

Design assessment criteria: Year 3

Criterion A: Inquiring and analysing

Maximum: 8

At the end of year 3, students should be able to:

- i. explain and justify the need for a solution to a problem
- ii. construct a research plan, which states and prioritizes the primary and secondary research needed to develop a solution to the problem
- iii. analyse a group of similar products that inspire a solution to the problem
- iv. develop a design brief, which presents the analysis of relevant research.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	The student: <ol style="list-style-type: none"> i. states the need for a solution to a problem ii. states some of the main findings of relevant research.
3–4	The student: <ol style="list-style-type: none"> i. outlines the need for a solution to a problem ii. states the research needed to develop a solution to the problem, with some guidance iii. outlines one existing product that inspires a solution to the problem iv. develops a basic design brief, which outlines some of the findings of relevant research.
5–6	The student: <ol style="list-style-type: none"> i. explains the need for a solution to a problem ii. constructs a research plan, which states and prioritizes the primary and secondary research needed to develop a solution to the problem, with some guidance iii. describes a group of similar products that inspire a solution to the problem iv. develops a design brief, which outlines the findings of relevant research.
7–8	The student: <ol style="list-style-type: none"> i. explains and justifies the need for a solution to a problem ii. constructs a research plan, which states and prioritizes the primary and secondary research needed to develop a solution to the problem independently iii. analyses a group of similar products that inspire a solution to the problem iv. develops a design brief, which presents the analysis of relevant research.

Criterion B: Developing ideas

Maximum: 8

At the end of year 3, students should be able to:

- i. develop a design specification which outlines the success criteria for the design of a solution based on the data collected
- ii. present a range of feasible design ideas, which can be correctly interpreted by others
- iii. present the chosen design and outline the reasons for its selection
- iv. develop accurate planning drawings/diagrams and outline requirements for the creation of the chosen solution.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	The student: <ol style="list-style-type: none"> i. lists a few basic success criteria for the design of a solution ii. presents one design idea, which can be interpreted by others iii. creates incomplete planning drawings/diagrams.
3–4	The student: <ol style="list-style-type: none"> i. constructs a list of the success criteria for the design of a solution ii. presents a few feasible design ideas, using an appropriate medium(s) or explains key features, which can be interpreted by others iii. outlines the main reasons for choosing the design with reference to the design specification iv. creates planning drawings/diagrams or lists requirements for the chosen solution.
5–6	The student: <ol style="list-style-type: none"> i. develops design specifications, which identify the success criteria for the design of a solution ii. presents a range of feasible design ideas, using an appropriate medium(s) and explains key features, which can be interpreted by others iii. presents the chosen design and outlines the main reasons for its selection with reference to the design specification iv. develops accurate planning drawings/diagrams and lists requirements for the creation of the chosen solution.
7–8	The student: <ol style="list-style-type: none"> i. develops a design specification which outlines the success criteria for the design of a solution based on the data collected ii. presents a range of feasible design ideas, using an appropriate medium(s) and annotation, which can be correctly interpreted by others iii. presents the chosen design and outlines the reasons for its selection with reference to the design specification iv. develops accurate 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 3, students should be able to:

- i. 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
- ii. demonstrate excellent technical skills when making the solution
- iii. follow the plan to create the solution, which functions as intended
- iv. explain changes made to the chosen design and the plan when making the solution.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	<p>The student:</p> <ol style="list-style-type: none"> i. demonstrates minimal technical skills when making the solution ii. creates the solution, which functions poorly and is presented in an incomplete form.
3–4	<p>The student:</p> <ol style="list-style-type: none"> i. outlines each step in a plan that contains some details, resulting in peers having difficulty following the plan to create the solution ii. demonstrates satisfactory technical skills when making the solution iii. creates the solution, which partially functions and is adequately presented iv. outlines changes made to the chosen design or plan when making the solution.
5–6	<p>The student:</p> <ol style="list-style-type: none"> i. constructs a plan, which considers time and resources, sufficient for peers to be able to follow to create the solution ii. demonstrates competent technical skills when making the solution iii. creates the solution, which functions as intended and is presented appropriately iv. outlines changes made to the chosen design and plan when making the solution.
7–8	<p>The student:</p> <ol style="list-style-type: none"> i. constructs a logical plan, which outlines the efficient use of time and resources, sufficient for peers to be able to follow to create the solution ii. demonstrates excellent technical skills when making the solution iii. follows the plan to create the solution, which functions as intended and is presented appropriately iv. explains changes made to the chosen design and plan when making the solution.

