

Design and Technology Years 7–10 Life Skills unit: Storage matters

Unit title: Storage matters Description: This unit involves students exploring storage solutions and producing and evaluating their own storage device. Students may develop their own designs, individualise a design provided by the teacher or embellish a completed storage device. A range of technologies may be used in constructing and/or embellishing the storage device. Safe and responsible use of materials, tools and techniques by students is essential in the Design and Technology course. Teachers should consider this when delivering this unit of work. <i>Learning activities address selected ‘learn about’ and ‘learn to’ statements within the Life Skills content of the syllabus and may be prioritised and selected to suit the needs of students. The unit provides a range of ways in which students may engage in learning activities and students should participate at a level appropriate to their abilities and interests.</i>	
Life Skills Outcomes A student: LS.1.1 recognises that a process is used to develop design solutions LS.1.2 considers factors that influence design LS.3.1 evaluates the work of designers in terms of the benefits to the individual, society and environments LS.5.1 gathers and uses information to generate design solutions LS.5.2 uses a variety of technologies to present design solutions LS.6.1 selects and uses appropriate processes and techniques in the context of producing design projects LS.6.2 participates in producing design projects LS.6.3 demonstrates safe practices in the use of equipment and the implementation of techniques LS.6.4 cares for materials, tools and equipment.	Resources A variety of storage devices and items to be stored Access to computer hardware such as digital cameras, scanners and computer software such as graphics, word-processing, spreadsheets, desktop publishing, multimedia Access to books and other print and electronic media for research Materials, tools and equipment appropriate to the selected project Off-cuts and samples of materials for practice purposes Examples and images of completed projects and modifications/embellishments Prefabricated templates from which to construct the project, eg cake boxes and gift bags
Links A student: English ENLS-2A communicates for a variety of purposes, audiences and contexts Industrial Technology LS.1.2 demonstrates safe practices in the use of materials, tools and equipment LS.2.1 recognises that a process is used to design and make projects LS.2.2 selects appropriate tools to undertake projects LS.3.1 selects and uses appropriate materials to undertake projects LS.6.1 evaluates the success of projects Information and Software Technology LS.5.3 uses a variety of techniques to present information and software technology solutions.	A student: Mathematics MALS-25MG estimates and measures in everyday contexts MALS-32MG responds to and uses the language of position in everyday contexts Visual Arts LS.2 explores a variety of materials, techniques and processes.
For students working towards Life Skills outcomes in regular classes, teachers may wish to link the activities in this unit with the Stage 5 unit ‘Safe and Sound’ in <i>Design and Technology Years 7–10: Advice on Programming and Assessment</i> (pp 21–29).	

Focus: Function of storage devices Outcomes: LS.1.1, LS.1.2, LS.5.2				
Students learn about	Students learn to	Integrated learning experiences, instruction and assessment	Evidence of learning (words in <i>italics</i> refer to Life Skills outcomes)	Feedback
- factors that influence design - factors that influence design - factors that influence design	- consider the factors that influence design in the context of a design project - consider the factors that influence design in the context of a design project - consider the factors that influence design in the context of a design project	Teacher - displays a variety of storage devices, eg plastic bags, string bags, shoe boxes, plastic bottles - displays a variety of items to be stored, eg CDs, hot and cold drinks/food, clothes - facilitates discussion of the function and purpose of storage devices - organises a visit to a retail outlet specialising in storage solutions - assists students to record their involvement at each step of the storage design project in a folio. Students - identify storage devices that are commonly used in the home and the items that are stored in them, eg fridge, cupboards, wardrobes, tubs, canisters, jewellery box - identify storage devices that are commonly used in the school and the items that are stored in them, eg lockers, bags, cupboards, storerooms - experiment with storing and carrying items in a range of devices. This may involve: - placing and carrying items in a range of devices - recording the number/volume of items able to be stored in a variety of devices - choosing appropriate devices to store and carry a range of items	Identification of a range of storage devices in the home and their uses may indicate <i>considering factors that influence design</i>. Identification of a range of storage devices in the school and their uses may indicate <i>considering factors that influence design</i>. Experimenting with a range of storage devices to store and carry a range of items may involve <i>considering factors that influence design</i>.	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’: - identification of the range and purpose of storage devices in the home - identification of the range and purpose of storage devices in the school - identification of appropriate storage solutions for a range of items.

