



EducationPerfect

Digital Technologies - NSW Stage 4 Syllabus

Digital technologies aims to teach students critical, creative thinking skills; skills that can be utilised to help students work collaboratively in a rapidly changing world. Education Perfect digital technologies is an online learning resource with scaffolded smart lessons aligned to the NSW Syllabus. Lessons are designed to encourage a growth mindset, to allow a flipped learning approach and to support teachers in how they teach digital technologies around Australia.

These lessons aim to support students learning digital technologies with highly scaffolded, engaging learning experiences that aim to support and challenge students.

This table connects the content provided by Education Perfect to the NSW Syllabus.

Identifying and Defining	
Education Perfect lessons	Curriculum Point
Due for release April 2019	Evaluate how existing information systems meet needs, are innovative, and take account of future risks and sustainability (ACTDEK029, ACTDIP031).
Due for release April 2019	Define and decompose real-world problems, taking into account functional requirements and a range of constraints, eg economic, environmental, social, technical and usability (ACTDIP027).
Due for release April 2019	Evaluate the suitability of hardware with particular performance characteristics against the needs of different users (ACTDIK023).
Due for release April 2019	Develop criteria to evaluate design ideas, processes and solutions, the functionality, aesthetics and a range of constraints, eg accessibility, cultural, economic, resources, safety, social, sustainability, technical (ACTDEP038, ACTDIP027, ACTDIP031).
Researching and Planning	
Education Perfect lessons	Curriculum Point
Character Sets: Introduction to Digital Text ASCII Unicode Digital Images: Pixels, Bits and Bytes RGB	Investigate how digital systems represent text, image and audio with whole numbers (ACTDIK024).

<p>Bitmaps Vector Graphics</p>	
<p>Binary Numbers in Computers Introduction to Binary Data Storage and Bandwidth</p>	<p>Explain how and why whole numbers are represented in binary in digital systems (ACTDIK024).</p>
<p>History of Communication: Legacy Technologies Modern Technologies</p> <p>Transmitting Data > Wired Networks: Introduction to Cables and Signal Types Types of Cables Fibre Optics and Digital Signals Uses of Fibre Optic Cables</p> <p>Transmitting Data > Wireless Networks: An Introduction to Wireless Networks WiFi</p> <p>Transmitting Data > Mobile Networks: Transceivers Mobile Phones Cellular Network Structure Mobile Network Generations</p> <p>Comparing Data Transmission Methods: Reliability of Data Transmissions Security of Data Transmissions Speed of Data Transmissions</p> <p>Components of Networks: Introduction to Networks Network Packets</p>	<p>Explore how data is transmitted and secured in wired, wireless and mobile networks (ACTDIK023).</p>
<p><i>In production- due for release December 2018</i></p>	<p>Design algorithms that use a range of data types, branching and iteration and represent them diagrammatically and in English (ACTDIP029).</p>
<p>Due for release April 2019</p>	<p>Design the user experience of a digital solution, generating, evaluating and communicating alternative ideas (ACTDEP036, ACTDIP028, ACTDIP032).</p>
<p>Due for release April 2019</p>	<p>Collect and access data from a range of sources (ACTDIP025).</p>
<p>Due for release April 2019</p>	<p>Evaluate the authenticity, accuracy and timeliness of data (ACTDIP025).</p>
<p>Due for release April 2019</p>	<p>Interpret and visualise data using a range of software to create information (ACTDIP026).</p>

Due for release April 2019	Model objects or events using structured data (ACTDIP026).
Producing and Implementing	
Education Perfect lessons	Curriculum Point
Due for release April 2019	Plan and manage projects individually and collaboratively (ACTDEP039).
Due for release April 2019	Implement and modify programs involving branching, iteration and functions in a general-purpose programming language (ACTDIP030).
Due for release April 2019	Implement a functioning user interface (ACTDIP030).
Testing and Evaluating	
Education Perfect lessons	Curriculum Point
Due for release April 2019	Evaluate how student solutions address defined functional requirements and constraints (ACTDIP031).
<i>In production- due for release December 2018</i>	Trace algorithms to predict output for a given input and to identify errors (ACTDIP029).
Comparing Data Transmission Methods: Security of Data Transmissions	Identify social, ethical and cyber security considerations of digital solutions