

Stage 5 Industrial Technology Timber: Year 9 units of work

General wood: Core module 1: Unit 1

Focus area: Timber	Term 1
Unit title: CD storage unit Description: Suggested unit length: 10 weeks (approximately 25 hours) This unit of work involves the design, development, production and evaluation of a CD storage unit. The student will also be required to produce a design folio (a collection of work emphasising the design, development, production of their product). The CD storage unit is produced from timber blanks with the option presented for students to use more unusual than normal shapes for the project. The student may purchase the plastic inserts to complement this product. The design, development, production and evaluation of a CD storage device requires: - the safe use and handling of hand, power and machine tools and the use of personal protective equipment in the workshop including elementary first aid procedures. [5.1.1, 5.1.2] - functional and aesthetic aspects of design, reviewing the design process and analysing design requirements [5.2.1, 5.5.1] - the elements of the structure of trees and how a tree grows while considering basic timber working characteristics and the use solid timbers in the production of practical [5.3.1, 5.3.2] - a range of processes and techniques for preparing, and finishing timber using stain and clear finishes, paints including polyurethane and oil finishes [5.2.2, 5.4.2, 5.5.1] - use a variety of joining methods including : simple joints, screwing nailing and gluing [5.2.2., 5.4.2, 5.5.1] - text types (design folio) to support the documentation of practical projects and processes using range of computer software applications to assist in the planning, production and reporting of practical projects. Including: a title page, contents page, research assignment, sketches, drawings, daily diary and an evaluation. [5.4.1, 5.2.1, 5.5.1] The <i>design folio</i> is produced in conjunction with the finished product as part of the assessment.	Outcomes: A student: 5.1.1 identifies, assesses and manages the risks and OHS issues associated with the use of a range of materials, hand tools, machine tools and processes 5.1.2 applies OHS practices to hand tools, machine tools, equipment and processes 5.2.1 applies design principles in the modification, development and production of projects 5.2.2 identifies, selects and competently uses a range of hand and machine tools, equipment and processes to produce quality practical projects 5.3.1 justifies the use of a range of relevant and associated materials 5.3.2 selects and uses appropriate materials for specific applications 5.4.1 selects, applies and interprets a range of suitable communication techniques in the development, planning, production and presentation of ideas and projects 5.4.2 works cooperatively with others in the achievement of common goals 5.5.1 applies and transfers acquired knowledge and skills to subsequent learning experiences in a variety of contexts and projects 5.6.1 evaluates products in terms of functional, economic, aesthetic and environmental qualities and quality of construction 5.7.1 describes, analyses and uses a range of current, new and emerging technologies and their various applications. 5.7.2 describes, analyses and evaluates the impact of technology on society, the environment and cultural issues locally and globally. Resources Wood workshop, computer room with Internet access, risk assessment sheets, hand tools and power tools, safety tests, appropriate personal protective equipment.

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
OHS and risk management				
- the safe use and handling of hand, power and machine tools - the use of personal protective equipment in the workshop - elementary first aid procedures	- safely use tools, materials and equipment - use personal protective equipment when working with materials, tools and machines	- teacher explains individual tools, equipment and processes and reinforces appropriate safe working practices - students undertake practical activities using personal protective equipment - accident and first aid procedures	- students demonstrate correct and safe use of tools, materials and equipment - students demonstrate correct and safe use of tools, equipment and first aid procedures	- teacher observation and oral feedback on application of safety principles - risk assessment sheets
Design				
- Functional and aesthetic aspects of design - design principles and processes	- Identify the functional and aesthetic aspects in design in timber including grain direction, grain length and type of timber. - apply principles of design in the modification of projects to enhance function and/or aesthetics - evaluate work practices and practical projects in terms of quality.	- review of the design process through class discussion and informal questioning - analysis of design requirements for a CD storage unit. Class brainstorms essential design requirements of a CD storage unit - in pairs, students research existing designs for CD storage unit using the Internet, journals and magazines	student input and responses show their existing knowledge of design processes	teacher observation and oral feedback on student input
material list	read and interpret material lists	measure up and breakdown individual components and explain lengths, widths and thicknesses.	student to measure components and apply to material list.	teacher observation and oral feedback on student input
project costing	estimate quantities of materials to be used in practical projects	measure up and breakdown individual components and explain lengths, widths and thickness and apply cost.	student applies costing to calculate cost of project	teacher observation and oral feedback on student input

