



Look at your school and outer community and find ways to connect Digital Technologies

# Block by Block & Minecraft

Block by Block is a nonprofit organization that uses Minecraft as a tool to help people in the community have a voice on how to design and shape community spaces.



<https://www.blockbyblock.org>

---

## Implementing

When introducing Minecraft to students, look at the social impact that Minecraft is having around the globe. Evaluate current solutions and have students use the solution to build their own Minecraft world.

---

## Units of work

Enhancing Communities with Minecraft  
(5-6)

Creating the Ultimate School in Minecraft  
(5-6)



# Cattle Farming and Drones

This story comes from NZ! Recording a sheep dog's bark to help heard farm animals.



<https://www.youtube.com/watch?v=CTjVjKClpyU>

---

## Implementing

When introducing Minecraft to students look at the social impact that Minecraft is having around the globe. Evaluate current solutions and students use the solution to build their own Minecraft world.

---

## Units of work

Natural Disasters (5-6)

# Project Daniel & 3D Printers

An American built an arm for Daniel. The arm was created using 3D Printers. The local people were trained on how to create more arms.



<https://www.youtube.com/watch?v=SDYFMgrjeLg>

---

## Implementing

When introducing Minecraft to students look at the social impact that Minecraft is having around the globe. Evaluate current solutions and students use the solution to build their own Minecraft world.

---

## Units of work

Helping the Less Fortunate with Technology (5-6)

# Agriculture Farming Robot

An Australian design to help farms plough crops more effectively. There are sensors that help locate the crops!



<https://www.bridgestone.com/bwsc/stories/article/2019/06/17-7.html>

---

## Implementing

When introducing robotics to students, find ways that robots have been used to complete a range of tasks. Give purpose to students when they are programming the robot to perform a task.

---

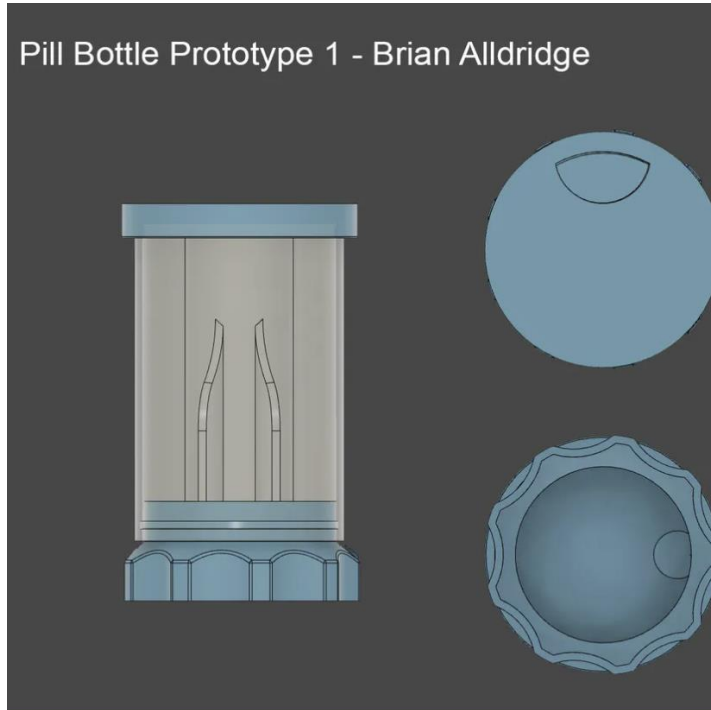
## Units of work

Using BeeBots to Help our Community (F-2)

Using Robotics to help grow plants (3-4)

# TikTok and 3D Printers

TikTok was used as a platform to help a man dispense Parkinson's Disease pill easily.



<https://www.theverge.com/2021/1/23/22244673/parkinsons-tiktok-crowdsourced-pill-bottle>

## Implementing

If you have a chance to use 3D Printers, look at how they have been used to solve problems. This examples connects the good that comes from connecting people and using each others' skills to solve a problem.

---

## Units of work

# Engineers use Mirco:bits

Mechanical Project Engineer Andrew Ellwood the micro:bit manages the onset of fatigue whilst on construction sites and operating heavy machinery.



