## Example

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| **Year:** 5-6 | **Title:** BBC Microbits |
| **Summary**The task is for students to create a digital solution that incorporates the use of the BBC micro:bit. The task is open-ended and relies on the student selecting a project that is within their skills and capabilities in relation to programming the BBC micro:bit.Prior to implementing their programming, students develop a design that shows an algorithm of the program. This assessment resource is a Think-Aloud, in which the teacher interviews the student about their design (including documents) and their implementation of a program.<https://www.digitaltechnologieshub.edu.au/teachers/assessment/assessment-ideas/bbc-micro-bit-project>  |
| **Achievement Standard**Students **define** problems in terms of data and functional requirements and **design** solutions by developing algorithms to address the problems. They **incorporate** decision-making, repetition and user interface design into their designs and **implement** their digital solutions, including a visual program. |
| **Bloom’s Taxonomy Reference*** **Applying**: Students can carry out or use a procedure in a given situation (Anderson & Krathwwohl, 2001).
	+ Define
	+ Design
	+ Incorporate
* **Create**: Students can put elements together to form a coherent or functional whole; recognise elements into a new pattern or structure (Anderson & Krathwwohl, 2001).
	+ Implement
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| **Interview questions & prompts*** *What were the requirements for your project?*
* *What knowledge and resources did you have available to you?*
* *What problem were you trying to solve?*
	+ *Why is this important to you? What research or thinking did you need to do to help you understand what to create?*
* *Can you show me the model/sketch you created for your solution? Can you talk me through your sketch/algorithm design? How did you use this to create your program? Did you include user interaction in your design plan? How?*
* *Can you show me your solution?*
* *What code did you need to use for your solution?*
	+ *Can you show me how you made the code for your project to do [....]...*
	+ *(Prompting for ‘decisions/branching’, ‘repetition/loops’): Were there ways you made your code more efficient? How does your program know when to do … when …. happens?*
	+ *(Prompting for ‘user input’) How does the user interact? Where does your program take the user input? What happens when… ?*
* *Did you encounter any challenges in creating your program? What were they? How did you resolve them?*
* *Can you recommend another way to solve the same problem?*
* *If you had more time, how would you extend or improve your solution?*
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| **Demonstrated knowledge/skills** | **Yes, no, progressing** | **Comments** |
| **Design Documents (Applying)*** The student can **design** solutions by developing algorithms to address the problems.
* The student **incorporates:**
	+ 1) decision-making
	+ 2) repetition
	+ 3) user interface design
* The student can **define** problems in terms of:
	+ 1) data
	+ 2) functional requirements
 |  |  |
| **Digital solution (Create)*** The student can **implement** their digital solutions, including a visual program.
* 1) decision-making
* 2) repetition
* 3) user input/interaction

The program works. |  |  |