Criterion D: Evaluating

Maximum: 8

At the end of year 3, students should be able to:

- i. describe detailed and relevant testing methods, which generate accurate data, to measure the success of the solution
- ii. explain the success of the solution against the design specification
- iii. describe how the solution could be improved
- iv. describe the impact of the solution on the client/target audience.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	The student: <ol style="list-style-type: none"> i. describes a testing method, which is used to measure the success of the solution ii. states the success of the solution.
3–4	The student: <ol style="list-style-type: none"> i. describes a relevant testing method, which generates data, to measure the success of the solution ii. outlines the success of the solution against the design specification based on relevant product testing iii. lists the ways in which the solution could be improved iv. outlines the impact of the solution on the client/target audience.
5–6	The student: <ol style="list-style-type: none"> i. describes relevant testing methods, which generate data, to measure the success of the solution ii. describes the success of the solution against the design specification based on relevant product testing iii. outlines how the solution could be improved iv. describes the impact of the solution on the client/target audience, with guidance.
7–8	The student: <ol style="list-style-type: none"> i. describes detailed and relevant testing methods, which generate accurate data, to measure the success of the solution ii. explains the success of the solution against the design specification based on authentic product testing iii. describes how the solution could be improved iv. describes the impact of the solution on the client/target audience.

Design assessment criteria: Year 5

Criterion A: Inquiring and analysing

Maximum: 8

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

- i. explain and justify the need for a solution to a problem for a specified client/target audience
- ii. identify and prioritize primary and secondary research needed to develop a solution to the problem
- iii. analyse a range of existing products that inspire a solution to the problem
- iv. develop a detailed design brief, which summarizes the analysis of relevant research.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	<p>The student:</p> <ol style="list-style-type: none"> i. states the need for a solution to a problem for a specified client/target audience ii. develops a basic design brief, which states the findings of relevant research.
3–4	<p>The student:</p> <ol style="list-style-type: none"> i. outlines the need for a solution to a problem for a specified client/target audience ii. outlines a research plan, which identifies primary and secondary research needed to develop a solution to the problem, with some guidance iii. analyses one existing product that inspires a solution to the problem iv. develops a design brief, which outlines the analysis of relevant research.
5–6	<p>The student:</p> <ol style="list-style-type: none"> i. explains the need for a solution to a problem for a specified client/target audience ii. constructs a research plan, which identifies and prioritizes primary and secondary research needed to develop a solution to the problem, with some guidance iii. analyses a range of existing products that inspire a solution to the problem iv. develops a design brief, which explains the analysis of relevant research.

Achievement level	Level descriptor
7–8	<p>The student:</p> <ul style="list-style-type: none">i. explains and justifies the need for a solution to a problem for a client/target audienceii. constructs a detailed research plan, which identifies and prioritizes the primary and secondary research needed to develop a solution to the problem independentlyiii. analyses a range of existing products that inspire a solution to the problem in detailiv. 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:

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

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	<p>The student:</p> <ol style="list-style-type: none"> i. lists some basic design specifications for the design of a solution ii. presents one design, which can be interpreted by others iii. creates incomplete planning drawings/diagrams.
3–4	<p>The student:</p> <ol style="list-style-type: none"> i. lists some design specifications, which relate to the success criteria for the design of a solution ii. presents a few feasible designs, using an appropriate medium(s) or annotation, which can be interpreted by others iii. justifies the selection of the chosen design with reference to the design specification iv. creates planning drawings/diagrams or lists requirements for the creation of the chosen solution.
5–6	<p>The student:</p> <ol style="list-style-type: none"> i. develops design specifications, which outline the success criteria for the design of a solution ii. develops a range of feasible design ideas, using an appropriate medium(s) and annotation, which can be interpreted by others iii. presents the chosen design and justifies its selection with reference to the design specification iv. develops accurate planning drawings/diagrams and lists requirements for the creation of the chosen solution.

