UNIT TITLE:

CURRICULUM LINKS

<table>
<thead>
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<th>Curriculum Area/s: Digital Technologies</th>
<th>Band/Year Level: Grade 3/4</th>
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Aspects of the Achievement Standard:
- Describe how a range of digital systems (hardware and software) and their peripheral devices can be used for different purposes.
- Students define simple problems, design and implement digital solutions using algorithms that involve decision-making and user input.

Content Descriptors:
- ACTDIK007
- ACTDIP010

General Capabilities:
- Literacy
- Numeracy
- Critical and creative thinking
- ICT
- Personal and social capability (group-work)

LEARNING GOALS

Learners will:
- Be introduced to terminology specific to Digital Technologies
- Understand how Digital systems and computational thinking connects to their everyday lives
- Use logic and reasoning when problem solving

LEARNING SEQUENCE

Key learning experiences:

1) *What is the internet and how does it work? Where does the information come from?*

Initially gather students together to determine their prior knowledge.

*Key Words:*
Internet, World Wide Web, Information, Connectivity

*Resources/websites*
https://www.youtube.com/watch?v=H9R4tznCNB0

*Reflection*
This lesson showed us that many students had a limited understanding of the internet and how data is moved around the world. Following the video, students were able to make links and more questions were raised.

2) **Networks**

Ask students where networks occur.

**Key Words:**
Networks,

**Resources/websites**
https://classic.csunplugged.org/minimal-spanning-trees/

**Assessment**
Can students successfully refine their strategies regarding solving 'The Muddy City' problem?

3) **What problems do computer networks face when passing information through digital systems?**

**Activity** — O range game

**Key Words:**
Routing, dead-lock

**Resources/websites**
https://classic.csunplugged.org/routing-and-deadlock/

**Reflection**
Following the orange game lesson, students experienced dead-lock first hand and were able to make links to everyday situations (e.g. traffic jams). Did they solve the orange game using logic?

4) **What is a computer?**

Computer hunt within classroom and on the 'Spy: Computer worksheet'.
Visit from IT specialist detailing parts of a computer

**Key Words:**
Input, processing, output, hardware, software

**Resources/websites**

https://www.youtube.com/watch?v=zoR3wyVzbY  (parts of an iPhone clip)
http://www.bbc.co.uk/guides/zc4x6sq (iSpy computer)

5) **Giving instructions to computers**

Activity #1 – Jam sandwich
Activity #2 – Marching orders

**Key Words:**
Algorithm, Decomposition, Abstraction

**Resources/websites**
https://classic.csunplugged.org/programming-languages/ (Marching orders)

6) **Coding and programming language**

How do we simplify instructions so that computers can understand?

**Key Words:**
Coding

**Resources/websites**

**SUMMARY**

This sequence of lessons is taught using a whole – part approach. Initial explorations were broad (e.g. internet and networks), narrowed down to more specific concepts (e.g. parts of a computer and computational thinking).

Differentiation suggestions are made throughout the resource links.

Digital technologies terminology is added to the **word wall** as it is introduced.
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<tr>
<th>RESOURCES</th>
<th>WHY IS THIS RELEVANT?</th>
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<td><a href="https://www.youtube.com/watch?v=H9R4tznCNB0">https://www.youtube.com/watch?v=H9R4tznCNB0</a></td>
<td>To introduce the languages of digital technologies</td>
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<tr>
<td><a href="https://classic.csunplugged.org/minimal-spanning-trees/">https://classic.csunplugged.org/minimal-spanning-trees/</a></td>
<td>To make connections with the students’ existing knowledge and understanding of their digital world</td>
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