#### **INTRODUCTION TO DIGITAL SYSTEMS** Levels F-2

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#### Teacher from S. John XXIII Primary School, Thomastown East, Victoria

#### **Unit Overview**

This unit is intended to be used as an introductory unit for Grade 1 and 2 students that are new or need refresh in using laptop devices and the Google Suite. During this unit they will identify and explain the peripheral devices used (along with their laptop) then they will follow sequence of steps (instructions) to learn how to navigate and use a selection of software programs. This will support the skill development to learn how to navigate and confidently utilise the features in different software programs.

#### **Other Curriculum Targeted Areas**

Other curriculum areas can be targeted and assessed within this unit. Other areas of interest may include:

• English – Reading

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 one session may run over multiple periods.

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#### **Key Preparation**

#### **Digital Devices**

This unit will focus on Chromebooks as the devices that students will investigate and Google Suite software programs that students will learn how to navigate. If these products are not used at your school this unit will need modification – especially the resources that specifically refer to Google Suite or Chromebooks.

#### **Sequence of Steps Activities**

The sequence of steps are included at the bottom of the unit. Some of these may need to be modified to suit your school and lessons. To assist with modifying the sequence of steps for your school or students, we have set up and open file in Canva for you. You can make modifications <u>here</u>. Check with Canva to access this resource.

#### **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. Access the via: <a href="https://www.acs.org.au/ict-educators.html">https://www.acs.org.au/ict-educators.html</a>

Key Understandings	Key Questions	
Students will:	What is the different between hardware and software?	
<ul> <li>Identify and explain the main parts of the Chromebook.</li> </ul>	What software programs do you use at school? How are these different?	
<ul> <li>Evaluate the difference between hardware and software used at school.</li> </ul>	What is the purpose of these different programs?	
<ul> <li>Follow instructions to complete tasks to use a variety of software programs at</li> </ul>	How can we use sequence of steps to help us complete a task?	
school.	What is the purpose of different software used at school?	

#### **Key Vocabulary**

Hardware, software, components, Bee-Bot, Chromebook, sequence of steps, algorithms, instructions





Session Number	Session Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity	
1.	Safe Use of Digital Devices	<b>Learning Intention</b> Students will create a list of rules to ensure they safely use digital devices at school.	Discuss with students how we look after and respect our things in the classroom. Lok at how this compares to looking after digital devices at school.	Students look at the user agreement and create a list of rules that they will abide by over the course of the year when using any digital devices in the classroom. Students will [present their rules to the rest of their peers.	
		Success Criteria I can create a list of rules to follow to keep our digital devices safe.			
Session	Student Resource	es	Teacher Resources		
Resources	•		• School user agreements and documents supporting safe use of devices at school.		
2.	Digital Systems (hardware)	Learning Intention Success Criteria I can identify the main hardware parts of a Chromebook.	Discuss with students the different components found in Chromebook. They discuss the purpose of the component.	Students create a list of hardware components that is found in a Chromebook. They explain the purpose of these components.	
Session	Session Student Resources		Teacher Resources		
Resources	• List of hardware found in a Chromebook (not provided)		<ul> <li>ACS Teacher Resource: Hardware and Software</li> <li>ACS Teacher Resource: Digital Systems iPad Presentation</li> <li>ACT Teacher Resource: Digital Systems Laptop Presentation</li> </ul>		



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Session Number	Session Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity	
3.	Digital Systems (hardware)	Learning Intention Students will compare digital devices by creating a Venn diagram to identify similarities and differences. Success Criteria I can compare a Chromebook to a Bee-bot.	Have a Chromebook and a Bee-bot out. Discuss the similarities and differences of the Bee-bot. Introduce students to a Venn Diagram as a means of presenting their information.	Students create a Venn diagram and evaluate the similarities and differences of a Bee-bot and Chromebook. To extend this activity, provide students with another device that is commonly used in the classes (eg: iPad) students can compare 3 devices.	
Session	Student Reso		Teacher Resources		
Resources	<ul> <li>Venn</li> </ul>	Diagram (not provided)	ACS Teacher Resource: Hardwar	re and Software	
4.	Sequence of steps (Bee-Bot)	Learning Intention Students will follow a sequence of steps (algorithms) to operate a Bee-Bot. Success Criteria I can follow the instructions to use and code a Bee-Bot.	Introduce students to the sequence of steps activity sheet that explains how to use and program a Bee-Bot. Demonstrate and follow the instructions.	<ul> <li>Students are provided with the sequence of steps out of order and they need to put them back into the correct order. Students are given the option to complete a range of different activities: <ol> <li>Bee-Bot climbs the ladder. (have ladder style makings on the floor and students program the Bee-Bot to climb the ladder)</li> <li>Bee-Bot locates a name (have student's names on the floor and students program the Bee-Bot to find the name).</li> </ol> </li> </ul>	
Session	n Student Resources		Teacher Resources		
Resources	• Using the Bee-Bot - sequence of steps activity sheet out of order (located at the end of the unit)		<ul> <li>ACS Teacher Resource: Sequence of Steps</li> <li>Using the Bee-Bot - sequence of steps activity sheet in order (located at the end o the unit)</li> </ul>		



