

Prep Year to Year 2 Technologies

Australian Curriculum in Queensland — assessment and reporting advice and guidelines

August 2015

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1 Assessment

This document includes:

Curriculum requirements	Advice, guidelines and resources
Achievement standards	Standards elaborations on a five-point scale
	Assessment advice and guidelines
	Reporting advice and guidelines
Requirements are taken directly from the Australian Curriculum: Technologies developed by the Australian Curriculum, Assessment and Reporting Authority (ACARA). This material is presented in blue text . Links to Australian Curriculum support materials are also provided where appropriate.	Advice, guidelines and resources are based on the Australian Curriculum band level descriptions and organisation sections. They have been developed by the Queensland Curriculum and Assessment Authority (QCAA) to assist teachers in their planning and assessment and include links to Queensland-developed supporting resources and templates.

Assessment is an integral part of teaching and learning. It is the purposeful collection of evidence about children's achievements. An awareness of what learning is assessed and how it is assessed helps both children and parents/carers develop an understanding of what is valued and where to focus attention.

Assessment is used for a variety of purposes, but its most important use is in supporting children's learning.

Sufficient and suitable evidence is collected to enable fair judgments to be made about children's learning. Once the evidence is collected and analysed, it is summarised and presented in ways that are meaningful and useful to:

- help children achieve the highest standards they can
- promote, assist and improve teaching and learning
- build a shared understanding of the qualities of children's work and communicate meaningful information about children's progress and achievements to children, teachers, parents/carers and the system.

Principles of assessment for schools to use as a basis for local decisions about specific approaches to assessment are provided in [Appendix 1: Principles of assessment](#).

[Assessment of the Australian Curriculum: Technologies \(F–10\)](#) takes place for different purposes, including:

- [ongoing formative assessment to monitor learning and provide feedback to teachers to enhance their teaching, and for students to improve their learning](#)
- [summative assessment to assist schools in reporting the progress and achievement of students to parents and carers.](#)

[Teachers use the achievement standards during and at the end of a period of teaching to make on-balance judgments about the quality of learning students demonstrate.](#)

1.1 Standards-based assessment

The Australian Curriculum is standards-based.

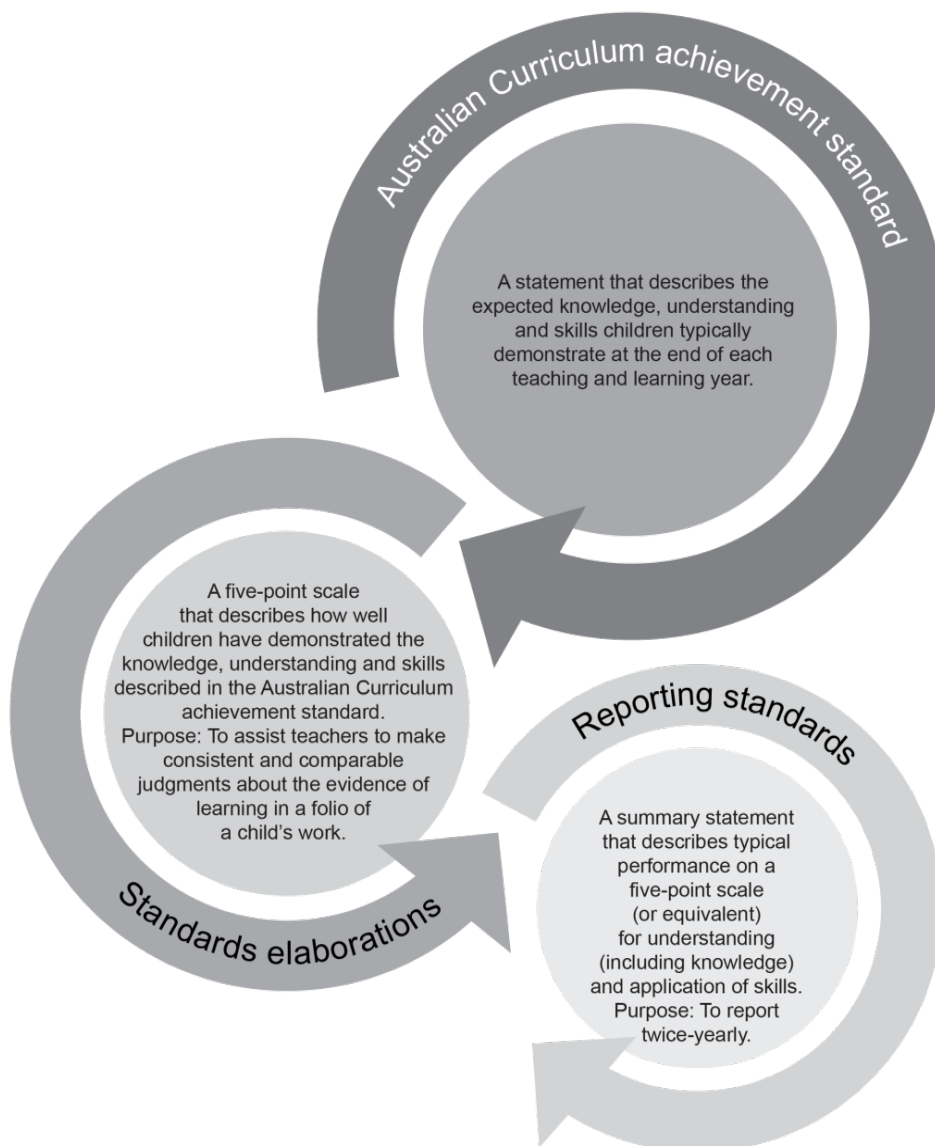
Teacher judgment is guided by achievement standards that are fixed reference points used to describe what is valued as important for young people to know, understand and do. The standards describe the expected qualities of children’s work and give a common frame of reference and a shared language to describe children’s achievement.