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Workplace communication skills				
workplace signage	respond to OHS signage	highlight and identify relevant workplace signage	students correctly completed workplace signage risk assessment sheet	Teacher to set safety test on all workplace signage.
pictorial and working drawings	read and interpret simple workshop and pictorial drawings	students to complete a pictorial and an orthogonal drawing of selected project	- students' drawings reflect an understanding of orthogonal drawing - students are able to produce neat and accurate drawings	- teacher provides oral feedback on work in progress - written annotations on drawing submitted with project report
industry terminology	define specialists terms and produce a glossary	students to define specific industrial terminology and apply	students to write down a glossary of industrial terminology	- informal questioning and discussion - teacher to set spelling and definition test.
text types to support the documentation of practical projects and processes	prepare reports to describe processes undertaken in the development and production of practical projects.	students are to produce a daily lesson diary with factual recount and procedure of practical project	students to write a practical diary to coincide with practical project.	teacher to set folio task and review with written annotations
range of computer software applications to assist in the planning, production and reporting of practical projects.	prepare reports using appropriate software and hardware	prepare and produce a folio for the design and construction of the practical project	students to produce a folio using computer software, industrial terminology, workshop drawings and diary.	teacher provides written annotations on folio with practical project.

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Materials				
the elements of the structure of trees and how a tree grows.	consider basic timber working characteristics and use solid timbers in the production of practical projects	teacher instruction identifies the working characteristics and structure of trees and how they grow	student documentation identifies the features and properties of three suitable timbers	- written annotation - oral feedback - marking incorporated into final project and project report
the properties and working characteristics of solid timber	consider basic timber working characteristics and use solid timbers in the production of practical projects.	discuss the use of grain and grain direction, strength, colour and defects to limit any functional problems with the design of the CD storage device	student documentation identifies the features and properties of solid timbers	- written annotation - oral feedback
Equipment, tools and machines				
use of a range of hand tools.	adjust and use hand tools in the production of practical projects	- student demonstration using identified hand tools such as: - marking out and cutting - shaping and drilling - chiselling and planing - holding and sawing	students demonstrate correct and safe use of hand tools in the construction of individual projects	teacher observation and oral feedback on selection and use of hand tools
use of portable power tools and machines	use machines and portable power tools in the production of practical projects	- teacher demonstration of tools, machines and equipment to be used in the production of the CD storage unit. These may include: - drilling - sanding - cutting	students demonstrate correct and safe use of power tools, machines and equipment in the construction of individual projects	teacher observation and oral feedback on selection and use of power tools
Techniques				
measurement and sizing	- apply correct measuring standards and methods - measure and mark out timber projects from a workshop drawing - accurately cut and prepare	teacher demonstration and instruction of measuring and marking out techniques specific to project, including using templates	students gain skill in measuring and sizing timber	- assessment/ marking of completed project - oral and/or documented feedback via mark

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
	materials to size			sheet
a range of processes and techniques for preparing, joining and finishing timber	- use a variety of joining methods including: - simple joints - screwing nailing and gluing - describe reason for finishing timber - prepare surfaces and apply clear finishes to timber	- student practical experience - teacher demonstration and instruction of a range of different methods available for joining timber: - joints - glues - screws - teacher demonstration of clear finishes including polyurethane and oil finishes - students to apply a selected clear finish to completed project	- skill in joining timber using screws, nails and glue - students demonstrate correct application of clear finish	- teacher observation - oral feedback - assessment/ marking of project
Links to industry				
industrial processes and production techniques	relate elementary industrial production techniques to work in the classroom	teacher-led instruction and discussion of related industrial production techniques and how they vary from those employed in the classroom	students can recall and relate industrial practice to future activities	informal questioning
a range of career paths in the timber industry	list career paths in timber industries	teacher-led instruction and discussion of related industrial career paths	students can recall and relate industrial careers to future activities	informal questioning
Societal and environmental impact				
issues relating to the sustainability of resources in the timber industries	- identify and distinguish between renewable and non-renewable resources in the timber industries - appreciate the importance of sustainability to the timber	- teacher-led instruction and discussion of related renewable and non-renewable resources in the timber industries - teacher-led instruction and discussion of importance of sustainability to the timber	students can recall and relate renewable and non-renewable resources in the timber industries	informal questioning