Session Number	Session Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity	
5.	Sequence of steps (Logging in)	Learning Intention Students will follow instructions to learn how to login into the Chromebook and open Google Suite. Success Criteria I can follow instructions to open my Chromebook and find Google Drive.	Introduce students to the sequence of steps activity sheet that explains how to login into the Chromebook and open Google Drive. Demonstrate and follow the instructions.	Students will spend the remainder of the session logging into their Chromebook and locating and open Google Drive.	
Session	Session Student Resources		Teacher Resources		
Resources	<ul> <li>Sequence of steps to login to the Google Chrome (not provided)</li> </ul>				
6.	Sequence of steps (Google Drive)	Learning Intention Students will follow instructions to learn how to locate use Google Drive. Success Criteria I can follow instructions to use Google Drive.	Recap on the sequence of steps to log into their devices and find Google Drive.	Students will use the remainder of the session to follow a sequence of steps to access Google Drive, create a folder (their name) and share the folder with their teacher.	
Session Resources	es Student Resources • Sequence of steps to use Google Drive (located at the end of the unit)		Teacher Resources	·	





Session	Session	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity
Number	Focus			
7.	Sequence of	Learning Intention	Introduce students how to locate and	Students follow the sequence of steps to locate
	steps	Students will follow instructions to learn how to	find Google Docs. Demonstrate the	Google Docs. They will type their name into the
	(Google	locate use and create a document in Google Docs.	features of locating, renaming and	document and rename the file to their own
	Docs)		typing into a document.	name. If they have time, they will share the doc
		Success Criteria		with their teacher.
		I can follow instructions to use Google Docs.		
Session	Student Reso	ources	Teacher Resources	
Resources	<ul> <li>Seque</li> </ul>	nce of steps to use Google Docs (located at the end		
	of the	unit)		
8.	Sequence of	Learning Intention	Show students how to access Google	Students follow the sequence of steps to create a
	steps	Students will follow instructions to learn how to	Slides. Discuss with the students the	Google Slides presentation. They can create a
	(Google	locate use and create a presentation in Google	layout similarities of Google Slides and	Google slide presentation on themselves. Each
	Slides)	Docs.	Google Docs. Discuss where features	slide can have different information on it such as
			are in the same position.	likes and dislikes, hobbies, family pets and family
		Success Criteria		members.
		I can follow instructions to use Google Slides.	Follow the sequence of steps to create	
			a new slide presentation.	
Session	Session Student Resources		Teacher Resources	
Resources	Seque	nce of steps to use Google Slides (located at the end		
	of the	unit)		





Session Number	Session Focus	Learning Intention and Success Criteria	Introduction/Teacher Instruction	Whole Class Activity	
9.	Purpose of software	Learning Intention Students will create a document or slide presentation that identifies the software and explains the purpose of Google Suite software. Success Criteria I can explain the purpose of Google Slides, Google Docs or Google Drive.	Recap on the different icons and identify what is different and similar about Google Drive, Google Docs and Google Slides.	Using wither Google Docs or Google Slides, students identify the different icons and explain the purpose of Google Drive, Google Docs and Google Slides.	
Session	Session Student Resources		Teacher Resources		
Resources	•		•		