Standards-based assessment is an integral part of the teaching and learning process that is planned and ongoing.

The diagram below shows the relationship between the Australian Curriculum achievement standard, standard elaborations and the reporting standards.

1.1.1 Applying the Australian Curriculum achievement standards

Figure 1: The relationship between the Australian Curriculum achievement standard, standard elaborations and the reporting standards



1.1.2 Achievement standard

The Australian Curriculum achievement standards and the content descriptions are the **mandatory aspects** of the Australian Curriculum for schools to implement. They are organised under two dimensions, **understanding** and **skills**, and describe a broad sequence of expected learning across P–10.

The achievement standards describe expected student learning at each band level. They emphasise the depth of conceptual understanding, the sophistication of skills and the ability to apply essential knowledge expected of students.

Teachers use the achievement standards during and at the end of a period of teaching to make on-balance judgments about the quality of learning students demonstrate.

The achievement standards for Australian Curriculum: Technologies can be found for each subject in the relevant section. See subject-specific sections for:

- Digital Technologies (Section 3)
- Design and Technologies (Section 4).

1.1.3 Standard elaborations

The Technologies standard elaborations provide a basis for judging how well children have demonstrated what they know, understand and can do using the Australian Curriculum achievement standard. It is a resource to assist teachers to make consistent and comparable evidence-based AP to BA judgments.

The standard elaborations (SEs) use the two strands common to all Australian Curriculum: Technologies — Understanding and Skills. Within these, the SEs:

- identify the valued features of each Australian Curriculum learning area drawn from the achievement standard and the content descriptions
- describe the characteristics of children’s work to assist teachers to make judgments about the evidence of learning in children’s work.

The SEs have been developed using the Australian Curriculum achievement standard. In Queensland, the Australian Curriculum achievement standard represents a **Working with (WW) standard** — a sound level of knowledge and understanding of the content, and application of skills.

The SEs promote:

- alignment of curriculum, assessment and reporting, connecting curriculum and evidence in assessment, so that what is assessed relates directly to what children have had the opportunity to learn
- continuity of skill development from one band to another.

Subject-specific advice about the Technologies standard elaborations can be found for each subject in the relevant section. See subject-specific sections for:

- Digital Technologies (Section 3)
- Design and Technologies (Section 4).

1.2 School-based assessment

School-based assessment involves individual teachers or groups of teachers making informed decisions about what evidence of learning will be collected at suitable intervals as part of the teaching and learning program.

School-based assessment puts teachers' professional knowledge and practice at the centre of aligning what is taught, how it is taught, how children's learning is assessed and how learning is reported.

1.3 Developing an assessment program

An assessment program is planned at the same time as the teaching and learning program and is developed using the achievement standard and the content descriptions.

