

Design & Technology Year 7 & 8 Syllabus Framework

The Design and Technology [D&T] Learning Outcomes Framework identifies two subject Aspects, the *Design aspect* and the *Technology Aspect*. These are further divided into three Subject Foci each. These six subject Foci form the basis of learning the subject at each level (spiral). All the subject Foci need to be assessed at each level, however it is recommended that activities be planned by selecting a mixture of learning outcomes from different Aspects and foci.

The Design Aspect includes the following Subject Foci:

(In short referred to by the term in bold)

- **Design, Entrepreneurship and Innovation**
- **Data Collection & Interpretation**
- **Critique, Implications and Evaluation**

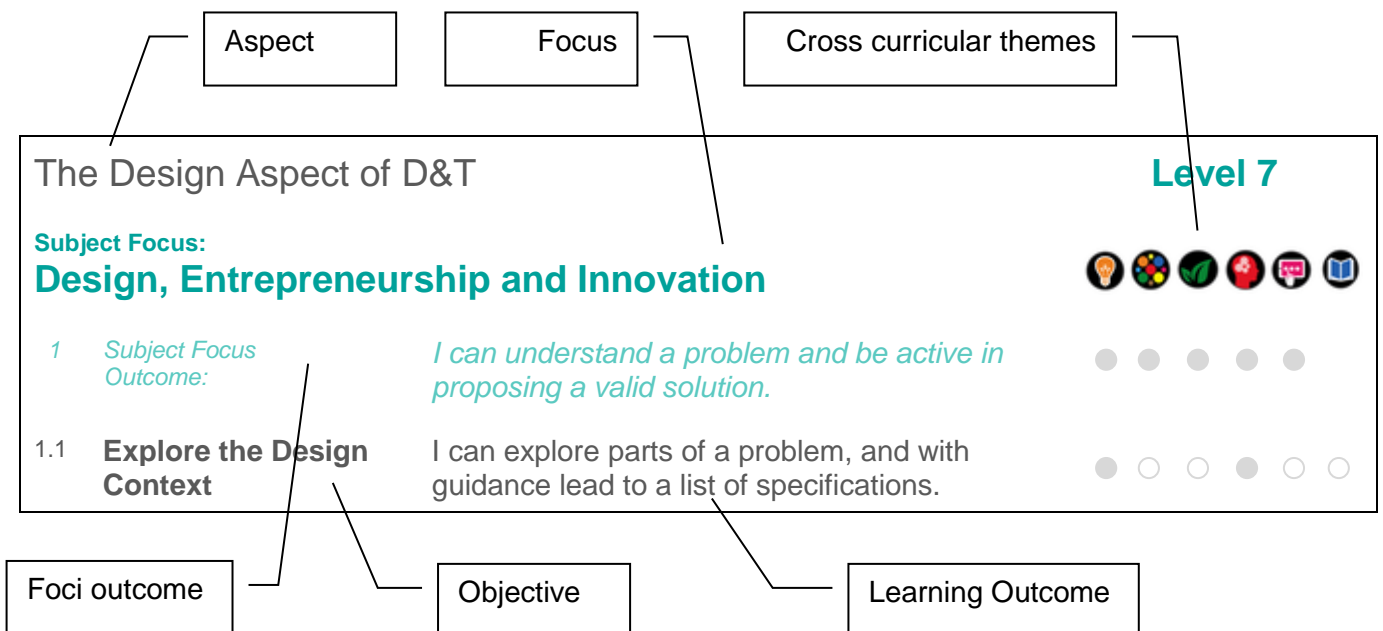
The Technology Aspect includes the following Subject Foci:

(In short referred to by the term in bold)







- **Materials and Making**
- **Systems and Control**
- **Graphics, Communication and Digitisation**

At all levels, each of the six subject foci is achieved through five objectives assessed through the respective five learning outcomes, which develop further at every level in a spiral way. The provided subject focus outcome describes the overall scope of each subject foci.

In this document links to cross curricular themes are shown on the right side of each learning outcome.