continued

Focus: Function of storage devices (cont) Outcomes: LS.1.1, LS.1.2, LS.5.2				
Students learn about	Students learn to	Integrated learning experiences, instruction and assessment	Evidence of learning (words in italics refer to Life Skills outcomes)	Feedback
- factors that influence design - the steps in a design process - communicating throughout the design process - a variety of communication techniques	- consider the factors that influence design in the context of a design project - recognise the steps in a design process - use techniques to communicate ideas	Students - explore factors such as safety, security and privacy that influence the way people store items. These may include: - safety, eg chemicals and medication in childproof containers, knives in knife blocks, food in refrigerator or cool pack - security, eg cash and valuables in lockable cash box or safe - privacy, eg personal documents in a lockable drawer - establish and maintain a record of their involvement at each step of the design process in a folio. Items in the folio may include: - photographs and/or other images of their participation at various steps in the process - descriptions of their activities at each step of the project - personal observations - data and information relevant to the project - personalised step-by-step plan for producing the project - evaluation of the project.	Exploration of the factors that lead to the way we store items may indicate <i>considering factors that influence design</i>. The recording and reflection on activities throughout the design process may indicate <i>recognising that a process is used to develop design solutions and/or using a variety of techniques to present design solutions</i>.	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’: - identification of the factors that lead to the way we store items - recording of their participation in the design process in an appropriate format.

Focus: Exploring features of storage devices Outcomes: LS.1.2, LS.3.1				
Students learn about	Students learn to	Integrated learning experiences, instruction and assessment	Evidence of learning (words in italics refer to Life Skills outcomes)	Feedback
- evaluating designs - factors that influence design	- evaluate a variety of products in terms of cost and benefits - consider the factors that influence design in the context of a design project	Teacher - provides examples, images and diagrams of a range of storage devices. Students - explore features of storage devices such as placement, dimensions, functions, aesthetics, portability, durability and cost. Examples could include packaging for food products, a CD holder, school bag, handbag/wallet. Activities may include: - indicating the purpose of storage devices - identifying materials used in the construction of each device from lists provided by the teacher - describing the advantages and disadvantages of the construction materials used - commenting on ease of use of storage devices.	Identification of design features of a variety of storage devices may involve <i>considering factors that influence design</i>.	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students' identification of a range of design features in modern storage devices.

Focus: Selecting a storage design project Outcomes: LS.5.1, LS.6.1				
Students learn about	Students learn to	Integrated learning experiences, instruction and assessment	Evidence of learning (words in <i>italics</i> refer to Life Skills outcomes)	Feedback
- producing a design project - obtaining information from a variety of sources	- participate in producing a design project - access sources of information including electronic media, newspapers, libraries, the internet, CD-ROMs	Teacher - provides examples of storage design projects, eg CD holders made from timber or acrylics, bags made from textiles, prefabricated projects such as magazine holders, commercially produced kits and gift bags - provides access to research materials for the development of a storage design project. Students - select a storage design project. This may include: - personalising an existing storage solution, eg using colour, stencils, decoupage, adding handles, adding material to stabilise an object such as Velcro, attaching a lock onto a container, changing the surface texture of a container; and/or - selecting an appropriate construction kit or prefabricated storage solution; and/or - producing a storage design project from personal research.	Selection of a preferred project may indicate <i>gathering and using information to generate design solutions</i> and/or <i>selecting and using appropriate techniques in the context of producing design projects</i>.	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students' selection of an appropriate project.
Focus: Planning steps for producing the storage design project Outcome: LS.1.1				
the steps in a design process	recognise the steps in a design process	Teacher - provides a personalised step-by-step plan of the steps in the production process. Students - recognise the steps in the personalised step-by-step plan. This may involve: - including the personalised step-by-step plan in their folio - following through each step of the plan recognising the activities at each step.	Identification of the steps for producing the project may indicate <i>recognising that a process is used to develop design solutions</i>.	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students' identification of the steps to produce their storage design project.