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
	industry	industry		
Additional content				
- a range of techniques and skills to enhance the appearance and/or function of practical projects - the structure and properties of hardwoods and softwoods	- incorporate features such as lids, doors and hinges - apply surface finishes such as decoupage, marquetry, veneer or painting techniques - identify the differences between hardwoods and softwoods - identify the different applications of hardwoods and softwoods and the reason for their sustainability	- teacher-led demonstration and instruction of surface decoration techniques that may be integrated into the final project: – decoupage – marquetry – veneer – painting techniques - students may select to incorporate one or more of the techniques into individual projects - teacher instruction identifies the nature and properties of hardwoods and softwoods	- students demonstrate proficiency in selected finishing technique - student documentation identifies the differences between hardwoods and softwoods	- observation and oral feedback - assessment and marking of completed project with written or oral feedback - written annotation - oral feedback - marking incorporated into final project and project report

General wood: Core module 1: Unit 2

Focus area: Timber	Term 2
Unit title: Trinket box Description: Suggested unit length: 10 weeks (approximately 25 hours) This unit of work involves the design, development, production and evaluation of a trinket box. The student will also be required to produce a design folio (a collection of work emphasising the design, development, production of their product) The trinket box is produced from timber blanks with the option presented for students to use exotic timbers for this project. The design, development, production and evaluation of a trinket box requires: - the safe use and handling of hand, power and machine tools and the use of personal protective equipment in the workshop including elementary first aid procedures [5.1.1, 5.1.2] - functional and aesthetic aspects of design, reviewing the design process and analysing design requirements [5.2.1, 5.5.1] - properties and working characteristics of solid timber emphasising the use of grain and grain direction, strength, colour and defects to limit any functional problems with the design of the trinket box [5.3.1, 5.3.2] - applying correct measuring standards and methods, measuring and marking out trinket box from a workshop drawing and accurately cutting and preparing materials to size [5.2.2, 5.4.2, 5.5.1] - a range of processes and techniques for preparing, and finishing timber using stain and clear finishes including polyurethane and oil finishes [5.2.2, 5.4.2, 5.5.1] - text types (design folio) to support the documentation of practical projects and processes using range of computer software applications to assist in the planning, production and reporting of practical projects. Including: a title page, contents page, research assignment, sketches, drawings, daily diary and an evaluation. [5.4.1, 5.2.1, 5.5.1] The <i>design folio</i> is produced in conjunction with the finished product as part of the assessment.	Outcomes A student: 5.1.1 identifies, assesses and manages the risks and OHS issues associated with the use of a range of materials, hand tools, machine tools and processes 5.1.2 applies OHS practices to hand tools, machine tools, equipment and processes 5.2.1 applies design principles in the modification, development and production of projects 5.2.2 identifies, selects and competently uses a range of hand and machine tools, equipment and processes to produce quality practical projects 5.3.1 justifies the use of a range of relevant and associated materials 5.3.2 selects and uses appropriate materials for specific applications 5.4.1 selects, applies and interprets a range of suitable communication techniques in the development, planning, production and presentation of ideas and projects 5.4.2 works cooperatively with others in the achievement of common goals 5.5.1 applies and transfers acquired knowledge and skills to subsequent learning experiences in a variety of contexts and projects 5.6.1 evaluates products in terms of functional, economic, aesthetic and environmental qualities and quality of construction 5.7.1 describes, analyses and uses a range of current, new and emerging technologies and their various applications. 5.7.2 describes, analyses and evaluates the impact of technology on society, the environment and cultural issues locally and globally. Resources Wood workshop, computer room with Internet access, risk assessment sheets, hand tools and power tools, safety tests, appropriate personal protective equipment