<https://education.theiet.org/secondary/stem-activities/microbit/>

---

## Implementing

Instead of providing students with a set of stand alone activities that use the micro:bit, bundle them together in one project. Get students to complete the micro:bit activities to develop skills. Then they code for a new purpose.

---

## Units of work

Micro:bit Your Camping Companion (7-8)

Micro:bit Your Fashion Accessory (5-6)



# 3D Printer Fashion

The shoe company Camper is utilizing 3D Printers to help create prototypes of shoes. Designers create and engineers create.



<https://www.youtube.com/watch?v=2Lwy8TyChdQ>

---

## Implementing

Showcase how 3D Printers are utilized for a range of different purposes. Allow students to tap into their interests and investigate how 3D printers are being used. Evaluate the use of the 3D to help with that task. Allow students to make a new solution.

---

## Units of work

Micro:bit You Fashion Accessory (5-6)



# Curriculum Alignment



<b>DIGITAL SYSTEMS</b>	Is there room to look at the hardware and software of the technology?
<b>DATA</b>	Is there data that can be collected?
<b>ROBOTICS</b>	Can robotics and programming be used as a method to solve a problem?
<b>DESIGN</b>	Is there room for students to design something new?
<b>PROBLEM SOLVING</b>	Is there a problem based on specific themes students can solve?
<b>COMMUNITY NEEDS</b>	How can their solutions help the school community and wider community?
<b>COLLABORATION</b>	Can they use technology to work on project together?

# Preparing Scope and Sequence



Topics and planners from the classroom teachers



Look at topics through the lens of Digital Technologies



Brainstormed different ideas based on the topics that were already being taught in the classroom



Use post it notes (move around) and scribble ideas down it doesn't need to be perfect

# Creating a Scope and Sequence



<b>YEAR LEVEL:</b>	<b>TERM 1</b>	<b>TERM 2</b>	<b>TERM 3</b>	<b>TERM 4</b>
<b>KEY CONCEPTS</b> <ul style="list-style-type: none"> <li>What is the focus/big question that will drive the term?</li> </ul>	Focus:	Focus:	Focus:	Focus:
<b>SHORT OVERVIEW</b> <ul style="list-style-type: none"> <li>What's happening in the term?</li> <li>What will the students achieve?</li> </ul>	Summary:	Summary:	Summary:	Summary:
<b>CURRICULUM</b> <ul style="list-style-type: none"> <li>Where do the concepts sit within each term?</li> </ul>	Curriculum Focus:	Curriculum Focus:	Curriculum Focus:	Curriculum Focus:
<b>ASSESSMENT</b> <ul style="list-style-type: none"> <li>What is the assessment?</li> <li>What part of the achievement standard/content descriptions will be the focus?</li> <li>What content descriptions will be the focus?</li> </ul>	Assessment:  Achievement Standard:  Content Descriptions:	Assessment:  Achievement Standard:  Content Descriptions:	Assessment:  Achievement Standard:  Content Descriptions:	Assessment:  Achievement Standard:  Content Descriptions:
<b>RESOURCES</b> <ul style="list-style-type: none"> <li>What resources will help you teach the Curriculum?</li> </ul>				

# Creating a Scope and Sequence

## YEAR LEVEL:

## KEY CONCEPTS

- What is the focus/big question that will drive the term?

## SHORT OVERVIEW

- What's happening in the term?
- What will the students achieve?

## CURRICULUM

- Where do the concepts sit within each term?

## ASSESSMENT

- What is the assessment?
- What part of the achievement standard/content descriptions will be the focus?
- What content descriptions will be the focus?

## RESOURCES

- What resources will help you teach the Curriculum?



