

SHFGS Assessment Criteria: Year 7 Product design

Year 7 Grade	Below SHFGS standard	Working towards SHFGS standard	Expected SHFGS standard	Above SHFGS standard	Outstanding standard.
Explore <i>Brief, Research, Specification</i>	<ul style="list-style-type: none"> Gathers limited information on customer needs, aesthetics, construction and function through directed investigation of existing products. Is able to communicate information. Requires assistance to consider exploratory work in order to specify a few needs and requirements. 	<ul style="list-style-type: none"> Is able to gather some suitable information on primary user needs, aesthetics, construction and function, through directed investigation of existing products. Is able to communicate information. Requires assistance to consider exploratory work in order to specify a few needs, requirements, opportunities and constraints. 	<ul style="list-style-type: none"> Is able to gather suitable information on primary user needs, aesthetics, construction and function through investigation of existing products. Can record primary and secondary sources obtained. Utilises exploratory work to specify some needs, requirements, opportunities and constraints 	<ul style="list-style-type: none"> Gathers some valuable information on both primary user and stakeholder requirements, through investigation of existing products. Can appropriately record primary and secondary sources obtained. Competently specifies needs, requirements, and opportunities. 	<ul style="list-style-type: none"> Gathers valuable information on both primary user and stakeholder requirements, through thorough investigation of existing products. Confident in investigating, obtaining, generating, and managing relevant research. Develops detailed needs, requirements, opportunities and constraints that positively guide and influence their design iterations.
Create <i>Respond & Resolve.</i>	<ul style="list-style-type: none"> Informal graphical and modelling skills are limited and rarely clear enough to appropriately communicate initial thinking. Develops simple ideas and designs using one/few of the following; sketching, technical and CAD drawing and physical modelling, including CAM, to explore basic responses. Ideas are fixated. Requires instruction and support to be able to demonstrate a level of thinking and problem solving. Mostly copied ideas form existing designs. Formal presentation of the final design solution(s) is just adequate but provides little understanding to a third party. 	<ul style="list-style-type: none"> Informal graphical and modelling skills are adequate but not always clear enough to appropriately communicate initial thinking. Develops simple, sparsely annotated ideas and designs, trying a range of 2D & 3D sketching, technical/ CAD drawing and modelling as well as using physical modelling, to explore basic solutions. Iterative developments are somewhat progressive, but can be fixated. With instructions and support, is able to demonstrate a level of thinking and problem solving. Little/no evidence of innovation. Formal presentation of the final design solution(s) is just adequate but provides little understanding to a third party. 	<ul style="list-style-type: none"> Informal graphical and modelling skills are good in communicating initial thinking. Develops adequately annotated ideas and designs experimenting with a range of 2D & 3D sketching, technical/ CAD drawing and physical modelling, to explore and reasonably advance solutions. Iterative developments are generally progressive. With some instructions and support, is able to demonstrate a level of thinking and problem solving. A little evidence of innovation. Formal presentation of the final design solution(s) is adequate and provides some understanding to a third party. 	<ul style="list-style-type: none"> Informal graphical and modelling skills are very good in appropriately communicating initial thinking. Able to combine ideas to develop a number of different, annotated designs via a range of 2D & 3D sketching, technical/ CAD drawing and physical modelling to explore and successfully advance solutions. Iterative developments are generally progressive. Shows sound thinking and problem solving techniques. Some evidence of innovation. Formal presentation of the final design solution(s) is sufficient and provides some understanding to a third party. 	<ul style="list-style-type: none"> Informal graphical and modelling skills are very good and are consistent in appropriately communicating initial thinking. Uses a variety of approaches, including CAD and some CAM to develop creative ideas and mostly avoids design fixation. Iterative developments are progressive. Demonstrates good thinking and problem solving techniques. Clear evidence of innovation. Formal presentation of the final design solution(s) is good and provides appropriate understanding to a third party.