Focus: Safe use of tools, equipment and materials in producing the storage design project				
Outcomes: LS.6.3, LS.6.4				
Students learn about	Students learn to	Integrated learning experiences, instruction and assessment	Evidence of learning (words in <i>italics</i> refer to Life Skills outcomes)	Feedback
- the application of Occupational Health and Safety practices in relation to - handling and using a variety of materials - handling and using hand tools, power tools and appliances - handling and using machine and computer equipment - safe lifting practices - routines for care of materials, tools and equipment	- identify properties of materials, equipment and tools that make them dangerous - use materials, tools and equipment safely in the context of projects - store materials, tools and equipment appropriately - keep workplaces clean and tidy	Teacher - explicitly teaches and models safe work practices when using materials, tools and equipment and provides opportunities for supervised practice - explicitly teaches and demonstrates routines to care for and store tools, materials and equipment. Students - use safe work practices when using materials, tools and equipment in the context of the project. This may include: - recognising rules for the safe use of materials, tools and equipment - using materials, tools and equipment safely and appropriately under supervision - follow routines to care for and store materials, tools and equipment during the production process. This may include: - returning materials, tools and equipment to their storage space after use - tidying the work area.	Use of safe practices may involve <i>demonstrating safe practices in the use of equipment and the implementation of techniques and/or caring for materials, tools and equipment.</i> Following routines to care for and store materials, tools and equipment may indicate <i>caring for materials, tools and equipment.</i>	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’: - demonstration of safe practices when using materials, tools and equipment - demonstration of the skills to care for materials, tools and equipment.

Focus: Producing a storage design project Outcomes: LS.6.1, LS.6.2				
Students learn about	Students learn to	Integrated learning experiences, instruction and assessment	Evidence of learning (words in <i>italics</i> refer to Life Skills outcomes)	Feedback
- producing a design project - techniques used to develop projects across a range of technologies	- follow the steps to complete a design project - uses techniques to produce design projects across a variety of technologies	Teacher - reviews the step-by-step plan and models each step in the plan as required - provides pre-cut pieces and kits for the project where required - demonstrates the specific skills and techniques appropriate to individual projects. Students - engage in the process for producing a storage device by following the personalised step-by-step plan. This may include selecting and using appropriate processes and techniques in: - constructing a storage device; and/or - personalising an existing storage device; and/or - assembling a construction kit or prefabricated storage device.	Engagement in the production of the storage design project may indicate <i>selecting and using appropriate processes and techniques in the context of producing design projects</i> and/or <i>participating in producing design projects</i>.	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students' production of the storage design project by following the personalised step-by-step plan.

Focus: Evaluating the storage design project Outcomes: LS 5.2, LS.6.1, LS.6.2				
Students learn about	Students learn to	Integrated learning experiences, instruction and assessment	Evidence of learning (words in italics refer to Life Skills outcomes)	Feedback
- producing a design project - a variety of communication techniques	- follow the steps to complete a design project – evaluate design project - use techniques to communicate ideas	Teacher - assists students to evaluate their project’s suitability for intended use. Students - evaluate their storage design project in terms of dimensions, aesthetics, portability and durability. Activities may include: – using the device for its designated purpose – commenting on the usefulness of the device – suggesting ways that the design could be improved – obtaining feedback from others - share the information in their folio with others. This may involve: – displaying the folio and storage design project in a prominent place in the school – describing aspects of the process to others – developing a multimedia presentation.	Evaluation of the projects may involve <i>selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects.</i> Sharing the information in the folio with others may involve <i>using a variety of techniques to communicate ideas in the context of producing design projects.</i>	Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’ evaluation of the storage design project and its appropriateness for its intended use. Peer and self-feedback on the storage device. Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’ sharing their experiences of the production process with others in an appropriate format. Feedback from others on the folio.