1

Overview

---

2

Curriculum

---

3

Resources

YEAR LEVELS: 3	TERM 1	TERM 2	TERM 3	TERM 4
<b>KEY CONCEPTS</b> <ul style="list-style-type: none"> <li>What is the focus/big question to drive the term?</li> </ul>	<b>Classroom Concept: Australia's past</b> Digital Technologies Focus: Using technologies to remember our past. Focus Question: How can we use technology to keep our past alive?	<b>Classroom Concept: Life cycles</b> Digital Technologies Focus: Algorithms and sequence of steps	<b>Classroom Concept: First Fleet Journey</b> Digital Technologies Focus: Mapping the First Fleet journey with Ozobots	<b>Classroom Concept: Earth and Space</b> Digital Technologies Focus: Merge Cube and using the Mbot to recreate the movement of the sun, earth and moon.
<b>SHORT OVERVIEW</b> <ul style="list-style-type: none"> <li>What's happening in the term?</li> <li>What will the students achieve?</li> </ul>	Students will investigate and explore how technologies have been used to help keep our past alive. They will explore Virtual Song Lines and look at how technology teaches us about the Indigenous past. They will use the Merge Cube to create a 3D, AR model of their life, to keep their heritage alive for future generations.	Students will investigate the different life cycles of animals then use a digital platform to create and a code a digital representation of a life cycle.	Students will recreate the first fleet journey through planning and using the Ozobots. Students will use the different codes to change the speed of the Ozobot.	Students will code the Mbots to recreate the movement of Earth orbiting the sun. They will look at current technologies and why space technologies are important for space exploration.
<b>CURRICULUM</b> Where does... <ul style="list-style-type: none"> <li>Digital Systems</li> <li>Data and Information</li> <li>Online collaboration</li> <li>Creating Digital Solutions</li> </ul> ...sit in within the 4 terms?	<b>Curriculum Focus:</b> <b>Digital Solutions:</b> Explain the purpose of Virtual Song Line and other technologies used to help remember our past. <b>Computational thinking language</b> (user input and branching) to plan and create their virtual model.	<b>Curriculum Focus:</b> <b>Creating Digital solutions:</b> using a visual programming software to show the life cycle of a chosen animal.	<b>Curriculum Focus:</b> <b>Digital Systems:</b> Explaining how the Ozobot connects and follows the black line. <b>Data and Information:</b> Data representation through investigating how the movements of the Ozobots are represented through different colours and combinations. <b>Creating Digital Solutions:</b> Create a map for the Ozobot that recreates the journey of the first fleet.	<b>Curriculum Focus:</b> <b>Creating Digital Solutions:</b> Recreate the orbit of the earth around the sun.
<b>ASSESSMENT</b> <ul style="list-style-type: none"> <li>What content descriptions will be the focus?</li> <li>What part of the achievement standard/content descriptions will be the focus?</li> <li>What will be the assessment piece or pieces?</li> </ul>	<b>Assessment:</b> <ul style="list-style-type: none"> <li>Students will evaluate how current digital systems are created to help remember our past.</li> <li>Students will plan and create their own digital portfolio using a Merge Cube to keep their family history alive.</li> </ul> <b>Achievement Standard:</b> <ul style="list-style-type: none"> <li>Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input.</li> <li>They explain how their developed solutions and existing information systems meet their purposes.</li> </ul> <b>Content Descriptions:</b> <ul style="list-style-type: none"> <li>Define simple problems, and describe and follow a sequence of steps and decisions involving branching and user input (algorithms) needed to solve them (<a href="#">VCDTCD023</a>)</li> <li>Explain how student-developed solutions and existing information systems meet common personal, school or community needs (<a href="#">VCDTCD025</a>)</li> </ul>	<b>Assessment:</b> <ul style="list-style-type: none"> <li>Students will create a digital life cycle of a chosen animal.</li> </ul> <b>Achievement Standard:</b> <ul style="list-style-type: none"> <li>Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input.</li> </ul> <b>Content Descriptions:</b> <ul style="list-style-type: none"> <li>Define simple problems, and describe and follow a sequence of steps and decisions involving branching and user input (algorithms) needed to solve them (<a href="#">VCDTCD023</a>)</li> <li>Develop simple solutions as visual programs (<a href="#">VCDTCD024</a>)</li> </ul>	<b>Assessment:</b> <ul style="list-style-type: none"> <li>Explain how the Ozobot works by looking at the hardware and how it connects to the black line.</li> <li>Investigate how the Ozobot movement data is represented by coloured lines.</li> <li>Create a digital solution to represent the journey of the first fleet.</li> </ul> <b>Achievement Standard:</b> <ul style="list-style-type: none"> <li>Students describe how a range of digital systems and their peripheral devices can be used for different purposes.</li> <li>Students explain how the same data sets can be represented in different ways.</li> <li>They explain how their developed solutions and existing information systems meet their purposes.</li> </ul> <b>Content Descriptions:</b> <ul style="list-style-type: none"> <li>Recognise different types of data and explore how the same data can be represented in different ways (<a href="#">VCDTDI020</a>)</li> <li>Explain how student-developed solutions and existing information systems meet common personal, school or community needs (<a href="#">VCDTCD025</a>)</li> </ul>	<b>Assessment:</b> <ul style="list-style-type: none"> <li>Coding the Mbot recreate the rotation of the earth in comparison to the Sun.</li> </ul> <b>Achievement Standard:</b> <ul style="list-style-type: none"> <li>Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input.</li> <li>Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input.</li> </ul> <b>Content Descriptions:</b> <ul style="list-style-type: none"> <li>Define simple problems, and describe and follow a sequence of steps and decisions involving branching and user input (algorithms) needed to solve them (<a href="#">VCDTCD023</a>)</li> <li>Develop simple solutions as visual programs (<a href="#">VCDTCD024</a>)</li> </ul>
<b>RESOURCES</b> <ul style="list-style-type: none"> <li>What resources will help you teach the Curriculum?</li> </ul>		Virtual Song Lines Merge Cubes Merge Cube Planner (for student design)	Ozobots Map of the world	Mbots Orbit route of earth around the sun.