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
OHS and risk management				
- the safe use and handling of hand, power and machine tools - the use of personal protective equipment in the workshop - elementary first aid procedures	- safely use tools, materials and equipment - use personal protective equipment when working with materials, tools and machines	- teacher explains individual tools, equipment and processes and reinforces appropriate safe working practices - students undertake practical activities using personal protective equipment - accident and first aid procedures	- students demonstrate correct and safe use of tools materials and equipment - students demonstrate correct and safe use of tools, equipment and first aid procedures	- teacher observation and oral feedback on application of safety principles - risk assessment sheets,
Design				
- functional and aesthetic aspects of design - design principles and processes	- identify the functional and aesthetic aspects in design in timber including grain direction, grain length and type of timber - apply principles of design in the modification of projects to enhance function and/or aesthetics - evaluate work practices and practical projects in terms of quality.	- review of the design process through class discussion and informal questioning - analysis of design requirements for a trinket box. Class brainstorms essential design requirements of a trinket box. - in pairs, students research existing designs for trinket box using the Internet, journals and magazines	student input and responses show an existing knowledge of design processes	teacher observation and oral feedback on student input
material list	read and interpret material lists	measure up and breakdown individual components and explain lengths, widths and thicknesses	student measures components and apply to material list.	teacher observation and oral feedback on student input
project costing	estimate quantities of materials to be used in practical projects	measure up and breakdown individual components and explain lengths, widths and thicknesses and apply cost	student applies costing to calculate cost of project	teacher observation and oral feedback on student input

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Workplace communication skills				
workplace signage	respond to OHS signage	highlight and identify relevant workplace signage	students are to complete a workplace signage risk assessment sheet	teacher to set safety test on all workplace signage.
pictorial and working drawings	read and interpret simple workshop and pictorial drawings	students to complete a pictorial and an orthogonal drawing of selected project	- students' drawings reflect an understanding of orthogonal drawing - students are able to produce neat and accurate drawings	- teacher provides oral feedback on work in progress - written annotations on drawing submitted with project report
industry terminology	define specialist terms and produce a glossary	students to define specific industrial terminology and apply	students to write down a glossary of industrial terminology	- informal questioning and discussion - teacher to set spelling and definition test.
text types to support the documentation of practical projects and processes	prepare reports to describe processes undertaken in the development and production of practical projects.	students are to produce a daily lesson diary with factual recount and procedure of practical project	students to write a practical diary to coincide with practical project	teacher to set folio task and review with written annotations
range of computer software applications to assist in the planning, production and reporting of practical projects	prepare reports using appropriate software and hardware	prepare and produce a folio for the design and construction of the practical project	students to produce a folio using computer software, industrial terminology, workshop drawings and diary.	teacher provides written annotations on folio submitted with practical project.

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Materials				
the elements of the structure of trees and how a tree grows	consider basic timber working characteristics and use solid timbers in the production of practical projects	teacher instruction identifies the working characteristics and structure of trees and how they grow.	student documentation identifies the features and properties of three suitable timbers	- written annotation - oral feedback - marking incorporated into final project and project report
the properties and working characteristics of solid timber	consider basic timber working characteristics and use solid timbers in the production of practical projects.	discuss the use of grain and grain direction, strength, colour and defects to limit any functional problems with the design of the trinket box.	student documentation identifies the features and properties of solid timbers	- written annotation - oral feedback
Equipment, tools and machines				
use of a range of hand tools.	adjust and use hand tools in the production of practical projects	- Student demonstration using identified hand tools such as: - marking out and cutting - shaping and drilling - chiselling and planing - holding and sawing	students demonstrate correct and safe use of hand tools in the construction of individual projects	teacher observation and oral feedback on selection and use of hand tools
use of portable power tools and machines	use machines and portable power tools in the production of practical projects	- teacher demonstration of tools, machines and equipment to be used in the production of the trinket box. These may include: - drilling - sanding - cutting	students demonstrate correct and safe use of power tools, machines and equipment in the construction of individual projects	teacher observation and oral feedback on selection and use of power tools