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Assessment – Australian Digital Technologies Curriculum						
Content Description	Session Number	Assessment Piece	Assessment Statement			
Recognise and explore digital systems (hardware and software) components for a purpose (ACTDIK001)	2, 3 & 10	Identify the parts of a digital system (Chromebook) Explanation the purpose of Google Drive, Google Docs and Google Slides	Students created a Venn Diagram to show the similarities and differences of digital devoice s (Chromebook and Bee-bot). Students explained the features and purpose of Google Drive, Google Docs and Google Slides.			
Recognise and explore patterns in data and represent data as pictures, symbols and diagrams (ACTDIK002)	N/A					
Collect, explore and sort data, and use digital systems to present the data creatively (ACTDIP003)	N/A					
Following, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems (ACTDIP004)	4 – 9	Follow sequence of steps to complete a range of tasks	Students follow a range of algorithms (sequence of steps) to learn how to use different devices and software such as Chromebook, Bee-bots and Google Suite software.			
Explore how people safely use common information systems to meet information, communication and recreation needs (ACTDIP005)	N/A					
Create and organise ideas and information using information systems independently and with others, and share these with known people in safe online environments (ACTDIP006)	N/A					

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Assessment – Victorian Digital Technologies Curriculum					
Content Description	Session Number	Assessment Piece	Assessment Statement		
Identify and explore digital systems (hardware and software components) for a purpose (VCDTDS013)	2, 3 & 10	Identify the parts of a digital system (Chromebook) Explanation the purpose of Google Drive, Google Docs and Google Slides	Students created a Venn Diagram to show the similarities and differences of digital devoice s (Chromebook and Bee-bot). Students explained the features and purpose of Google Drive, Google Docs and Google Slides.		
Recognise and explore patterns in data and represent data as pictures, symbols and diagrams (VCDTDI014)	N/A				
Collect, explore and sort data, and use digital systems to present the data creatively (VCDTDI015)	N/A				
Follow, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems (VCDTCD017)	4 – 9	Follow sequence of steps to complete a range of tasks	Students follow a range of algorithms (sequence of steps) to learn how to use different devices and software such as Chromebook, Bee-bots and Google Suite software.		
Explore how people safely use common information systems to meet information, communication and recreation needs (VCDTCD018)	N/A				
Independently and with others create and organise ideas and information using information systems, and share these with known people in safe online environments (VCDTDI016)	N/A				

### INTRODUCTION TO DIGITAL SYSTEMS Levels F-2



Assessment – New South Wales Science and Technology Syllabus						
Outcomes and Objectives	Session Number	Assessment Piece	Assessment Statement			
observes, questions and collects data to communicate and compare ideas (ST1-1WS-S)	N/A					
collect, sort, organise and present data to communicate information (ACTDIP003)	N/A					
Identifies digital systems and explores how instructions are used to control digital devices (ST-e7DI-T)	2, 3 & 10	Identify the parts of a digital system (Chromebook) Explaining the purpose of Google Drive, Google Docs and Google Slides	Students created a Venn Diagram to show the similarities and differences of digital devoice s (Chromebook and Bee-bot). Students explained the features and purpose of Google Drive, Google Docs and Google Slides.			





Assessment - Western Australian Digital Tech	Assessment - Western Australian Digital Technologies Curriculum					
Pre-Primary Syllabus	Session Number	Assessment Piece	Assessment Statement			
Digital systems (hardware and software) are used at home, in the school and in the community (ACTDIK001)	2, 3 & 10	Identify the parts of a digital system (Chromebook) Explanation of the purpose of Google Drive, Google Docs and Google Slides	Students created a Venn Diagram to show the similarities and differences of digital devoice s (Chromebook and Bee- bot). Students explained the features and purpose of Google Drive, Google Docs and Google Slides.			
Data can have patterns and can be represented as pictures and symbols (ACTDIK002)	N/A					
Collect and use data of any kind (ACTDIP003)	N/A					
Use data to complete a task (ACTDIP003)	N/A					
Engage with information known people have shared in an online environment, and model strategies to stay safe online (ACTDIP006)	N/A					
Explore needs for design (WATPPS01)	N/A					
Generate and record design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps (WATPPS02)	4 – 9	Follow sequence of steps to complete a range of tasks	Students follow a range of algorithms (sequence of steps) to learn how to use different devices and software such as Chromebook, Bee-bots and Google Suite software.			
Use given components and equipment to safely make simple solutions (WATPPS03)	10	Explanation of Google Suite products	Students used a selection of Google Suite products (such a Google Drive, Google Slides, Google Docs) to complete tasks.			
Use personal preferences to evaluate the success of simple solutions (WATPPS04)	N/A					
Work independently, or with others when required, for solutions (WATPPS05)	N/A					





