Unit Overview

The lessons in this unit enable students to explore the Digital Technologies Curriculum concepts using fairytales. Each topic that is found in the curriculum has been presented at least once through these lessons. Some stories have been used to teach multiple concepts. These lessons can be taught and incorporated into an English reading session.

Curriculum Targeted Areas

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

- English
- Mathematics

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. Activities may need to be modified to ensure state Digital Technologies Curriculum Standards/Syllabus 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 to drive the duration of the task and make modifications if necessary. Sessions can be merged into one allocated class period or may run over multiple periods.

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Key Preparation
Unplugged is the focus for presenting these lessons. Where applicable, the lessons have suggested digital devices. This is not mandatory. The focus of the unit is to explore the topics of digital technology and for students to think creatively about digital technology concepts using stories they may have prior knowledge on. **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. You can access these resources via: https://www.acs.org.au/ict-educators.html.

Key Understandings	Key Questions
Students will: ▪ Explore digital systems (hardware and software) ▪ Design a digital solution for a purpose ▪ Collect, present and interpret data ▪ Explore patterns in collected data ▪ Follow sequence of steps (algorithms) to perform a task ▪ Share ideas and work with known people on an online environment	▪ How could you use digital technology to help a character? ▪ What data have you collected and how is it represented? ▪ What patterns can you see in the data you have collected? ▪ What are the instructions you have written to get the characters to get from point a to point b? ▪ What work have you shared with your class?

Key Vocabulary
Algorithm, step by step instructions, digital solution, hardware, software, digital solution, online collaboration

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Text	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher instruction	Whole class activity
Ongoing activity to be completed with all texts	Collecting Data	**Learning Intention** Students will collect, sort and represent data **Success Criteria** I can collect data about different characters in fairy tales and present it in a way that is easy to read	Introduce students to graphs and collecting data. Together choose a method to collect and display data when reading different texts.	Throughout reading different texts, students create a graph that shows the characters, settings or objects they find in the stories. e.g. animals, male, female, witches, princess and keep ongoing tallies and graphs. They choose a format they would like to use and collect the data throughout the duration of reading fairy tales.
Text Resources	▪ ACS Teacher Resource: Data			
Hansel and Gretel	Collecting and interpreting Data	**Learning Intention** Students will sort, graph and interpret a graph of data collected. **Success Criteria** I can sort and talk about the data we collected.	Discuss with the students the type of lollies and sweets that could be found on the witch's house and discuss the student's favourite type of sweet.	Students draw their favourite lolly. In a group discuss with the students the different ways the class can show their lollies. Look at the different attributes and see if the data can be collected and graphed. Suggestions to graph: Venn diagram that shows wrapped and unwrapped lollies. Create class Venn diagram by using two large hula hoops. Picture Graph that sorts the lollies.
Text Resources	• ACS Teacher Resource: Data • Paper for students to draw lolly (ensure is the same size to make graph consistent			

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Text	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher instruction	Whole class activity
Beauty & The Beast	Collecting and interpreting Data	**Learning Intention** Students will collect, sort and represent data through a chosen style. **Success Criteria** I can display the data about the characters in Beauty and The Beast as a graph.	Discuss with the students the different types of characters that are found in the book, write a list of the character names.	Students create a graph that collects data about human and non-human characters in the story. They choose the type of graph they will present their data in.
Text Resources	• ACS Teacher Resource: Data			
The 3 Little Pigs	Algorithms	**Learning Intention** Students will write out explicit instructions to show the path of the wolf to the three (3) houses **Success Criteria** I can write algorithms that show the path the wolf will take to get to the pigs' houses.	Discuss with the students the type of path the wolf would take to get to each of the houses. Model to the students a path made using the squares on grid paper. Model writing out the instructions.	Students are given grid paper. Using the squares, they create their own path to the three houses. They write out instructions for the Big Bad Wolf to follow to get to each of the houses and blow down the two houses. They draw arrows in each of the squares to show the direction. Students swap their paths with a peer and test the instructions to ensure there are no errors.
Text Resources	• ACS Teacher Resource: Sequence of Steps • Grid paper or 100's chart, pencils and markers. • (Optional) Robotics: Students take their instructions and program the robotics to follow the same path.			