A planned assessment program will:

- guide and support targeted teaching and learning
- ensure children have opportunities to demonstrate the depth and breadth of their learning in all aspects of the achievement standard
- provide regular feedback to children about how they can improve their learning
- clarify future teaching and learning needs
- ensure teachers have sufficient evidence of learning to make defensible on-balance judgments about the quality of children's work against the standard.

The assessment program includes:

- a range and balance of assessment categories, techniques and conditions appropriate for the learning area, the year level, the school context and the children's cohort
- opportunities for children to become familiar with the assessment techniques and for teachers to monitor children's achievement and provide feedback to children.

Table 1: Relationship between types and purposes of assessment

Types of assessment	Purposes of assessment
<p>Diagnostic assessment</p> <p>Provides opportunities to use assessment to determine the nature of children's learning as a basis for providing feedback or intervention, e.g. literacy and numeracy indicators</p>	<p>Assessment for learning</p> <p>Enables teachers to use information about children's progress to inform their teaching, e.g. using feedback from a previous unit to inform learning in the current unit</p>
<p>Formative assessment</p> <p>Focuses on monitoring to improve children's learning, e.g. practising an assessment technique</p>	<p>Assessment as learning</p> <p>Enables children to reflect on and monitor their own progress to inform their future learning goals, e.g. opportunities to reflect on an inquiry process</p>
<p>Summative assessment</p> <p>Indicates standards achieved at particular points for reporting purposes, e.g. an assessment that contributes to a reported result</p>	<p>Assessment of learning</p> <p>Assists teachers to use evidence of children's learning to assess children's achievement against standards, e.g. the assessments contained in the targeted folio for reporting</p>

1.4 Assessment folio

The planned assessment program specifies the evidence of learning that is summative assessment or assessment of learning and when it will be collected. This collection of children's responses to assessments makes up a targeted assessment folio.

The targeted assessment folio contains sufficient evidence of learning on which to make a defensible on-balance judgment AP to BA (or equivalent five-point scale) about how well the evidence of children's learning matches the standard for the reporting period.

For advice, see Section 2.2 [Making an on-balance judgment on a folio](#) and the video *Using the standards elaborations to assist in developing an assessment program* available at: www.qcaa.qld.edu.au/31525.html.

A Prep¹ Year to Year 2 Technologies assessment folio includes children's responses that demonstrate achievement in a range and balance of assessments designed to assess the identified knowledge, understandings and skills in the content and achievement standard.

Table 2: Range and balance

Range	Balance
Range is informed by:	Balance is achieved by including:
<ul style="list-style-type: none"> • content descriptions 	<ul style="list-style-type: none"> • all aspects of the curriculum content across the two strands — Knowledge and understanding and Processes and production skills
<ul style="list-style-type: none"> • categories of response: <ul style="list-style-type: none"> – written – spoken/signed – multimodal 	<ul style="list-style-type: none"> • all aspects of the Australian Curriculum achievement standard
<ul style="list-style-type: none"> • assessment techniques: <ul style="list-style-type: none"> – guided projects (digital and design) – collection of work – subject-specific advice 	<ul style="list-style-type: none"> • a variety of assessment categories, techniques and conditions.
<ul style="list-style-type: none"> • assessment conditions: <ul style="list-style-type: none"> – supervised – open – subject-specific advice. 	

See subject-specific sections for advice about the range and balance of an assessment folio in Technologies:

