Hello and welcome to this on–demand video on Curriculum planning for Digital Technologies F–6.

In this video we'll be discussing how to plan for delivering the Digital Technologies Curriculum.

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In this session we will look at the background to the curriculum. Here we will look at the Rationale, Aims, structure including Strands, Key concepts, Scope and sequence, Content descriptions, Elaborations and Achievement standards. Then we will look at planning for delivering the curriculum. This will include documents and templates and integrating with other curriculum areas.

Now we will look at the background to the Digital Technologies Curriculum at F–6.

Starting with the Rationale.

In Digital Technologies we want students to be creative developers and problem solvers. We want students to acquire a deep understanding so they can take an active role in meeting current and future trends. The curriculum has been designed to provide practical opportunities for students and the curriculum encourages students to be discerning decision-makers.

The Aims of the Digital Technologies Curriculum.

We want to ensure that students can design, create, manage and evaluate innovative digital solutions, use computational thinking to create digital solutions, apply systems thinking to monitor, analyse, predict, and shape interactions within and between information systems, confidently use digital systems and apply protocols and legal practises.

The Digital Technologies Curriculum involves three strands. The strands are Digital Systems, Data and Information and Creating Digital Solutions.

Digital Systems focuses on the hardware, software, and network components of digital systems. Data and Information focuses on the properties of data and how it is collected and represented to create information. And Creating Digital Solutions focuses on the skills and processes the students need to create a digital solution for a real world problem.

The key concepts that underpin the Digital Technologies Curriculum are: abstraction, data collection, representation and interpretation, specification, algorithms and development, digital systems and interactions and impacts. These concepts can be explored in digital or non–digital contexts.

Scope and sequence.

The curriculum sets out what students are expected to learn and is designed as a continuum of learning.

The curriculum is presented in a scope and sequence chart to support teachers to easily see the progression and assist in planning teaching and learning programmes to meet the diverse needs of students.

The scope and sequence charts can be accessed via the Digital Technologies Curriculum page on the Victorian Curriculum F–10 website. They can be downloaded as Word and PDF documents.

This is an example of a Scope and sequence chart. Each of the columns represents a band. These include: Foundation to Level 2, Levels 3 and 4, Levels 5 and 6, Levels 7 and 8 and Levels 9 and 10. The table is divided into the three strands: Digital Systems, Data and Information and Creating Digital Solutions. The statements in the top boxes are known as content descriptions. The section of the bottom of the table is the achievement standard.

Content descriptions state the content that should be taught to students. They can be taught individually or they can be taught as part of a wider unit with other content descriptions. Here we are indicating the strands by highlighting the content descriptions with different colours.

Linked to the content descriptions are the elaborations. Elaborations include a list of statements. These can be used as a guide towards teaching content within the content descriptions. They are suggestions or starting points when addressing a particular content descriptions. Teachers can do some, one or none. They are not a checklist to work through. They are guiding ideas or suggestions to get teachers started.

Achievement standards state what the students should be able to demonstrate. They represent the level of achievement for that band. They describe how the content description or content descriptions could be assessed. The achievement standards indicate where the student sits on the continuum of learning.

Now we will look at planning for delivering the Digital Technologies Curriculum at F–6.

When you begin to plan for delivering the Digital Technologies Curriculum, you need to think about the activities you will be teaching students. There are two types of activities, plugged and unplugged. A plugged solution requires a device to demonstrate student understanding. For example, students could demonstrate their understanding of branching in an algorithm by creating a visual block–based programme for a robot that responds if a condition has been met. An unplugged solution could be students recording the steps and decisions of an algorithm by drawing a flowchart. This could be physically drawn on paper or in a workbook.

When planning for teaching Digital Technologies we start with the curriculum rather than starting with digital devices. There are a multitude of strategies for students to demonstrate their understanding when being assessed.

Understanding the intent of the curriculum will enable teachers to meet the needs of their students in their context based on their experiences.

Delivering the Digital Technologies Curriculum can seem like a challenging task when starting for the first time. So where would you start?

The VCAA has produced a range of planning resources to make planning considerably easier. Programme Planning Templates and Curriculum Area Plans can be found on the VCAA website.

The Programme Planning Templates can be used to ensure the curriculum is effectively covered. They enable a link between the curriculum, what is being taught in the content descriptions and what is being assessed in the achievement standards.

Curriculum Area Plans model timelines indicating how the Digital Technologies Curriculum could be delivered in different bands. Each strand is indicated by different colours. There are three sample programmes for each band. They look at examples of delivering the curriculum in a semester, over a year, or over the band. In this example, in Year 1, Semester 1, students will be working on the Finding patterns unit in the Data and Information strand from Weeks 5 to 8.

Digital Technologies can be integrated with other curriculum areas. The Digital Technologies Curriculum provides context within which Mathematics understanding, fluency, logical reasoning, analytical thought and problem–solving skills can be applied and developed.

In particular, computational thinking draws on mathematical understanding and skills and understanding of data and data analysis skills will enhance students' abilities to analyse patterns and trends and logical reasoning will support the design of algorithms.

Teacher collaboration within a school is also important. Teachers need to develop their teaching and learning programmes based on the Digital Technologies Curriculum. They can complete the planning over a band and they design their assessment during the planning stage.

In wrapping up this video it is worthwhile to review what we have covered. We have looked at the background to the curriculum. We have covered the Rationale, Aims, the structure and Strands of the curriculum, Key concepts, Scope and sequence, Content descriptions, Elaborations and Achievement standards. We have also explored resources to help plan for the delivery of the curriculum. We have covered a range of documents and templates and integrating with other curriculum areas.

Thank you for watching this video today. If you have any questions regarding the Digital Technologies Curriculum, you can contact the Curriculum Manager for Digital Technologies, Phil Feain, at the email address and phone number shown.

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