Text	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher instruction	Whole class activity
Hansel and Gretel	Algorithms	**Learning Intention** Students will create algorithms to show how to move from point a to b. **Success Criteria** I can write out algorithms that show the path the children took to get to the witch's house.	Use the part in the text that describes the children going into the woods. Pose the question: What do you think the path would look like? How do you think the children got to the witches' house? Model a path of lollies that leads to the witch's house.	In small groups, students create a path of lollies for Hansel and Gretel to get to the witch's house around the classroom. They can show the direction by placing lollies from point a to point b. Students write instructions and swap the instructions with another group.
Text Resources	• ACS Teacher Resource: Sequence of Steps • Lolly templates			
The Gingerbread Man	Algorithms	**Learning Intention** Students will follow and have a copy of the steps used to make and bake gingerbread men. **Success Criteria** I can write out the steps to take to make a gingerbread man.	Using the recipe, discuss with the students all the steps that need to be taken to make gingerbread men. Focus on discussing the importance of following all the steps.	Students write out the instructions to make a gingerbread man. Optional use of the recipe is to make gingerbread (dependent on your resources).
Text Resources	• Gingerbread recipe			

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Text	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher instruction	Whole class activity
Rapunzel	Digital Solutions	**Learning Intention** Students design a digital solution to meet needs. **Success Criteria** I can create a digital solution to help the prince get to Rapunzel in the tower.	Brainstorm different options that the prince could use to get to Rapunzel (build stairs etc). Sway the conversation to how digital technology could assist the Princess and get the students to think of different electrical equipment (cherry picker).	Students draw (in as much detail as they can) a new solution that will help the Prince reach Rapunzel. They will identify the different type of hardware or software that is needed (e.g. A button to press up, a keyboard to type the words). They write a letter to the Prince explaining how their new invention operates in detail, so the Prince knows how their system will work. This part of the session will include algorithms (instructions).
Text Resources	• ACS Teacher Resource: Systems to Meet Needs • ACS Teacher Resource: Hardware and Software • A3 or large paper and drawing materials			
The Gingerbread Man	Digital Solutions	**Learning Intention** Students design a digital solution to meet needs. **Success Criteria** I can create a digital solution to get the gingerbread man across the river.	Using the last part of the text, discuss the other ways the gingerbread man could cross the river. Bring the conversation to using digital technology to help The Gingerbread Man.	Students brainstorm a collection of ideas that would help the gingerbread man. They use these designs to create a solution to get The Gingerbread Man across the river. They will identify different type of hardware and software that will needed for their invention.
Text Resources	• ACS Teacher Resource: Systems to Meet Needs • ACS Teacher Resource: Hardware and Software • A3 or large paper and drawing materials			

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Text	Session Topic Focus	Learning Intention and Success Criteria	Introduction/Teacher instruction	Whole class activity
Cinderella	Digital Solution	**Learning Intention** Students design a digital solution to meet needs. **Success Criteria** I can create a digital solution to help the prince find Cinderella.	Discuss with the students the process the prince would have taken to find the right person. Have a shoe template ready for the students to 'try on'. Act out with the students finding the right person for the shoe, model writing out the steps the process takes.	Ask the question: Could we create a machine that helps the prince find the owner quicker than everyone trying on the shoe? What invention could you create that helps the prince? Students design a solution to help the prince find the owner of the shoe quickly.
Text Resources	• ACS Teacher Resource: Hardware and Software			
Ongoing activity to be completed with any text	Online Collaboration	**Learning Intention** Students will use an online environment to upload and share their work. **Success Criteria** I can safely and correctly upload my work to an online environment.	How can we share our work? Write a list of ways that students can share their work and introduce student to an online environment where they can share their work.	Throughout the sessions, students upload (by taking photos or video footage of their work) their work into an online environment.
Text Resources	• ACS Teacher Resource: Online Collaboration			