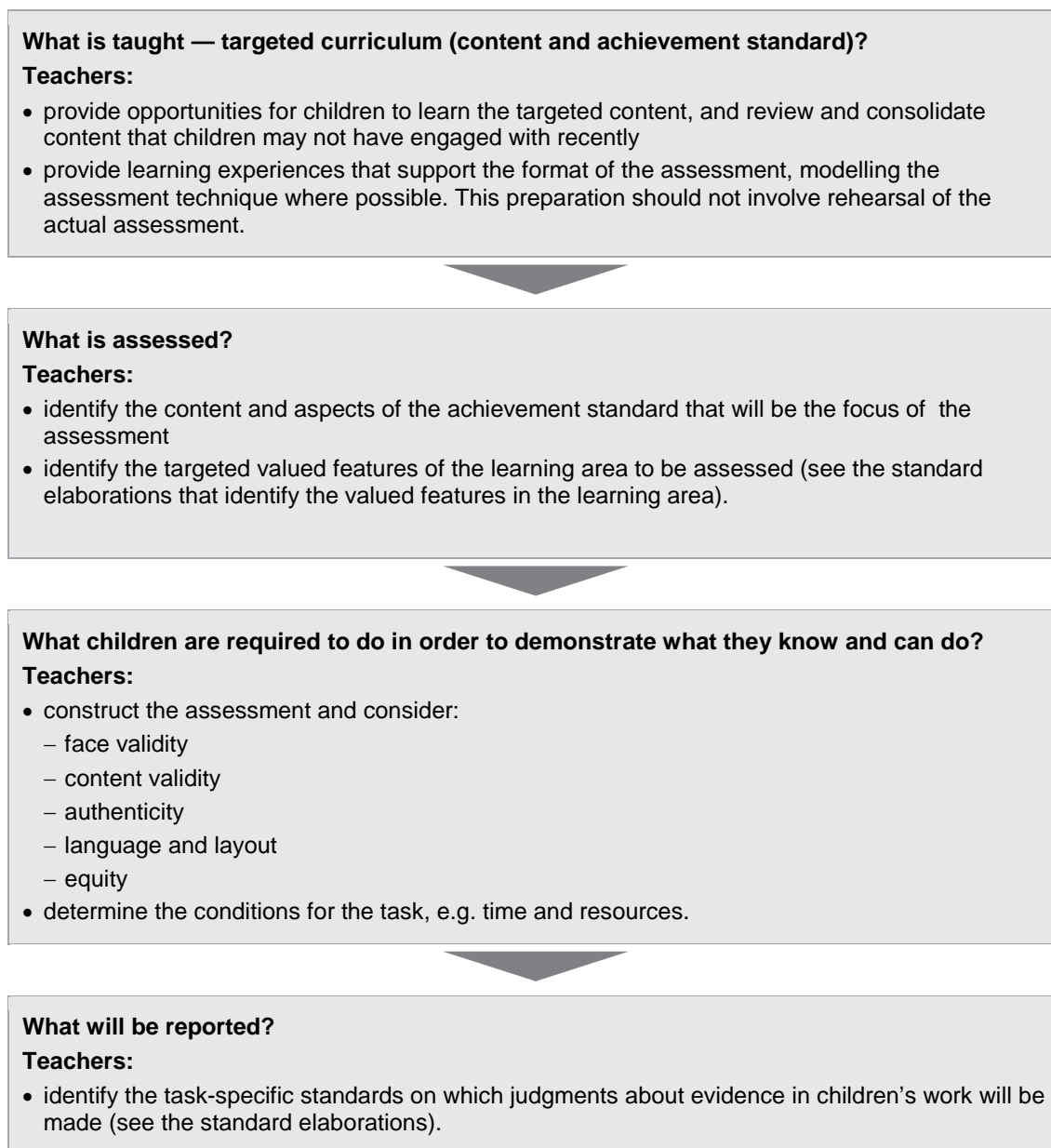
- Digital Technologies (Section [3.2](#))
- Design and Technologies (Section [4.2](#)).

¹ Prep Year in Queensland is the Foundation Year of the Australian Curriculum and refers to the year before Year 1. Children beginning Prep in January are required to be five years of age by 30 June.

1.4.1 Developing assessments

When developing assessment, teachers construct assessments that show the alignment between what has been taught (curriculum), how it is taught (pedagogy), how children are assessed and how the learning is reported. [Figure 2](#) shows the process of alignment.

Figure 2: Aligning assessment



‘Working the assessment’ to confirm the alignment

The following characteristics of effective assessment can be used to assist and support schools with reviewing and evaluating their assessments.

Figure 3: Assessment evaluation using the characteristics of effective assessment

