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. 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.

**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.1.2 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.

**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 Design and Technology Years 7–10: Advice on Programming and Assessment (pp 21–29).
### Focus: Function of storage devices

**Outcomes:** LS.1.1, LS.1.2, LS.5.2

<table>
<thead>
<tr>
<th>Students learn about</th>
<th>Students learn to</th>
<th>Integrated learning experiences, instruction and assessment</th>
<th>Evidence of learning (words in italics refer to Life Skills outcomes)</th>
<th>Feedback</th>
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</table>
| factors that influence design | 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 considering factors that influence design.  
Identification of a range of storage devices in the school and their uses may indicate considering factors that influence design.  
Experimenting with a range of storage devices to store and carry a range of items may involve considering factors that influence design. | 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  

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| factors that influence design | consider the factors that influence design in the context of a design project | 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 | Exploration of the factors that lead to the way we store items may indicate considering factors that influence design. | 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. |
| the steps in a design process | recognise the steps in a design process | | The recording and reflection on activities throughout the design process may indicate recognising that a process is used to develop design solutions and/or using a variety of techniques to present design solutions. | |
| communicating throughout the design process | use techniques to communicate ideas | | | |
| a variety of communication techniques | | | | |
### Focus: Exploring features of storage devices

**Outcomes:** LS.1.2, LS.3.1

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| • evaluating designs | • evaluate a variety of products in terms of cost and benefits | **Teacher**
  • provides examples, images and diagrams of a range of storage devices.**
|                      | • consider the factors that influence design in the context of a design project | **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.
  • 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 considering factors that influence design. | 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. |
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<tr>
<th>Focus: Selecting a storage design project</th>
<th>Outcomes: LS.5.1, LS.6.1</th>
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<td>Students learn to</td>
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| • producing a design project | • participate in producing a design project | 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. | Selection of a preferred project may indicate gathering and using information to generate design solutions and/or selecting and using appropriate techniques in the context of producing design projects. | Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’ selection of an appropriate project. |
| • obtaining information from a variety of sources | • access sources of information including electronic media, newspapers, libraries, the internet, CD-ROMs | 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. | | |
| Students learn about | Students learn to | Integrated learning experiences, instruction and assessment | Evidence of learning | Feedback |
| • 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. | Identification of the steps for producing the project may indicate recognising that a process is used to develop design solutions. | 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. |
| Students learn to | | 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. | | |
| Integrated learning experiences, instruction and assessment | Evidence of learning | (words in italics refer to Life Skills outcomes) | | |
| Focus: Planning steps for producing the storage design project | Outcome: LS.1.1 | | | |
Focus: Safe use of tools, equipment and materials in producing the storage design project  
**Outcomes:** LS.6.3, LS.6.4

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| • the application of Occupational Health and Safety practices in relation to       | • identify properties of materials, equipment and tools that make them dangerous  | **Teacher**                                                                                                                  | **Use of safe practices may involve demonstrating safe practices in the use of     | Oral, visual and/or tangible feedback and prompting by the teacher to guide and affirm students’:
<p>|   – handling and using a variety of materials                                      | • use materials, tools and equipment safely in the context of projects            | • explicitly teaches and models safe work practices when using materials, tools and equipment and provides opportunities for supervised practice | equipment and the implementation of techniques and/or caring for materials, tools and equipment. | • demonstration of safe practices when using materials, tools and equipment          |
|   – handling and using hand tools, power tools and appliances                       |                                                                                  | • explicitly teaches and demonstrates routines to care for and store tools, materials and equipment.                         | <strong>Students</strong>                                                                        |          |
|   – handling and using machine and computer equipment                               |                                                                                  | • use safe work practices when using materials, tools and equipment in the context of the project. This may include:       | • demonstration of the skills to care for materials, tools and equipment.           |          |
|   – safe lifting practices                                                          |                                                                                  |   – recognising rules for the safe use of materials, tools and equipment                                                   |                                      |          |
| • routines for care of materials, tools and equipment                               | • store materials, tools and equipment appropriately keep workplaces clean and tidy |   – 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.                                                                                                 |                                      |          |
|                                                                                  |                                                                                  | <strong>Students</strong>                                                                                                                  | **Following routines to care for and store materials, tools and equipment may indicate caring for materials, tools and equipment. |          |
|                                                                                  |                                                                                  | • use materials, tools and equipment safely in the context of projects. 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.                                                                                                 |                                      |          |</p>
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<tr>
<th>Focus: Producing a storage design project</th>
<th>Students learn about</th>
<th>Students learn to produce a storage design project</th>
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| **Outcomes:** LS.6.1, LS.6.2 | • producing a design project | • follow the steps to complete a design project | **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. | 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. | 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. |
| | • techniques used to develop projects across a range of technologies | • uses techniques to produce design projects across a variety of technologies | **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. |  |  |
Focus: Evaluating the storage design project
Outcomes: LS 5.2, LS.6.1, LS.6.2

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| producing a design project | follow the steps to complete a design project  
  – evaluate design project | 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 | Evaluation of the projects may involve selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects. | 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. |
| a variety of communication techniques | 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 | Evaluation of the projects may involve selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects. | 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. |
|                      |                  | 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 | Evaluation of the projects may involve selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects. | 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. |
|                      |                  | 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 | Evaluation of the projects may involve selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects. | 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. |
|                      |                  | 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 | Evaluation of the projects may involve selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects. | 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. |
|                      |                  | 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 | Evaluation of the projects may involve selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects. | 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. |
|                      |                  | 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 | Evaluation of the projects may involve selecting and using appropriate processes and techniques in the context of producing design projects and/or participating in producing design projects. | 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. |

Evidence of learning in the folio with others may involve using a variety of techniques to communicate ideas in the context of producing design projects.

Feedback from others on the folio.