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Techniques				
• measurement and sizing	• apply correct measuring standards and methods • measure and mark out timber projects from a workshop drawing • accurately cut and prepare materials to size	• teacher demonstration and instruction of measuring and marking out techniques specific to project, including using templates	• students gain skill in measuring and sizing timber	• assessment/ marking of completed project • oral and/or documented feedback via mark sheet
• a range of processes and techniques for preparing, joining and finishing timber	• use a variety of joining methods including: – simple joints – screwing nailing and gluing • describe reasons for finishing timber • prepare surfaces and apply clear finishes to timber	• student practical experience • teacher demonstration and instruction of a range of different methods available for joining timber: – joints – glues – screws • teacher demonstration of clear finishes including polyurethane and oil finishes • students to apply a selected clear finish to completed project	• skill in joining timber using screws, nails and glue • students demonstrate correct application of clear finish	• teacher observation • oral feedback • assessment/ marking of project
Links to industry				
• industrial processes and production techniques	• relate elementary industrial production techniques to work in the classroom	• teacher-led instruction and discussion of related industrial production techniques and how they vary from those employed in the classroom	• students can recall and relate industrial practice to future activities	• informal questioning
• a range of career paths in the timber industry	• list career paths in timber industries	• teacher-led instruction and discussion of related industrial career paths	• students can recall and relate industrial careers to future activities	• informal questioning

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Societal and environmental impact				
issues relating to the sustainability of resources in the timber industries	- identify and distinguish between renewable and non-renewable resources in the timber industries - appreciate the importance of sustainability to the timber industry	- teacher-led instruction and discussion of related renewable and non-renewable resources in the timber industries - teacher-led instruction and discussion of importance of sustainability to the timber industry	students can recall and relate renewable and non-renewable resources in the timber industries	informal questioning
Additional content				
a range of techniques and skills to enhance the appearance and/or function of practical projects	- incorporate features such as lids, doors and hinges - apply surface finishes such as decoupage, marquetry, veneer or painting techniques	- teacher-led demonstration and instruction of surface decoration techniques that may be integrated into the final project: - decoupage - marquetry - veneer - painting techniques - students may select to incorporate one or more of the techniques into individual projects	students demonstrate proficiency in selected finishing technique	- observation and oral feedback - assessment/ marking of completed project with written or oral feedback
the structure and properties of hardwoods and softwoods	- identify the differences between hardwoods and softwoods - identify the different applications of hardwoods and softwoods and the reason for their sustainability	teacher instruction identifies the nature and properties of hardwoods and softwoods	student documentation identifies the differences between hardwoods and softwoods	- written annotation - oral feedback - marking incorporated into final project and project report

General wood: Core module 2: Unit 3

Focus area: Timber	Term 3 and Term 4
Unit title: Cheval mirror Description: Suggested unit length: 20 weeks (approximately 50 hours) This unit of work involves the design, development, production and evaluation of a cheval mirror. The student will also be required to produce a design folio (a collection of work emphasising the design, development, production of their product). The cheval mirror is produced from timber blanks with the option presented for students to use the wood lathe for this project. The design, development, production and evaluation of a cheval mirror requires: • principles of risk management, identified hazards in the work environment and clean and hygienic work practices [5.1.1, 5.1.2] • functional and aesthetic aspects of design, reviewing the design process and analysing design requirements [5.2.1, 5.5.1] • the suitability of timbers for wood turning including the set up and basic lathe techniques for simple lathe processes [5.3.1, 5.3.2] • the effects of the timber industry on society and the environment describing the use of renewable resources and the impact on the environment [5.7.1, 5.7.2] • a range of processes and techniques for preparing, and finishing timber using the spray gun for staining and clear finishes [5.2.2, 5.4.2, 5.5.1] • text types (design folio) to support the documentation of practical projects and processes using range of computer software applications to assist in the planning, production and reporting of practical projects. Including; A title page, contents page, research assignment, sketches, drawings, daily diary and an evaluation. [5.4.1, 5.2.1, 5.5.1] The <i>design folio</i> is produced in conjunction with the finished product as part of the assessment.	Outcomes A student: 5.1.1 identifies, assesses and manages the risks and OHS issues associated with the use of a range of materials, hand tools, machine tools and processes 5.1.2 applies OHS practices to hand tools, machine tools, equipment and processes 5.2.1 applies design principles in the modification, development and production of projects 5.2.2 identifies, selects and competently uses a range of hand and machine tools, equipment and processes to produce quality practical projects 5.3.1 justifies the use of a range of relevant and associated materials 5.3.2 selects and uses appropriate materials for specific applications 5.4.1 selects, applies and interprets a range of suitable communication techniques in the development, planning, production and presentation of ideas and projects 5.4.2 works cooperatively with others in the achievement of common goals 5.5.1 applies and transfers acquired knowledge and skills to subsequent learning experiences in a variety of contexts and projects 5.6.1 evaluates products in terms of functional, economic, aesthetic and environmental qualities and quality of construction 5.7.1 describes, analyses and uses a range of current, new and emerging technologies and their various applications. 5.7.2 describes, analyses and evaluates the impact of technology on society, the environment and cultural issues locally and globally. Resources Wood workshop, computer room with internet access, risk assessment sheets, hand tools and power tools, safety tests, appropriate personal protective equipment