Check the assessment for:	
<p>Face validity The extent to which an assessment appears to assess (on face value) what it intends to assess.</p>	<ul style="list-style-type: none"> Identify the specific content descriptions and aspects of the achievement standard being assessed to determine what is being assessed. Consider whether children’s responses to the assessment will provide evidence of learning for the intended curriculum.
<p>Content validity The extent to which the assessment measures what it claims to measure (either the subject-matter content or behaviour).</p>	<ul style="list-style-type: none"> Review the assessment to determine what is valued in the assessment. Check that it is clear what children are expected to know and be able to do to complete this assessment. Ensure children will be able to demonstrate the full range of standards AP to BA in their responses to the assessment. For example, does the assessment require sufficient depth and breadth of the targeted knowledge, understanding and skills? Does it encourage children to demonstrate a range of thinking skills? Use the standard elaborations to confirm that the assessment provides opportunities for children to demonstrate their achievement in particular targeted aspects of the curriculum content and achievement standard.
<p>Authenticity The extent to which children will find the assessment engaging.</p>	<ul style="list-style-type: none"> Use an appropriate and meaningful context to engage children. Ensure the assessment is pitched appropriately for the year level.
<p>Language and layout The extent to which the assessment clearly communicates to children what is needed for producing their best performance.</p>	<ul style="list-style-type: none"> Identify specific terms children are required to know and consider whether children are likely to understand the terms or not. Check the level of language required to interpret the assessment and consider how well children will be able to understand what the assessment requires them to do. Consider the clarity of the instructions, cues, format, diagrams, illustrations and graphics and how well they assist children to understand what they are required to do.
<p>Equity The extent to which the assessment provides opportunities for all children to demonstrate what they know and can do.</p>	<ul style="list-style-type: none"> Check for any cultural, gender or social references and stereotypes. List aspects of the task that might need adjusting for verified children (see Appendix 2: Educational equity). Note that adjustments to the task should not impact on judgments made about children’s achievement.

Additional resources:

- Designing good assessment (video): www.qcaa.qld.edu.au/19788.html
- Scaffolding — supporting student performance: www.qcaa.qld.edu.au/downloads/p_10/as_scaffolding.docx
- Thinking like an assessor vs. activity designer: www.qcaa.qld.edu.au/downloads/p_10/as_assessor_vs_designer.docx.

1.5 Making judgments

When making judgments about the evidence in children's work, teachers are advised to use task-specific standards. Task-specific standards give teachers:

- a tool for directly matching the evidence of learning in the child's response to the standards
- a focal point for discussing children's responses
- a tool to help provide feedback to children.

Task-specific standards are not a checklist; rather they are a guide that:

- highlights the valued features that are being targeted in the assessment and the qualities that will inform the overall judgment
- specifies particular targeted aspects of the curriculum content and achievement standard — the alignment between the valued feature, the task-specific descriptor and the assessment must be obvious and strong
- clarifies the curriculum expectations for learning at each of the five grades (AP to BA) and shows the connections between what children are expected to know and do, and how their responses will be judged
- allows teachers to make consistent and comparable on-balance judgments about children's work by matching the qualities of children's responses with the descriptors
- supports evidence-based discussions to help children gain a better understanding of how they can critique their own responses and achievements and identify the qualities needed to improve
- increases the likelihood of children communicating confidently about their achievement with teachers and parents/carers and asking relevant questions about their own progress
- encourages and provides the basis for conversations among teachers, children and parents/carers about the quality of children's work and curriculum expectations and related standards.

The standard elaborations for Digital Technologies (Section 3.1.1) and Design and Technologies (Section 4.1.1) are a resource that can be used to inform the development of task-specific standards.

See the short videos:

- Developing task-specific standards
- Making an on-balance judgment on an individual assessment.

These videos are available at: www.qcaa.qld.edu.au/31525.html.

Task-specific standards can be prepared as a matrix or continua. Templates are available with features shown for all year levels and subjects. Teachers select the relevant year:

- Continua:

www.qcaa.qld.edu.au/downloads/p_10/ac_tech_digital_tss_continua.dotx
www.qcaa.qld.edu.au/downloads/p_10/ac_tech_design_tss_continua.dotx

- Matrix:

www.qcaa.qld.edu.au/downloads/p_10/ac_tech_digital_tss_matrix.dotx
www.qcaa.qld.edu.au/downloads/p_10/ac_tech_design_tss_matrix.dotx.

1.6 Using feedback

Feedback is defined as the process of seeking and interpreting evidence for use by children and their teachers to decide where the children are in their learning, where they need to go and how best to get there.

Feedback gathered throughout the teaching and learning cycle informs future teaching learning and assessment. Its purpose is to recognise, encourage and improve children's learning.

Assessment feedback is most helpful if the specific elements of the content (knowledge, understanding and skills) are identified and specific suggestions are provided. The standard elaborations for Digital Technologies (Section 3.1.1) and Design and Technologies (Section 4.1.1) provide a resource for developing specific feedback to children about the valued features in the content and achievement standards.

Assessment alone will not contribute to improved learning. It is what teachers and children do with assessment and other available information that makes a difference.