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Assessment – Australian Digital Technologies Curriculum			
Content Description	**Session Text**	**Assessment Piece**	**Assessment Statement**
Recognise and explore digital systems (hardware and software components for a purpose (ACTDIK001)	Rapunzel Cinderella, Gingerbread Man	A drawing of an invention to help one of the characters solve the problem	Students explored how digital systems hardware and software is used to help complete a task.
Recognise and explore patterns in data and represent data as pictures, symbols and diagrams (ACTDIK002)	Ongoing activity Hansel and Gretel, Beauty & The Beast	Data collection and graphs	Students collected data from a fairy tale and represented the data in the form of a graph. Students made statements about the data.
Collect, explore and sort data, and use digital systems to present the data creatively (ACTDIP003)	Ongoing activity Beauty & The Beast Hansel and Gretel	Data collection and graphs	Students used digital systems to creatively show the data they had collected from reading a selection of fairy tales.
Following, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems (ACTDIP004)	The 3 Little Pigs Hansel and Gretel Beauty & The Beast The Gingerbread Man	Sets of instructions (can be in the form of written statements or images)	Students created algorithms (sets of instructions) and represented them through drawings and words. They tested their algorithms to ensure they were correct.
Explore how people safely use common information systems to meet information, communication and recreation needs (ACTDIP005)	Rapunzel Cinderella, Gingerbread Man	Reflections and designs of drawings	Students reflected on and described how inventions would meet the needs of the characters in a selection of fairy tales.
Create and organise ideas and information using information systems independently and with others, and share them with known people in safe online environments (ACTDIP006)	No designated text	Work that has been shared in an online environment	Students safely used an online environment to share their work.

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Assessment – Victorian Digital Technologies Curriculum			
Content Description	**Session Text**	**Assessment Piece**	**Assessment Statement**
Identify and explore digital systems (hardware and software components) for a purpose (VCDTDS013)	Rapunzel Cinderella, Gingerbread Man	A drawing of an invention to help one of the characters solve the problem	Students explored how digital systems hardware and software is used to help complete a task.
Recognise and explore patterns in data and represent data as pictures, symbols and diagrams (VCDTDI014)	Ongoing activity Hansel and Gretel, Beauty & The Beast	Data collection and graphs	Students collected data from a fairy tale and represented the data in the form of a graph. Students made statements about the data.
Collect, explore and sort data, and use digital systems to present the data creatively (VCDTDI015)	Ongoing activity Beauty & The Beast Hansel and Gretel	Data collection and graphs	Students used digital systems to creatively show the data they had collected from reading a selection of fairy tales.
Independently and with others create and organise ideas and information using information systems, and share these with known people in safe online environments (VCDTDI016)	No designated text	Work that has been shared in an online environment	Students safely used an online environment to share their work.
Follow, describe and represent a sequence of steps and decisions (algorithms) needed to solve simple problems (VCDTCD017)	The 3 Little Pigs Hansel and Gretel Beauty & The Beast The Gingerbread Man	Sets of instructions (can be in the form of written statements or images)	Students created algorithms (sets of instructions) and represented them through drawings and words. They tested their algorithms to ensure they were correct.
Explore how people safely use common information systems to meet information, communication and recreation needs (VCDTCD018)	Rapunzel Cinderella, Gingerbread Man	Reflections and designs of drawings	Students reflected on and described how inventions would meet the needs of the characters in a selection of fairy tales.

Assessment – New South Wales Science and Technology Syllabus			
Outcomes and Objectives	**Session Text**	**Assessment Piece**	**Stage Statement**
observes, questions and collects data to communicate and compare ideas (ST1-1WS-S)	Ongoing activity Hansel and Gretel, Beauty & The Beast	Data collection and graphs	Students collected data from a fairy tale and represented the data in the form of a graph. Students made statements about the data.
collect, sort, organise and present data to communicate information (ACTDIP003)	Ongoing activity Hansel and Gretel, Beauty & The Beast	Data collection and graphs	Students collected data from a fairy tale and represented the data in the form of a graph. Students made statements about the data.
Identifies digital systems and explores how instructions are used to control digital devices (ST-e7DI-T)	Rapunzel Cinderella, Gingerbread Man	A drawing of an invention to help one of the characters solve the problem	Students explored how digital systems hardware and software is used to help complete a task.