Assessment - Western Australian Digital Tech	nologies Curriculur	n	
Year 1 Syllabus	Session Number	Assessment Piece	Assessment Statement
Digital systems (hardware and software) are used in everyday life and have specific features (ACTDIK001)	2, 3 & 10	Identify the parts of a digital system (Chromebook) and explanation of the purpose of Google Drive, Google Docs and Google Slides	Students created a Venn Diagram to show the similarities and differences of digital devoice s (Chromebook and Bee-bot). Students explained the features and purpose of Google Drive, Google Docs and Google Slides.
Data can have patterns and can be represented as pictures, symbols and diagrams (ACTDIK002)	N/A		
Present data of any kind using a variety of digital tools (ACTDIP003)	N/A		
Use data to solve a simple task/problem (ACTDIP003)	N/A		
Share and publish information with known people in an online environment, modelling strategies to stay safe online (ACTDIP006)	N/A		
Explore opportunities for design (WATPPS06)	N/A		
Develop and communicate design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps (WATPPS07)	4 – 9	Follow sequence of steps to complete a range of tasks	Students follow a range of algorithms (sequence of steps) to learn how to use different devices and software such as Chromebook, Bee-bots and Google Suite software.
Use given components and equipment to safely make solutions (WATPPS08)	6 - 8	Learn how to use Google Suite	Students explored the functions of products within Google Suite and learnt how to use this software to make digital solutions.
Use personal preferences to evaluate the success of design processes (WATPPS09)	N/A		
Work independently, or with others when required, to create and safely share sequenced steps for solutions (WATPPS10)	N/A		

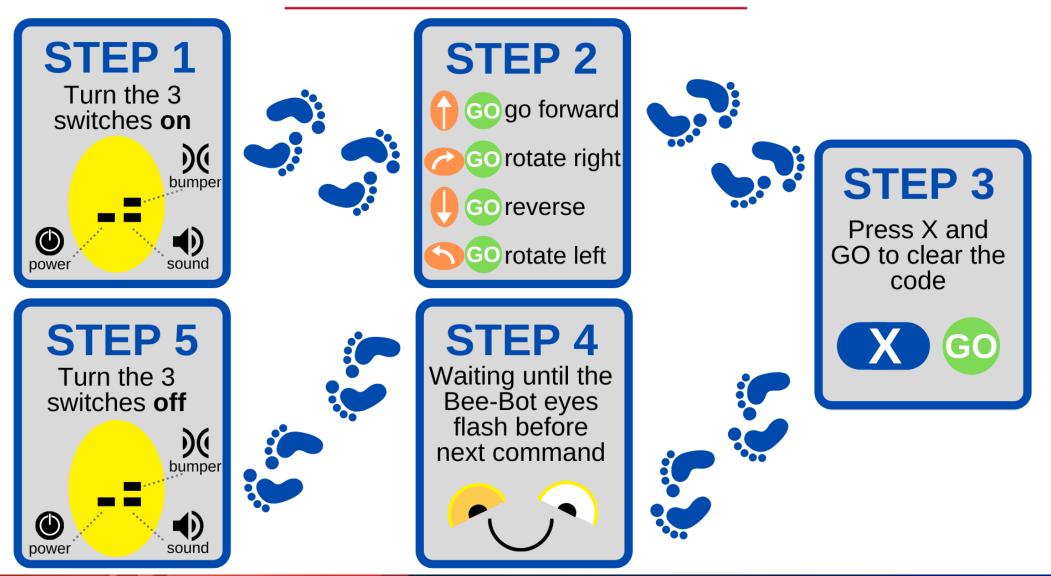




Assessment - Western Australian Digital Tech	nologies Curriculum		
Year 2 Syllabus	Session Number	Assessment Piece	Assessment Statement
Digital systems (hardware and software) are used for an identified purpose (ACTDIK001)	2, 3 & 10	Identify the parts of a digital system (Chromebook) and explanation of the purpose of Google Drive, Google Docs and Google Slides	Students created a Venn Diagram to show the similarities and differences of digital devoice s (Chromebook and Bee-bot). Students explained the features and purpose of Google Drive, Google Docs and Google Slides.
Data can have patterns and can be represented and used to make simple conclusions (ACTDIK002)	N/A		
Present data using a variety of digital tools (ACTDIP003)	N/A		
Use data to solve similar tasks/problems (ACTDIP003)	N/A		
Share and publish information in a safe online environment, with known people (ACTDIP006)	N/A		
Explore design to meet needs or opportunities (WATPPS11)	N/A		
Develop, communicate and discuss design ideas through describing, drawing, modelling and/or a sequence of steps (WATPPS12)	4 - 9	Follow sequence of steps to complete a range of tasks	Students follow a range of algorithms (sequence of steps) to learn how to use different devices and software such as Chromebook, Bee-bots and Google Suite software.
Use components and given equipment to safely make solutions (WATPPS13)	6 - 8	Learn how to use Google Suite	Students explored the functions of products within Google Suite and learnt how to use this software to make digital solutions.
Use simple criteria to evaluate the success of design processes and solutions (WATPPS14)	N/A		
Work independently, or collaboratively when required, to organise information and ideas to create and safely share sequenced steps for solutions (WATPPS15)	N/A		

