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|  | **Strand** | **Digital Systems** | | **Data and Information** | | | | | | **Creating Digital Solutions** | | | | | | | | | |
|  | **Content Description** | Examine the main components of common digital systems, and how such digital systems may connect together to form networks to transmit data  [(VCDTDS026)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDS026) | | Examine how whole numbers are used as the basis for representing all types of data in digital systems  [(VCDTDI027)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDI027) | | Acquire, store and validate different types of data and use a range of software to interpret and visualise data to create information  [(VCDTDI028)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDI028) | | Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols  [(VCDTDI029)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDI029) | | Define problems in terms of data and functional requirements, drawing on previously solved problems to identify similarities  [(VCDTCD030)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD030) | | Design a user interface for a digital system, generating and considering alternative design ideas  [(VCDTCD031)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD031) | | Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration  [(VCDTCD032)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD032) | | Develop digital solutions as simple visual programs  [(VCDTCD033)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD033) | | Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs  [(VCDTCD034)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD034) | |
| **Sequence of Lessons / Unit** | **Semester/ Year** | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # |
| **Digital Systems Communicate** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Data: Here to there | Semester 1 / Grade 5 |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Data representation | Semester 1 / Grade 5 |  |  |  | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Our World** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Habitat analysis | Semester 2 / Grade 5 |  |  |  |  |  | 3 |  | 3 |  |  |  |  |  |  |  |  |  |  |
| **Draw-a-Shape** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1. Define a problem | Semester 1 / Grade 6 |  |  |  |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  |
| 1. Create interface and algorithms | Semester 1 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  | 4 |  | 4 |  |  |  |  |
| 1. Create code based on algorithms | Semester 1 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 |  |  |
| 1. Reflection | Semester 1 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 |

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| **Levels 3 and 4 Achievement Standard** | **Levels 5 and 6 Achievement Standard**  Separated by line. Number in brackets, e.g. (3), can be used as an identifier in various parts of the template. | **Levels 7 and 8 Achievement Standard** |
| By the end of Level 4   * Students describe how a range of digital systems and their peripheral devices can be used for different purposes. * Students explain how the same data sets can be represented in different ways. * They collect and manipulate different data when creating information and digital solutions. * They plan and safely use information systems when creating and communicating ideas and information, applying agreed protocols. * Students define simple problems, and design and develop digital solutions using algorithms that involve decision-making and user input. * They explain how their developed solutions and existing information systems meet their purposes. | By the end of Level 6   * Students explain the functions of digital system components and how digital systems are connected to form networks that transmit data. (1) * Students explain how digital systems use whole numbers as a basis for representing a variety of data types. (2) * They manage the creation and communication of ideas, information and digital projects collaboratively using validated data and agreed protocols. (3) * Students define problems in terms of data and functional requirements and design solutions by developing algorithms to address the problems. (4) * They incorporate decision-making, repetition and user interface design into their designs and develop their digital solutions, including a visual program. (5) * Students explain how information systems and their developed solutions meet current and future needs taking sustainability into account. (6) | By the end of Level 8   * Students distinguish between different types of networks and their suitability in meeting defined purposes. * Students explain how text, image and sound data can be represented and secured in digital systems and presented using digital systems. * They analyse and evaluate data from a range of sources to model solutions and create information. * They manage the collaborative creation of interactive ideas, information and projects and use appropriate codes of conduct when communicating online. * Students define and decompose problems in terms of functional requirements and constraints. * They design user experiences and algorithms incorporating branching and iterations, and develop, test, and modify digital solutions. * Students evaluate information systems and their solutions in terms of meeting needs, innovation and sustainability. |

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| **Level 5 Assessments** | | |  | **Level 6 Assessments** | | |
| **Unit (Title)** | **Assessment** | **Achievement Standard/s** |  | **Unit (Title)** | **Assessment** | **Achievement Standard/s** |
| **Digital Systems Communicate**   1. Data: Here to there | Report: Explain how data can be transmitted between two devices. | 1 |  | **Draw-a-Shape**   1. Define a problem | Report: Students define a problem and present findings. | 4 |
| **Digital Systems Communicate**   1. Data representation | Report: After investigating the Binary number system, students write a message using Binary and Unicode. | 2 |  | **Draw-a-Shape**   1. Create interface and algorithms | Folio of user interfaces and algorithms: Drawing selected shape/s. | 4 |
| **Our World**  Habitat analysis | Report: Investigate and present data on a variety of habitats and discuss those suitable for animal survival. | 3 |  | **Draw-a-Shape**   1. Create code based on algorithms | Folio of evidence of students using algorithms to create code to draw shapes. | 5 |
|  |  |  |  | **Draw-a-Shape**   1. Reflection | Report: Reflection/evaluation prompt. *Did your shape/s draw correctly?*  *What were the challenges?* | 6 |

