## SOLO taxonomy: Binary numbers (5-6)

We are representing ‘text’ in binary numbers

<table>
<thead>
<tr>
<th>SOLO LEVEL</th>
<th>One</th>
<th>Many</th>
<th>Relate</th>
<th>Extend</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOLO VERB</td>
<td>Identify isolated skills</td>
<td>Describe and combine serial skills</td>
<td>Integrate skills</td>
<td>Evaluate skills</td>
</tr>
</tbody>
</table>

### DECLARATIVE KNOWLEDGE

Knowing about (talking or writing about) binary numbers

Representing ‘text’ in binary numbers

Success criteria

I can **IDENTIFY**

- the use of 0 and 1 in binary digits
- For example:
  - binary digits up to 8 bits
  - using binary cards to make a binary digit to show ON/OFF state

I can **DESCRIBE**

- the use of representing binary numbers and counting in binary when converting binary digits to decimal numbers
- the use of binary digits and a table of characters when encoding messages.
- For example:
  - using a table with headings 1, 2, 4, 8, 16, etc to write binary numbers and their decimal equivalent
  - writing dates and other everyday numbered information in binary
  - referring to a binary character table to encode a message

... AND I can **EXPLAIN** how binary digits are used to represent text and how to convert between binary digits and decimal numbers

I can **ANALYSE** information for relevance and give reasons for inclusion in an infographic to explain how binary is used by computers

AND I can **EVALUATE** the effectiveness of my infographic based on:

- meeting its intended purpose
### FUNCTIONING

**KNOWLEDGE**

Knowing how to ...

- Representing ‘text’ in binary numbers

**Success criteria**

- I can write a binary digit up to 8 bits
- I can independently convert binary digits to decimal numbers
- BUT I sometimes need support to convert the larger binary digits to the correct decimal number
- I can encode a word such as my name using a binary character table
- I can use a spreadsheet made by someone else to convert a binary number to a decimal number
- I can independently and confidently convert binary digits to decimal numbers
- I can independently encode messages using binary following a binary character table
- I can create my own spreadsheet to convert a binary number based on a sample file
- I can create an infographic that explains how computers use binary
- I can independently create an infographic
- AND I can seek and act on feedback to improve the infographic

<table>
<thead>
<tr>
<th>Digital technologies</th>
<th>Functional thinking</th>
<th>Computational thinking</th>
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</table>

As learning progresses, it becomes more complex. SOLO stands for the Structure of the Observed Learning Outcome. It is a means of classifying learning outcomes in terms of their complexity. It can help differentiate a task to enable students to operate at their level and provide learning tasks that are progressively more challenging.

**For more about SOLO Taxonomy refer to these websites**

- [John Biggs Solo Taxonomy](#)
- [HookED: Solo Taxonomy](#)