Assessment - Western Australian Digital Technologies Curriculum			
Pre-Primary Syllabus	**Session Text**	**Assessment Piece**	**Assessment Statement**
Digital systems (hardware and software) are used at home, in the school and in the community (ACTDIK001)	N/A		
Data can have patterns and can be represented as pictures and symbols (ACTDIK002)	Ongoing activity Hansel and Gretel, Beauty & The Beast	Data collection and graphs	Students collected data from a fairy tale and represented the data in the form of a graph. Students made statements about the data.
Collect and use data of any kind (ACTDIP003)	Ongoing activity Beauty & The Beast Hansel and Gretel	Data collection and graphs	Students used digital systems to creatively show the data they had collected from reading a selection of fairy tales.
Use data to complete a task (ACTDIP003)			
Engage with information known people have shared in an online environment, and model strategies to stay safe online (ACTDIP006)	No designated text	Work that has been shared in an online environment	Students safely used an online environment to share their work.
Explore needs for design (WATPPS01)	Rapunzel Cinderella, Gingerbread Man	Drawings of inventions	Students reflected on and described how inventions would meet the needs of the characters in a selection of fairy tales.
Generate and record design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps (WATPPS02)	Rapunzel Cinderella, Gingerbread Man	Drawings of inventions	Students reflected on and described how inventions would meet the needs of the characters in a selection of fairy tales.
Use given components and equipment to safely make simple solutions (WATPPS03)	N/A		
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		

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Assessment - Western Australian Digital Technologies Curriculum			
Year 1 Syllabus	**Session Number**	**Assessment Piece**	**Assessment Statement**
Digital systems (hardware and software) are used in everyday life and have specific features (ACTDIK001)	N/A		
Data can have patterns and can be represented as pictures, symbols and diagrams (ACTDIK002)	Ongoing activity Hansel and Gretel, Beauty & The Beast	Data collection and graphs	Students collected data from a fairy tale and represented the data in the form of a graph. Students made statements about the data.
Present data of any kind using a variety of digital tools (ACTDIP003)	Ongoing activity Beauty & The Beast Hansel and Gretel	Data collection and graphs	Students used digital systems to creatively show the data they had collected from reading a selection of fairy tales.
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)	No designated text	Work that has been shared in an online environment	Students safely used an online environment to share their work.
Explore opportunities for design (WATPPS06)	Rapunzel Cinderella, Gingerbread Man	A drawing of an invention to help one of the characters solve the problem	Students explored how digital systems hardware and software is used to help complete a task.
Develop and communicate design ideas through describing, drawing, modelling and/or a sequence of written or spoken steps (WATPPS07)	The 3 Little Pigs Hansel and Gretel Beauty & The Beast The Gingerbread Man	Sets of instructions (can be in the form of written statements or images)	Students created algorithms (sets of instructions) and represented them through drawings and words. They tested their algorithms to ensure they were correct.
Use given components and equipment to safely make solutions (WATPPS08)	N/A		
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		

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Assessment - Western Australian Digital Technologies Curriculum			
Year 2 Syllabus	**Session Text**	**Assessment Piece**	**Assessment Statement**
Digital systems (hardware and software) are used for an identified purpose (ACTDIK001)	Rapunzel Cinderella, Gingerbread Man	A drawing of an invention to help one of the characters solve the problem	Students explored how digital systems hardware and software is used to help complete a task.
Data can have patterns and can be represented and used to make simple conclusions (ACTDIK002)	Ongoing activity Hansel and Gretel, Beauty & The Beast	Data collection and graphs	Students collected data from a fairy tale and represented the data in the form of a graph. Students made statements about the data.
Present data using a variety of digital tools (ACTDIP003)	Ongoing activity Beauty & The Beast Hansel and Gretel	Data collection and graphs	Students used digital systems to creatively show the data they had collected from reading a selection of fairy tales.
Use data to solve similar tasks/problems (ACTDIP003)	N/A		
Share and publish information in a safe online environment, with known people (ACTDIP006)	No designated text	Work that has been shared in an online environment	Students safely used an online environment to share their work.
Explore design to meet needs or opportunities (WATPPS11)	Rapunzel Cinderella, Gingerbread Man	A drawing of an invention to help one of the characters solve the problem	Students explored how digital systems hardware and software is used to help complete a task.
Develop, communicate and discuss design ideas through describing, drawing, modelling and/or a sequence of steps (WATPPS12)	The 3 Little Pigs Hansel and Gretel Beauty & The Beast The Gingerbread Man	Sets of instructions (can be in the form of written statements or images)	Students created algorithms (sets of instructions) and represented them through drawings and words. They tested their algorithms to ensure they were correct.
Use components and given equipment to safely make solutions (WATPPS13)	N/A		
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		