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#### **SEQUENCE OF STEPS: USING A BEE-BOT**

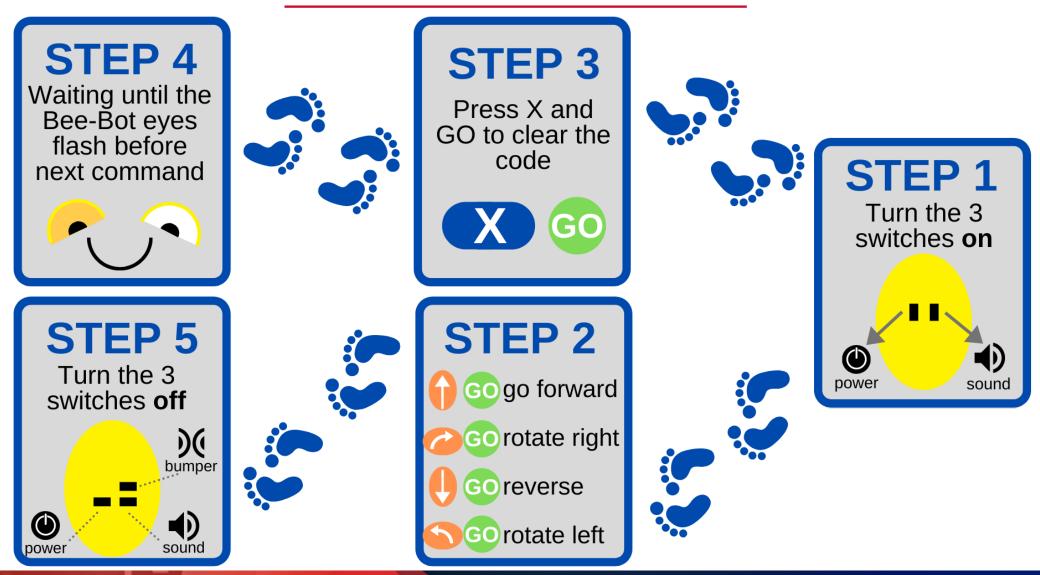




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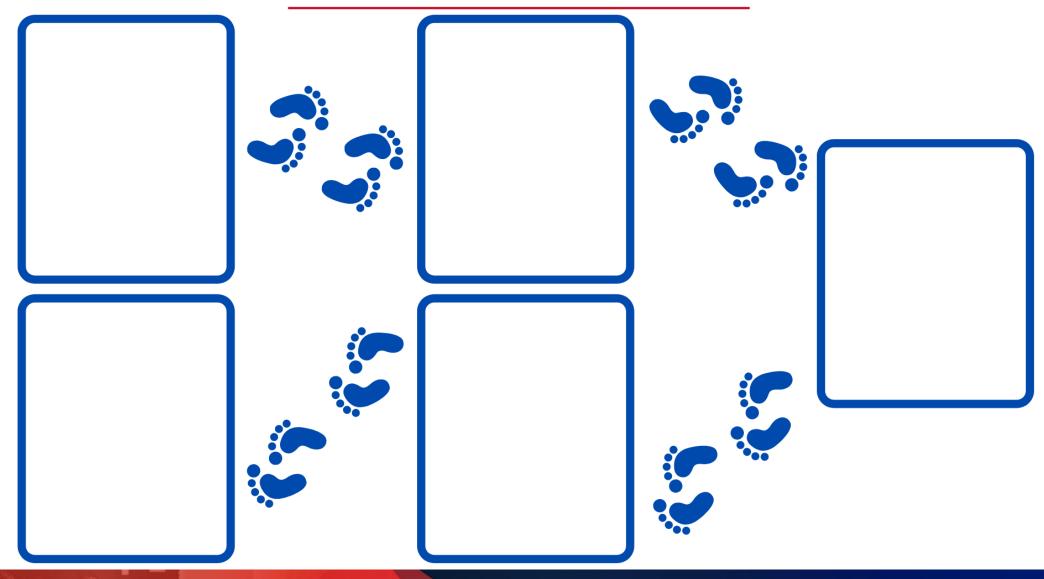
#### **SEQUENCE OF STEPS: USING A BEE-BOT**