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
OHS and risk management				
identified hazards in the work environment	safely use hand and power tools, materials, finishes and equipment	teacher explains individual tools, equipment and processes and reinforces appropriate safe working practices	students demonstrate correct and safe use of tools and equipment	teacher observation and oral feedback on application of safety principles
- principles of risk management - clean and hygienic work practices	select and use personal protective equipment	students undertake practical activities using personal protective equipment	students demonstrate correct and safe use of tools and equipment	teacher observation and oral feedback on application of safety principles
Design				
design principles and processes	apply principles of design in the modification of projects to enhance function and/or aesthetics	- review of the design process through class discussion and informal questioning - analysis of design requirements for a cheval mirror. Class brainstorms essential design requirements of a cheval mirror - in pairs, students research existing designs for cheval mirrors using the Internet, journals and magazines	student input and responses show an existing knowledge of design processes	- teacher observation and oral feedback on student input
factors that affect the design of timber products	- evaluate work practices and relate these to quality of practical projects - follow a planned construction sequence	class discussion to identify the limitations that exist within the school relating to material selection, shaping processes, joining methods, finishing and hardware	students identify relevant design limitations	oral feedback on analysis of designs
material list	follow material list to prepare materials	measure up and breakdown individual components and explain lengths, widths and thickness.	student to measure components and apply to material list	teacher observation and oral feedback on student input

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
project costing	- calculate quantities and cost of materials to be used in the completion of projects - use spreadsheets to assist in the calculation of project cost.	- measure up and breakdown individual components and explain lengths, widths and thicknesses and apply cost. - students use spreadsheet to draw their own material list and add formulas	- student applies costing to calculate cost of project - student to produce own material list using a spreadsheet	teacher observation and oral feedback on student input regarding spreadsheet and costing
Workplace communication skills				
orthogonal drawing	interpret and produce orthogonal drawings related to the development and production of practical projects	- review of orthogonal drawing with emphasis on scale, position and alignment of views - students produce individual freehand orthogonal drawing of selected design - students produce full-size working template of the profile shape of the selected cheval mirror design	- students' drawings reflect an understanding of orthogonal drawing - students are able to produce neat and accurate drawings	- teacher provides oral feedback on work in progress - written annotations on drawing submitted with project report
industry terminology	identify and recall specialist terms and use them in context	- during production students communicate with teacher and peers using correct terminology - informal questioning	students are able to use specialist terms in context	informal questioning and discussion
report writing (including the preparation of documentation to support the development and production of practical projects)	write reports to document the development of practical projects identifying the materials, processes and equipment used	students to develop a project report based on a provided scaffold to document the development of individual projects	project reports demonstrate a logical and thorough development of ideas	- written annotations on report - assessment and/or marking with written or oral feedback