# Creating a Scope and Sequence



Create timeline of development of skills



What is the end project you want them to complete and how will you get them to the end product

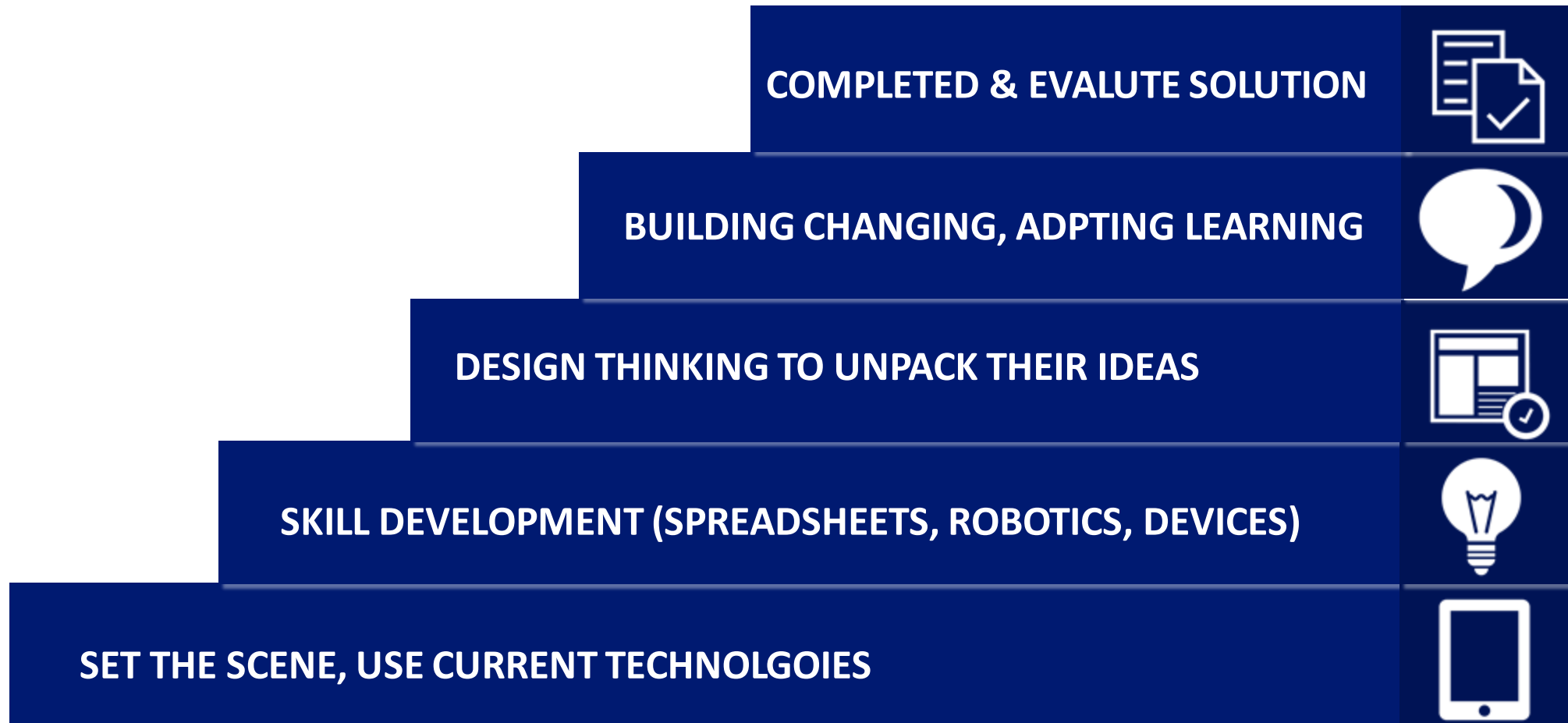


Create a connection with real world – allows students to explore real world problems (start or end)



# Creating a Unit of work

Graphic organiser – staircase



# Creating a Unit of work

## OVERVIEW

- What does the unit entail?
- What is the main assessment piece or work students will complete?
- How does that relate back to the curriculum?

## KEY LEARNINGS

- What are the key questions you will ask?
- What are the key learnings the students will take away from the unit?
- What is the key vocabulary that students will be using throughout the unit?

## LESSONS

- What is the lesson topic?
- How does this align with the curriculum?
- What is the learning intention and success criteria?
- What do you want the students to learn?
- How will they demonstrate their learning?

## ASSESSMENT

- How does the unit align to the Achievement Standards?
- How have students demonstrated their learning?
- How can you link what they have learnt with the Content Description and achievement standard?

1

Overview

---

2

Key learnings

---

3

Resources

Term	1	Term Focus	Technology Past and Present			
Term Overview	Investigating how digital games have changed over time.					
Key Concepts	Digital Systems, Evaluating - meeting recreation needs					
Session Number	Summary	Learning Intention and Success Criteria	Digital Technologies Curriculum Links	Key Resources	Assessment Statement	
1.	Using iPads play a range of games starting at Pong to a common game. Evaluate how digital games have changed over time. Look at colours and image quality.	<p><b>Learning Intention</b> Students will evaluate how digital technology and gaming has changed and developed over time.</p> <p><b>Success Criteria</b> I can explain how digital games have changed over time.</p>	<p>Recognise and explore digital systems (hardware and software components) for a purpose ACTDIK001</p> <p>Explore how people safely use common information systems to meet information, communication and recreation needs ACTDIP005</p>	<ul style="list-style-type: none"> <li>A range of apps predownloaded on iPad for students to play.</li> </ul>	Students evaluated how digital technology games have developed over time.	