Final Prototype	<ul style="list-style-type: none"> With the support of provided resources, practises communicating technical detail. With close monitoring and support, selects and uses equipment and tools to manufacture and apply finishes. Inaccurate and/or simple standards demonstrated. Finishing tends to be messy and/or the outcome would not present well to a stakeholder. Work may be incomplete. Final prototype(s) fulfils a stakeholder requirement. 	<ul style="list-style-type: none"> With support, endeavours to communicate limited technical detail, lists work covering some steps. With significant guidance selects and uses equipment, tools and processes to manufacture and apply finishes. Basic standards demonstrated. Finishing may not always be appropriate and/or the outcome would not present well to a stakeholder. Work may be incomplete. Final prototype(s) reflects some stakeholder requirements and intended market potential. 	<ul style="list-style-type: none"> With support, is able to communicate adequate technical detail and can sequence work covering most steps. Recognises material properties. With moderate guidance selects and uses equipment, tools and processes to manufacture and apply finishes. Pleasing standards demonstrated. Finishing may be appropriate and/or the outcome would not present well to a stakeholder. Final prototype(s) adequately reflects stakeholder requirements and reasonable market potential. 	<ul style="list-style-type: none"> With minimal support, is able to communicate technical detail, sequences and schedules. Utilises material properties. Shows sufficient skills when using and selecting manufacturing and finishing techniques, including digital design and manufacture, but lacks consistency. Sufficient standard demonstrated through a generally accurate outcome. Finishing is appropriate but the outcome could be better presented to stakeholders. Final prototype(s) adequately reflects stakeholder requirements and market potential. 	<ul style="list-style-type: none"> Produces design solutions and illustrated technical information with production plans that offer competent communication to a third party. Explains material, equipment and process selection. Shows good skills when using and selecting manufacturing and finishing techniques, including digital design and manufacture. Good standard and levels of accuracy demonstrated. Finishing is appropriate and the outcome will present well to a stakeholder. Final prototype(s) reflects stakeholder requirements and offers reasonable market potential.
Evaluate	<ul style="list-style-type: none"> A limited analysis and evaluation of a few investigated sources of information. Is able to produce some design evaluation/notes with very little reflection on design requirements. Problems are not identified and thus design progression is limited, without support. When supported, is able to produce a superficial evaluation of strengths and/or weaknesses of their final prototype, with little or no suggestions for modification. 	<ul style="list-style-type: none"> Some analysis and evaluation of investigated sources of information from primary users and existing products.. Is able to produce limited design evaluation/notes with very little reflection on design requirements. Problems are not identified and thus design progression is limited. When directed, is able to produce a superficial evaluation of strengths and/or weaknesses of their final prototype, with little or no suggestions for modification and/or consideration of possible design improvements. 	<ul style="list-style-type: none"> A sufficient analysis and evaluation of investigated sources of information from primary users and existing products. With guidance, periodically tests and evaluates designs ideas against some of the design requirements and some feedback. Some aspects of problems are identified and used to help planning the next steps. When encouraged, will produce sufficient critical evaluation of strengths and/or weaknesses of their final prototype with some suggestions for modification and/or consideration of possible design optimisation presented. 	<ul style="list-style-type: none"> A good level of analysis and evaluation of investigated sources of information from primary users and existing products. Selects appropriate methods to periodically evaluate their designs against design requirements and feedback. Reviews are used to identify problems and plan the next steps for design progression. Can produce good critical evaluation of the strengths and weaknesses of their final prototype, with detailed suggestions for modification and consideration of possible design optimisation for improving performance. 	<ul style="list-style-type: none"> A very good level of analysis and evaluation of investigated sources of information from primary users, existing products and wider issues, offering clear support to inform the design process. Regularly tests, evaluates and refines their ideas and designs against design requirements and feedback. Ongoing reviews are used to identify problems and consistently plan the next steps for design progression. Can confidently produce a very good critical evaluation of the strengths and weaknesses of their final prototype, with detailed suggestions for modification and consideration of possible design optimisation for improving performance. Life cycle analysis of the final design is considered.