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Materials				
the properties and working characteristics of hardwoods and softwoods	consider the working characteristics of a number of commonly used timbers when selecting and using	- teacher instruction identifies the nature and properties of hardwoods and softwoods - discuss the use of grain and grain direction to limit any functional problems with the cheval mirror design	student documentation identifies the features and properties of three suitable timbers	- written annotation - oral feedback - marking incorporated into final project and project report
the suitability of timbers for specific purposes	select and prepare timber for the lathe	- demonstrate the use and selection of timbers and how they are prepared for wood turning	practical project reflects an understanding wood turning	marking incorporated into final project and project report
Equipment, tools and machines				
the care and use of a range of hand and power tools	care for hand and machine tools and understand the importance of proper care and maintenance	- teacher demonstration of tools, machines and equipment to be used in the production of the cheval mirror. These may include: - marking out tools - coping saw - scroll saw - drill press - band saw (teacher demonstration and use only)	students demonstrate correct and safe use of tools, machines and equipment in the construction of individual projects	teacher observation and oral feedback on selection and use of tools
a range of power and machine tools used for sanding, turning and drilling	- adjust and use hand tools in cutting and shaping timber - use machine and power tools in the production of practical projects	- students undertake practical activities using tools, machines and equipment in the production of individual projects. These may include: - sanding - turning - drilling	demonstrate correct and safe use of tools, machines and equipment in the construction of individual projects	teacher observation and oral feedback on selection and use of tools

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Techniques				
measurement and sizing	measure and mark out projects from a workshop drawing with accuracy and precision	- teacher demonstration and instruction of measuring and marking out techniques specific to project, including using templates - student practical experience	students successfully measure and mark out timber	observation and oral feedback
wood turning	set up and use basic lathe techniques for simple lathe processes	teacher demonstration and instruction for the set up and use basic lathe techniques for simple lathe processes	students demonstrate correct and safe use of basic lathe techniques for simple lathe processes	- teacher observation - oral feedback
timber finishes and finishing	identify a range of timber finishes and their applications, including clear finishes, stains and paints	- teacher demonstration of clear finishes including polyurethane and oil finishes - students to apply a selected clear finish to completed project	students demonstrate correct application of clear finish	- teacher observation - oral feedback - assessment/ marking of project
Links to industry				
industrial techniques and processes	- identify alternative historical industrial technologies - relate appropriate industrial production techniques to work in the classroom	- teacher-led instruction and discussion to identify alternative historical industrial technologies - teacher-led instruction and discussion of related industrial production techniques and how they vary from those employed in the classroom	students can recall and relate identify alternative historical industrial technologies	informal questioning
the relationship between careers and industries in the timber area	describe the different careers within the timber industry and analyse the relationship between them.	teacher-led instruction and discussion to describe the different careers within the timber industry and analyse the relationship between them.	students can recall and describe the different careers within the timber industry and analyse the relationship between them	informal questioning

Students learn about:	Students learn to:	Integrated learning experiences, instruction and assessment:	Evidence of learning:	Feedback:
Societal and environmental impact				
the effects of the timber industry on society and the environment	describe the use of renewable resources and the impact on the environment	teacher-led instruction and discussion of related renewable resources and the impact on the environment	students can recall and relate renewable resources and the impact on the environment	informal questioning
Additional content				
a range of techniques and skills to enhance the appearance and/or function of practical projects	select detailing techniques in addition to, or further to, any of the detailing methods chosen in <i>General Wood 1</i>	- teacher-led demonstration and instruction of surface decoration techniques that may be integrated into the final project: - students may select to incorporate one or more of the techniques into individual projects	students demonstrate proficiency in selected finishing technique	- observation and oral feedback - assessment/marking of completed project with written or oral feedback
conversion and seasoning of timber	- explain the need to stack cut timber correctly for seasoning and storage - identify differences in appearance and properties of radially and tangentially cut boards - compare the advantages and disadvantages of air and kiln seasoning	- teacher instruction timber conversion and seasoning processes - students research the process of seasoning timber - teacher-led instruction and discussion to compare the advantages and disadvantages of air and kiln seasoning	- research assignment for the process of seasoning timber - students can recall compare the advantages and disadvantages of air and kiln seasoning	marking incorporated into final project and project report