2.	Investigating how Mario has changed overtime. Students will sequence images of Mario. Using grid paper. Students try and draw common images e.g. love heart, circle, letter.	<p><b>Learning Intention</b> Students will evaluate how digital technology and gaming has changed and developed over time.</p> <p><b>Success Criteria</b> I can explain how gaming characters have changed over time.</p>	<p>Recognise and explore digital systems (hardware and software components) for a purpose ACTDIK001</p>	<ul style="list-style-type: none"> <li>Pictures of Mario</li> <li><a href="http://isatv.com/blog/entertainment/old-school-super-mario-bros/">http://isatv.com/blog/entertainment/old-school-super-mario-bros/</a></li> </ul>	Students evaluated how digital technology gaming characters have developed over time.	
3.	Recap of Mario and then try and predict what gaming could look like in 20 years. What would the next generation of Mario look like	<p><b>Learning Intention</b> Students will reflect on how gaming can change for the future.</p> <p><b>Success Criteria</b> I can design a game for the future.</p>	<p>Explore how people safely use common information systems to meet information, communication and recreation needs ACTDIP005</p>	<ul style="list-style-type: none"> <li>Drawing and writing materials</li> </ul>	Students investigated how digital technology was used to meet recreation needs. They predicted what digital technology gaming would look like in the future.	



## Unit Overview

This unit of work has been created to demonstrate how a global non-profit organisation has utilised the features of Minecraft to help under privileged communities. Students will use the ethos of the organisation as a catalyst to design and virtually build a community that will benefit the needs of an identified group of people. The chosen community can be one for local friends and family or reach another community on a global scale.

### Other Curriculum Targeted Areas

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

Other areas of interest may include:

- Design and Technology
- Mathematics (Data)

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.