Legend for Cross Curricular Themes:

-  Education for Entrepreneurship, Creativity and Innovation
-  Education for Diversity
-  Education for Sustainable Development
-  Learning to Learn and Cooperative Learning
-  Digital Literacy
-  Literacy

The Design Aspect of D&T

Level 7

Subject Focus: Design, Entrepreneurship and Innovation



<p>1 <i>Subject Focus Outcome:</i></p>	<p><i>I can understand a problem and be active in proposing a valid solution.</i></p>	<p>● ● ● ● ○ ●</p>
<p>1.1 Explore the Design Context</p>	<p>I can explore parts of a problem, and with guidance lead to a list of specifications.</p>	<p>● ○ ○ ● ○ ○</p>
<p>1.2 Use Design Methods</p>	<p>I can work on a design problem using a given structure of explore, plan, make and evaluate.</p>	<p>● ○ ○ ● ○ ○</p>
<p>1.3 Design Communication</p>	<p>I can document the design and make of my project and the method used with guidance.</p>	<p>● ● ○ ○ ○ ●</p>
<p>1.4 Design Value and Entrepreneurship</p>	<p>I can identify basic needs and purposes and take initiative</p>	<p>● ○ ● ○ ○ ○</p>
<p>1.5 Innovation and Creativity</p>	<p>I can propose a creative idea and develop it with guidance into a realised project.</p>	<p>● ○ ● ● ○ ○</p>

Subject Focus: Data collection and Interpretation



<p>2 <i>Subject Focus Outcome:</i></p>	<p><i>I can research, process and communicate data and information.</i></p>	<p>● ● ● ● ● ●</p>
<p>2.1 Enquiry skills</p>	<p>I can discover more about the situation and with guidance focus my research on key features.</p>	<p>● ○ ○ ● ○ ●</p>
<p>2.2 Data recording</p>	<p>I can record relevant data from suitable sources.</p>	<p>○ ○ ○ ● ○ ○</p>
<p>2.3 Analysis</p>	<p>I can analyse information and realise that certain information is useful.</p>	<p>○ ● ○ ● ○ ●</p>
<p>2.4 Communicating and sharing data</p>	<p>I can clearly present my findings.</p>	<p>○ ● ○ ● ○ ○</p>
<p>2.5 Data implications</p>	<p>I can present data correctly and fairly.</p>	<p>○ ● ○ ● ○ ○</p>

The Design Aspect of D&T

Level 7

Subject Focus: Critique, Implications and Evaluation



3	<i>Subject Focus Outcome:</i>	<i>I can apply critical and environmentally sustainable thinking within my design project.</i>	● ● ● ● ● ●
3.1	Society	I can discuss about one or two target groups and their needs.	○ ● ● ● ○ ○
3.2	Environment and resources	I can discuss the use of resources and the effect on the environment for my project.	○ ○ ● ● ○ ○
3.3	Peer interaction	I can comment constructively on my peers' work following a given structure	○ ● ● ● ○ ○
3.4	Evaluation	I can discuss and evaluate my own work and the project taking into consideration different opinions and against the specifications.	● ● ● ● ○ ●
3.5	Value	I can discuss the project in terms of self-development.	● ● ● ● ○ ○

The Technology Aspect of D&T

Level 7

Subject Focus: Materials and Making



4	<i>Subject Focus Outcome:</i>	<i>I can use resources and materials to build an artefact for my project safely and with guidance.</i>	● ● ● ● ● ○
4.1	Materials and Standard Forms	I can identify and work with a range of materials; understanding their main properties to produce an artefact.	● ○ ● ● ○ ○
4.2	Workshop and Industrial Processes	I can follow workshop rules and procedures.	● ● ○ ● ○ ○
4.3	Tools and Machinery	I can identify a range of hand tools and machine tools with help and apply these to my work.	● ● ○ ○ ○ ○
4.4	Health and Safety with Tools and Machinery	I can handle a range of tools and equipment safely with help, while following rules.	● ○ ● ○ ○ ○
4.5	Artefacts	I can make my design in three dimensional form using materials, processes and finishing to satisfy the design brief.	● ○ ● ● ○ ○

The Technology Aspect of D&T

Subject Focus:

