Design

Criterion A: Inquiring and analyzing

Maximum: 8

At the end of year 5, students should be able to:

1. explain and justify the need for a solution to a problem for a specified client/target audience
2. identify and prioritize primary and secondary research needed to develop a solution to the problem
3. analyze a range of existing products that inspire a solution to the problem
4. develop a detailed design brief, which summarizes the analysis of relevant research.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **states** the need for a solution to the problem for a specified client/target audience 2. **develops** a basic design brief, which **states** the **findings** of relevant research. |
| 3-4 | The student:   1. **outlines** the need for a solution to a problem for a specified client/target audience 2. **outlines** a research plan, which **identifies** primary and secondary research needed to **develop** a solution to the problem, **with some guidance** 3. **analyzes one** existing product that inspires a solution to the problem 4. **develops** a design brief, which **outlines** the analysis of relevant research. |
| 5-6 | The student:   1. **explains** the need for a solution to a problem for a specified client/target audience 2. **constructs** a research plan, which **identifies** and **prioritizes** primary and secondary research needed to **develop** a solution to the problem, **with some guidance** 3. **analyzes a range of** existing products that inspires a solution to the problem 4. **develops** a design brief, which **explains** the analysis of relevant research. |
| 7-8 | The student:   1. **explains** and **justifies** the need for a solution to a problem for a specified client/target audience 2. **constructs** a **detailed** research plan, which **identifies** and **prioritizes** primary and secondary research needed to **develop** a solution to the problem independently 3. **analyzes a range of** existing products that inspires a solution to the problem 4. **develops** a **detailed** design brief, which **summarizes** the analysis of relevant research. |

Criterion B: Developing Ideas

Maximum: 8

At the end of year 5, students should be able to:

1. develop design specifications which clearly states the success criteria for the design of a solution
2. develop a range of feasible design ideas, which can be correctly interpreted by others
3. present the chosen design and justify its selection
4. develop accurate and detailed planning drawings/diagrams and outline the requirements for the creation of the chosen solution.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **lists some basic** design specifications for the design of a solution 2. **presents one** design, which can be interpreted by others 3. **creates** incomplete planning drawings/diagrams. |
| 3-4 | The student:   1. **list some** design specifications, which relate to the success criteria for the design of a solution 2. **presents a few** feasible design ideas, using an appropriate medium(s) **or** annotation , which can be interpreted by others 3. **justifies** the selection of the chosen design with reference to the design specification 4. **creates** planning drawings/diagrams or **lists** requirements for the creation of the chosen solution. |
| 5-6 | The student:   1. **develops** design specifications, which **outline** the success criteria for the design of a solution 2. **develops a range of** feasible design ideas, using an appropriate medium(s) **and** annotation, which can be interpreted by others 3. **presents** the chosen design and **justifies** its selection with reference to the design specification 4. **develops** accurate planning drawings/diagrams and **lists** requirements for the creation of the chosen solution. |
| 7-8 | The student:   1. **develops detailed** design specifications, which **explain** the success criteria for the design of a solution based on the analysis of the research 2. **develops a range of** feasible design ideas, using an appropriate medium(s) **and detailed annotation,**  which can be correctly interpreted by others 3. **presents** the chosen design and **justifies fully and critically** its selection with **detailed** reference to the design specification 4. **develops** **accurate** and detailed planning drawings/diagrams and **outlines** requirements for the creation of the chosen solution. |

Criterion C: Creating the solution

Maximum: 8

At the end of year 5, students should be able to:

1. construct a logical plan, which outlines the efficient use of time and resources, sufficient for peers to be able to follow to create the solution
2. demonstrate excellent technical skills when making the solution
3. follow the plan to create the solution, which functions as intended
4. fully justify changes made to the chosen design and plan when making the solution

a. present the solution as a whole.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **demonstrates minimal** technical skills when making the solution 2. **creates** the solution, which functions **poorly** and is presented **in an incomplete form.** |
| 3-4 | The student:   1. **constructs** **a plan** that contains some production details, resulting in peers having difficulty following the plan 2. **demonstrates satisfactory** technical skills when making the solution 3. **creates** the solution, which **partially** functions and is **adequately** presented 4. **outlines** changes made to the chosen design and plan when making the solution. |
| 5-6 | The student:   1. **constructs a logical plan**, which considers time and resources, sufficient for peers to be able to follow to create the solution 2. **demonstrates competent** technical skills when making the solution 3. **creates** the solution, which functions **as intended** and is presented **appropriately** 4. **describes** changes made to the chosen design and plan when making the solution. |
| 7-8 | The student:   1. **constructs** **a detailed and** **logical** plan, which **describes** the efficient use of time and resources, sufficient for peers to be able to follow to create the solution 2. **demonstrates excellent** technical skills when making the solution 3. follows the plan to **create** the solution, which functions **as intended** and is presented **appropriately** 4. **fully justifies** changes made to the chosen design and plan when making the solution. |

Criterion D: Evaluating

Maximum: 8

At the end of year 5, students should be able to:

1. describe detailed and relevant testing methods, which generate data, to measure the success of the solution
2. critically evaluate the success of the solution against the design specification
3. explain how the solution could be improved
4. explain the impact of the solution on the client/target audience.

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| **Achievement Level** | **Level Descriptor** |
| 0 | The student **does not** reach a standard described by any of the descriptors below |
| 1-2 | The student:   1. **describes** **a** testing **method**, which is used to measure the success of the solution 2. **states** the success of the solution. |
| 3-4 | The student:   1. **designs a relevant** testing **method**, which generates data, to measure the success of the solution 2. **outlines** the success of the solution against the design specification based on **relevant** product testing 3. **outlines** how the solution could be improved 4. **outlines** the impact of the solution on the client/target audience. |
| 5-6 | The student:   1. **designs** **relevant** testing **methods**, which generate data, to measure the success of the solution 2. **explains** the success of the solution against the design specification based on **relevant** product testing 3. **describes** how the solution could be improved 4. **explains** the impact of the solution on the client/target audience, **with guidance**. |
| 7-8 | The student:   1. **designs** **detailed and** **relevant** testing **methods**, which generate data, to measure the success of the solution 2. critically **evaluates** the success of the solution against the design specification based on **authentic** product testing 3. **explains** how the solution could be improved 4. **explains** the impact of the solution on the client/target audience. |