### Australian Curriculum Alignment

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 Curricular.

### 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.





## 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 the community and resources by joining for free via: <https://www.acs.org.au/ict-educators.html>

## Key Understandings

- Describe how digital technology has been used to help communities.
- Use Minecraft to design a solution to a problem in a community.
- Use Minecraft to explore how coding can be integrated into their design to further enhance functions within Minecraft.

## Key Questions

- How is Minecraft used to help real life communities around the world?
- How can you use Minecraft to redesign an area in our local community to benefit our members?
- How can you incorporate code into your design to enhance any features to automatically move/change?

## Key Vocabulary

Collaborative projects, online protocols, design thinking, Minecraft, computational thinking, algorithms, flowcharts, programming, iteration, branching, user input, flowchart, digital solutions.

Session Number	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity
1.	Online Collaboration	<p><b>Learning Intention</b> Students will identify a set of protocols to follow when working in online spaces.</p> <p><b>Success Criteria</b> I can generate a list of dos and don'ts and explain why they are important protocols to follow. When working in online spaces, I am an active member of my team and the workload is shared evenly between us.</p>	Discuss the similarities and differences of working in the classroom and online and the importance of continually abiding by these protocols (rules).	Students work in small groups and connect with each other in an online document that allows them to collaborate. They create a list of 'dos and don'ts' to successfully work online. They explain why it is important that the protocols are upheld.
<p><b>Student Resources</b></p> <ul style="list-style-type: none"> <li><a href="#">ACS Student Resource: Online Collaboration</a></li> </ul>		<p><b>Teacher Resources</b></p> <ul style="list-style-type: none"> <li><a href="#">ACS Teacher Resource: Collaboration</a></li> <li>Chosen digital platform to allow users to collaborate online</li> </ul>		
2.	Digital technology used to help communities	<p><b>Learning Intention</b> Students will explain how the non-profit company, Block By Block, uses Minecraft to redesign underprivileged communities.</p> <p><b>Success Criteria</b> I can explain how Minecraft is used to help design and create communities.</p>	Students brainstorm all the different uses of Minecraft and any functions of Minecraft they know.	<p>Introduce students to the non-profit organisation Block By Block, Together watch the introduction video (found on the home page of the Block By Block website).</p> <p>In groups student choose and investigate different projects that have been created through Block By Block. They complete a profile card, explain the project, the design and a personal reflection.</p> <p>Students share their findings with their class.</p>
<b>Session Resources</b>	<p><b>Student Resources</b></p> <ul style="list-style-type: none"> <li><a href="#">Block By Block</a></li> </ul>		<p><b>Teacher Resources</b></p> <ul style="list-style-type: none"> <li>Block By Block Project Profile (located at the end of the unit session)</li> </ul>	



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)	2	Design of their community	Students identified the needs of the people in the community by gathering data about the people and the environment. They used this data to influence the design of a new space.
Design a user interface for a digital system (ACTDIP018)	2 & 3	Design of their community	Students used the digital platform Mine Craft to design and create a community.
Design, modify and follow simple algorithms involving sequences of steps, branching, and iteration (repetition) (ACTDIP019)	4	Flowchart/written instructions	Students identified different tasks they could add to their community 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)	5	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 solutions and existing information systems are sustainable and meet current and future local community needs (ACTDIP021)	1 & 6	Community 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 (ACTDIP022)	1	Working collaboratively to design and create space	Working in the collaborative environment (Minecraft) students worked together to design and create a community. They followed protocols (identified within their group) and followed these to ensure all teams members contributed to the project.



# Time to Plan

# Time to Plan



Take the time to digest the ICT Educators Community! Download and enjoy!



Team up with someone in the room and plan together, share ideas.



Work with Catherine



Plan and create the scope and sequence. Complete Term 1 and Term 2.



Plan and prepare for next week. Organise your ideas

# Final thoughts



## LASTING IMPRESSION

How do you know the program you are running will have a lasting affect on the school and students?

## LOOK TO YOUR SCHOOL

What is already happening in the school and how can that be applied to your term planner?

## THE LENS OF DIGITAL TECHNOLOGIES

Look at units through the lens of DT. Think about it from a computational, design or systems perspective.

## IT'S A JOURNEY

Continue to improve each year and develop your skills.



**Questions?**



# Thank you