Achievement level	Level descriptor
7–8	<p>The student:</p> <ul style="list-style-type: none">i. develops detailed design specifications, which explain the success criteria for the design of a solution based on the analysis of the researchii. develops a range of feasible design ideas, using an appropriate medium(s) and detailed annotation, which can be correctly interpreted by othersiii. presents the chosen design and justifies fully and critically its selection with detailed reference to the design specificationiv. 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:

- i. construct a logical plan, which describes the efficient use of time and resources, sufficient for peers to be able to follow to create the solution
- ii. demonstrate excellent technical skills when making the solution
- iii. follow the plan to create the solution, which functions as intended
- iv. fully justify changes made to the chosen design and plan when making the solution.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	<p>The student:</p> <ol style="list-style-type: none"> i. demonstrates minimal technical skills when making the solution ii. creates the solution, which functions poorly and is presented in an incomplete form.
3–4	<p>The student:</p> <ol style="list-style-type: none"> i. constructs a plan that contains some production details, resulting in peers having difficulty following the plan ii. demonstrates satisfactory technical skills when making the solution iii. creates the solution, which partially functions and is adequately presented iv. outlines changes made to the chosen design and plan when making the solution.
5–6	<p>The student:</p> <ol style="list-style-type: none"> i. constructs a logical plan, which considers time and resources, sufficient for peers to be able to follow to create the solution ii. demonstrates competent technical skills when making the solution iii. creates the solution, which functions as intended and is presented appropriately iv. describes changes made to the chosen design and plan when making the solution.
7–8	<p>The student:</p> <ol style="list-style-type: none"> i. 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 ii. demonstrates excellent technical skills when making the solution. iii. follows the plan to create the solution, which functions as intended and is presented appropriately iv. 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:

- i. design detailed and relevant testing methods, which generate data, to measure the success of the solution
- ii. critically evaluate the success of the solution against the design specification
- iii. explain how the solution could be improved
- iv. explain the impact of the solution on the client/target audience.

Achievement level	Level descriptor
0	The student does not reach a standard described by any of the descriptors below.
1–2	<p>The student:</p> <ol style="list-style-type: none"> i. designs a testing method, which is used to measure the success of the solution ii. states the success of the solution.
3–4	<p>The student:</p> <ol style="list-style-type: none"> i. designs a relevant testing method, which generates data, to measure the success of the solution ii. outlines the success of the solution against the design specification based on relevant product testing iii. outlines how the solution could be improved iv. outlines the impact of the solution on the client/target audience.
5–6	<p>The student:</p> <ol style="list-style-type: none"> i. designs relevant testing methods, which generate data, to measure the success of the solution ii. explains the success of the solution against the design specification based on relevant product testing iii. describes how the solution could be improved iv. explains the impact of the solution on the client/target audience, with guidance.
7–8	<p>The student:</p> <ol style="list-style-type: none"> i. designs detailed and relevant testing methods, which generate data, to measure the success of the solution ii. critically evaluates the success of the solution against the design specification based on authentic product testing iii. explains how the solution could be improved iv. explains the impact of the product on the client/target audience.

Notes for criterion A

- When developing the design brief, students should concisely summarize only the useful and relevant information they have found through their research. They will present this information in their own words. Students should not copy and paste information from sources without analysis or indicating relevance.

Notes for criterion B

- In MYP design, a feasible idea is one that the student can create within the allocated time with the tools and facilities available to them.
- Examples of “planning drawings/diagrams” for digital design solutions include website navigation maps, interface layout—esthetic considerations (websites), detailed sketches (graphic design), detailed storyboards (video editing and animations), and so on.
- Examples of “planning drawings/diagrams” for product design solutions include scale drawing with measurements (orthographic), part and assembly drawings, exploded drawings, recipes, cutting plans, and so on.

Notes for criterion C

- When changes have been made to the solution, students must describe and justify each change. If there are no changes to the plan, students are not required to describe or justify any changes.
- **Technical skills:** A student’s level of technical skill can be determined using the following two factors:
 - the complexity of skill demonstrated
 - the level of guidance needed from the teacher to complete the task.

The teacher should determine an age-appropriate level of technical skill demonstrated by the student using a “best-fit” approach. A clarification is detailed below.

Minimal technical skills: Simple skills are demonstrated and the student requires a great deal of assistance after they have received initial instruction on how to use tools.

Satisfactory technical skills: Simple and complex skills are demonstrated and the student requires some assistance after they have received initial instruction on how to use complex tools.

Competent technical skills: Complex skills are demonstrated and the student generally works independently, requiring some guidance after initial instruction.

Excellent technical skills: A wide range of complex skills are demonstrated and the student works independently, requiring minimal guidance after initial instruction.

Notes for criterion D

- **Product testing:** This is a stage in the design process where versions of products (for example, prototypes) are tested against the design need (specification), applied to the context and presented to the end-user or target audience. These tests may include the collection and analysis of data. Types of testing include **user trial and observation:** (usability and intuitiveness), **field/performance test:** (functionality and performance), **expert appraisal:** (beta testing, consumer testing)
- **Authentic tests:** The tests are relevant to the project and are completed by appropriate testers to gain high-quality quantitative and qualitative feedback.