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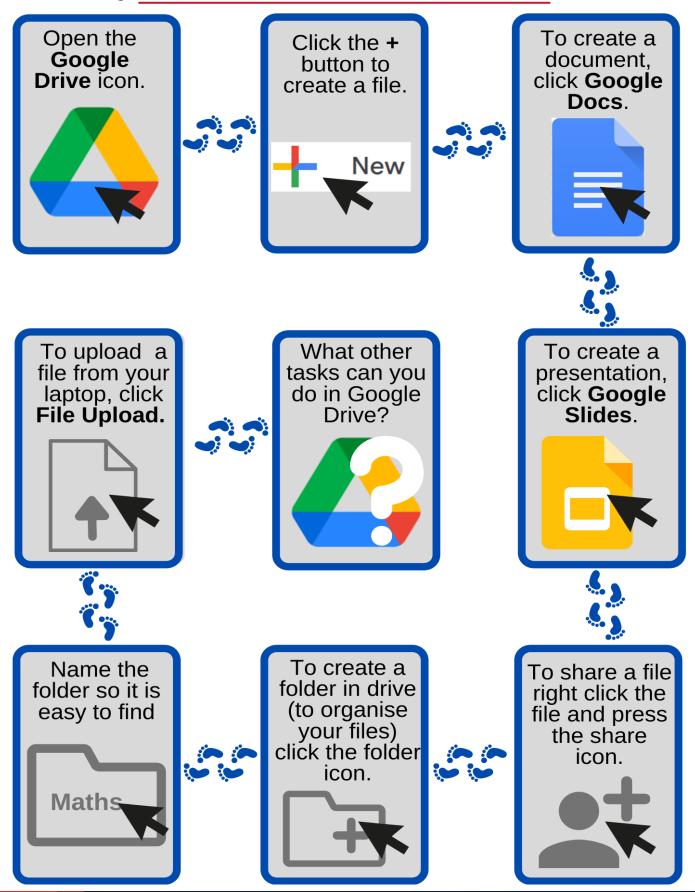
### SEQUENCE OF STEPS: PUT IN ORDER



Levels F-2



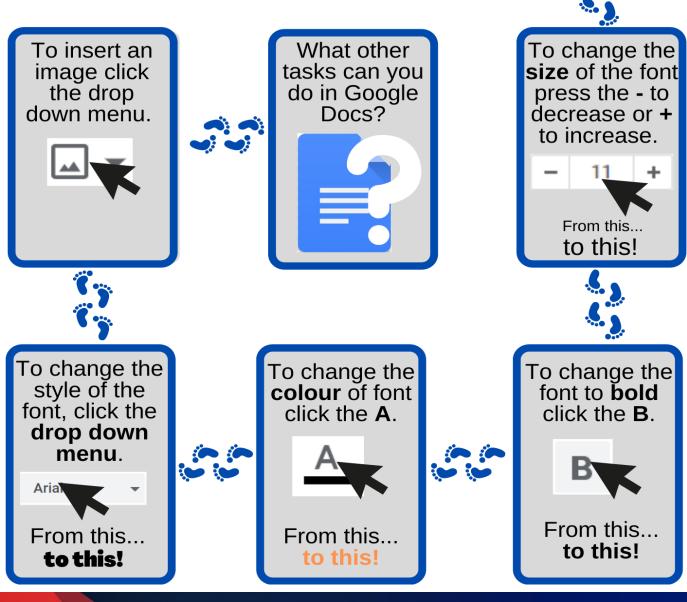
#### SEQUENCE OF STEPS: ACCESSING GOOGLE DRIVE



Levels F-2



#### **SEQUENCE OF STEPS: USING GOOGLE DOCS** Click the tile Click the To create a document. cursor onto to rename the white page click Google your file. (your doc) to Docs. type. Untitled document Hello Rename



Levels F-2



#### SEQUENCE OF STEPS: USING GOOGLE SLIDES