Systems and Control

Level 7



5	<i>Subject Focus Outcome:</i>	<i>I can plan, build and describe a functional electronic and/or mechanical system safely.</i>	● ● ● ● ● ○
5.1	Systems design	I can identify and describe functions of simple systems using a basic systems approach.	● ○ ○ ● ○ ○
5.2	Discrete Electronic/Mechanical components	I can select and describe the function of a range of mechanical and/or discrete electronic components.	○ ○ ○ ● ● ●
5.3	Microcontroller Systems	I can list a limited number of advantages and disadvantages of micro controllers when compared to discrete components.	○ ○ ● ● ● ○
5.4	Assembly, skills and application	I can assemble a basic functional product, system or circuit with guidance.	○ ● ○ ● ○ ○
5.5	Health and Safety	I can identify a list of PPEs and describe their purpose.	○ ● ○ ● ● ●

Subject Focus:

Graphics, Communication and Digitisation



6	<i>Subject Focus Outcome:</i>	<i>I can use graphics, 2D and 3D design and digital resources to communicate effectively.</i>	● ● ● ● ● ○
6.1	Elements of Design	I can draw and describe information, including my ideas graphically using basic design elements as a guide.	○ ● ○ ● ○ ○
6.2	2D Graphics	I can apply, measure and draw using basic 2D graphic techniques and construction.	○ ○ ● ○ ○ ○
6.3	3D Graphics	I can understand, sketch and draw objects using basic 3D projections.	○ ● ● ● ○ ○
6.4	Digitisation and CAD/ CAM	I can use ICT to convey and understand design information and am aware of CAD CAM digital design and manufacturing.	● ○ ● ● ● ○
6.5	Idea Communication and Publication	I can enhance, record, present and communicate my work.	● ○ ● ● ● ●

Course Distribution in the Middle school level- Year 7 and Year 8

Design and Technology is offered to all learners in year 7 and year 8 in state schools and similarly in a number of non-state schools, where the subject is available. This reflects the LOF Framework, level 7 learning outcomes.

The learning outcomes framework for Design and Technology [D&T] has been revised thoroughly after consultation with all subject teachers. The resultant document shows the

broad learning outcomes that students will be assessed in. These facilitate progression into the secondary years, when this subject is offered as an option. The 2 subjects Aspects, the 6 subject Foci, and 30 broad learning outcomes (as described above) remain consistent in all 5 years of secondary school. However the learning outcomes, within the above, are further developed from year 9 to 11 as they progress from year to year in a spiral manner.

In Year 7 and Year 8 learners are typically offered half a scholastic year learning D&T, each year as they alternate with other subjects. Thus the full Syllabus for year 7 and 8 is delivered in 2 periods over the span of the 2 years. This in state schools is organised as focusing more on *Materials and Making* foci in year 7 and then more on *Systems and Control* foci in year 8, along with a progression of outcomes from the other 4 Subject Foci.

Since assessment in each of year 7 and 8 for D&T is based on the formative D&T project and tasks (no half-yearly or annual summative written exam) it is required that learning progression is coordinated between year 7 and year 8, to ensure that learners have been guided through all learning outcomes, in preparation for further studies in the subject.

Subject Foci	Year 7	Year 8
<i>Design, Entrepreneurship and Innovation</i>	●	●
<i>Data Collection & Interpretation</i>	●	●
<i>Critique, Implications and Evaluation</i>	●	●
<i>Materials and Making</i>	●	
<i>Systems and Control</i>		●
<i>Graphics, Communication and Digitisation</i>	●	●

Course Projects and Tasks

The D&T course content needs to include learning activities which evidence the described learning outcomes in a variety of learning and assessment modes. While the subject foci in the *Design Aspect* are specifically evidenced in an overall D&T project and documented in an individual design folio, evidence for *Technology Aspect* learning outcomes can be in the form of both the project artefact, documentation of making and workshop procedures and even smaller tasks. However a project including both artefact and design folio is the main mode of assessing D&T learning and is expected as the main form of assessment for learning and Assessment of learning in year 7 and 8.

Course content

As a learning outcomes based curriculum, the D&T Year 7 and 8 course emphasises on learners experiencing the process of designing and making a technological solution guided by a given context in the form of a project. The above learning outcomes shall guide learning without being prescriptive. Thus any content, equipment and processes 'range guidelines' will be provided, as a recommended guideline in a separate document.