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|  | **Strand** | **Digital Systems** | | **Data and Information** | | | | | | **Creating Digital Solutions** | | | | | | | | | |
|  | **Content Description** | Examine the main components of common digital systems, and how such digital systems may connect together to form networks to transmit data  [(VCDTDS026)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDS026) | | Examine how whole numbers are used as the basis for representing all types of data in digital systems  [(VCDTDI027)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDI027) | | Acquire, store and validate different types of data and use a range of software to interpret and visualise data to create information  [(VCDTDI028)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDI028) | | Plan, create and communicate ideas, information and online collaborative projects, applying agreed ethical, social and technical protocols  [(VCDTDI029)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTDI029) | | Define problems in terms of data and functional requirements, drawing on previously solved problems to identify similarities  [(VCDTCD030)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD030) | | Design a user interface for a digital system, generating and considering alternative design ideas  [(VCDTCD031)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD031) | | Design, modify and follow simple algorithms represented diagrammatically and in English, involving sequences of steps, branching, and iteration  [(VCDTCD032)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD032) | | Develop digital solutions as simple visual programs  [(VCDTCD033)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD033) | | Explain how student-developed solutions and existing information systems meet current and future community and sustainability needs  [(VCDTCD034)](http://victoriancurriculum.vcaa.vic.edu.au/Curriculum/ContentDescription/VCDTCD034) | |
| **Sequence of Lessons / Unit** | **Semester/ Year** | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # | CD | Achievement standard # |
| Computers and networks | Semester 1 / Grade 6 |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Binary numbers | Semester 1 / Grade 6 |  |  |  | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| All about us | Semester 1 / Grade 6 |  |  |  |  |  | 3 |  | 3 |  |  |  |  |  |  |  |  |  |  |
| Programming project   * Analysis and design | Semester 2 / Grade 6 |  |  |  |  |  |  |  |  |  | 4 |  | 5 |  | 5 |  |  |  |  |
| Programming project   * Development | Semester 2 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 |  |  |
| Programming project   * Evaluation | Semester 2 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 |

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| **Levels 3 and 4 Achievement Standard** | **Levels 5 and 6 Achievement Standard**  Separated by line. Number in brackets, e.g. (3), can be used as an identifier in various parts of the template. | **Levels 7 and 8 Achievement Standard** |
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| **Level 5 Assessments** | | |  | **Level 6 Assessments** | | |
| **Unit (Title)** | **Assessment** | **Achievement Standard/s** |  | **Unit (Title)** | **Assessment** | **Achievement Standard/s** |
| Computers and networks | Report: Student created presentation on computer components and networks. | 1 |  | Programming project   * Analysis and design | Folio: Students analyse functional requirements, design user interfaces and algorithms. | 4, 5 |
| Binary numbers | Test: Students complete a test on binary numbers. | 2 |  | Programming project   * Development | Folio of programs: Students submit working programs. | 5 |
| All about us | Project report: Students create an infographic based on findings of surveys completed by other students in the class. | 3 |  | Programming project   * Evaluation | Report: Student evaluation of how they met requirements. | 6 |

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| **Digital Systems Investigation** | Semester 1 / Grade 5 |  | 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Numbers Activity** | Semester 1 / Grade 5 |  |  |  | 2 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Student Survey Project**   1. Collect and interpret data | Semester 2 / Grade 5 |  |  |  |  |  | 3 |  |  |  |  |  |  |  |  |  |  |  |  |
| **Student Survey Project**   1. Communication of findings | Semester 2 / Grade 5 |  |  |  |  |  |  |  | 3 |  |  |  |  |  |  |  |  |  |  |
| **Programming Project**   1. Analysis - Requirements | Semester 2 / Grade 6 |  |  |  |  |  |  |  |  |  | 4 |  |  |  |  |  |  |  |  |
| **Programming Project**   1. Design | Semester 2 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  | 4 |  | 4 |  |  |  |  |
| **Programming Project**   1. Development | Semester 2 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 5 |  |  |
| **Programming Project**   1. Evaluation | Semester 2 / Grade 6 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 6 |

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| **Level 5 Assessments** | | |  | **Level 6 Assessments** | | |
| **Unit (Title)** | **Assessment** | **Achievement Standard/s** |  | **Unit (Title)** | **Assessment** | **Achievement Standard/s** |
| **Digital Systems Investigation** | Mini project involving the investigation of digital systems components and networks | 1 |  | **Programming Project**   1. Analysis | Table   * Listing and discussion of functional requirements | 4 |
| **Numbers Activity** | Test involving questions about the binary number system | 2 |  | **Programming Project**   1. Design | Mock-ups and algorithms | 4 |
| **Student Survey Project**   1. Collect and interpret data | Questionnaire about school community and development of a spreadsheet with validated data and charts on findings | 3 |  | **Programming Project**   1. Development | Software solution and testing | 5 |
| **Student Survey Project**   1. Communication of findings | Communication of findings on school blog or LMS | 3 |  | **Programming Project**   1. Evaluation | Written report   * Evaluation of how the software solution meets functional requirements | 6 |