2 Reporting

Schools are required to provide parents/carers with plain-language reports twice a year. In most schools, this takes place at the end of each semester. The report must:

- be readily understandable and give an accurate and objective assessment of the child’s progress and achievement
- include a judgment of the child’s achievement reported as AP, MC, WW, EX or BA (or equivalent five-point scale), clearly defined against the Australian Curriculum achievement standards.

2.1 Reporting standards

The reporting standards are summary statements that succinctly describe typical performance at each of the five levels (AP to BA) for the two dimensions of the Australian Curriculum achievement standards — understanding (including knowledge) and application of skills for the purpose of reporting twice-yearly.

Table 3: Reporting standards

Applying (AP)	Making connections (MC)	Working with (WW)	Exploring (EX)	Becoming aware (BA)
The child applies the curriculum content and demonstrates a thorough understanding of the required knowledge. The child demonstrates a high level of skill that can be transferred to new situations.	The child makes connections using the curriculum content and demonstrates a clear understanding of the required knowledge. The child applies a high level of skill in situations familiar to them, and is beginning to transfer skills to new situations.	The child can work with the curriculum content and demonstrates understanding of the required knowledge. The child applies skills in situations familiar to them.	The child is exploring the curriculum content and demonstrates understanding of aspects of the required knowledge. The child uses a varying level of skills in situations familiar to them.	The child is becoming aware of the curriculum content and demonstrates a basic understanding of aspects of required knowledge. The child is beginning to use skills in situations familiar to them.

The key purpose of reporting children’s achievement and progress is to improve children’s learning. The following principles underpin reporting school-based, standards-based assessment:

- alignment of teaching, learning, assessment and reporting: what is taught (curriculum) must inform how it is taught (pedagogy), how children are assessed (assessment) and how the learning is reported
- a collection of evidence or folio of children’s work: summative judgments for reporting purposes are based on a planned and targeted selection of evidence of children’s learning collected over the reporting period (see Section 1.4: [Assessment folio](#))
- on-balance judgments: professional decisions made by teachers about the overall quality of a child’s work in a range of assessments that best matches the valued features of a learning area described in the achievement standards at the time of reporting

- moderation: making consistent judgments about children’s achievements within and between schools occurs when teachers develop shared understandings of the curriculum content and achievement standards. Moderation provides children and their parents/carers with confidence that the awarded grades are an accurate judgment of achievement and that the report is meaningful, professional and consistent.

Children’s achievement is reported against the Australian Curriculum achievement standard for the year level they are taught.

Teachers make reasonable adjustments during the cycle of teaching, learning and assessment to support the learning of children with disabilities, e.g. adjustments to presentation, response, timing, scheduling and location. In most instances, the required curriculum content, achievement and reporting standards will be used for these children. (See [Appendix 2: Educational equity](#) for inclusive strategies.)

School sectors and schools make decisions following negotiation with parents/carers about the provision of modified or accelerated learning and assessment programs to meet the learning needs of some children. Reporting achievement for these children should clearly indicate the year level of the curriculum content and the achievement standards against which judgments about children’s achievement have been made.

Achievement in a learning area is only one source of information on children’s achievement and progress. Schools may report on other important aspects of children’s engagement at school separate from achievement in a learning area such as:

- children’s participation and skills in school-based extracurricular activities
- children’s attributes such as effort, punctuality, and social and behavioural skills
- children’s attendance
- other school or system priorities.

2.2 Making an on-balance judgment on a folio

By the end of the year, a planned and targeted assessment program will result in an assessment folio of evidence of children’s learning (summative assessment) on which the overall standard is awarded. (See [Figure 4: Making on-balance judgments](#).)

The range and balance of assessment in the folio ensures there is sufficient evidence of achievement in both dimensions of the Australian Curriculum achievement standard — Understanding and Skills — to make an on-balance judgment for reporting.

An on-balance judgment involves a teacher, or a group of teachers, making a professional decision about how the pattern of evidence in the folio best matches the standards. See the short video *Making an on-balance judgment on a folio of student work*, available at: www.qcaa.qld.edu.au/27974.html.

An on-balance judgment does not involve averaging grades across different assessments or ticking every box. Rather it is a professional judgment that considers all the evidence of achievement in the folio.

The standard elaborations (SEs) assist in making the on-balance decision. The SEs describe *how well* on a five-point scale children have demonstrated what they know, understand and can do using the Australian Curriculum achievement standard. The SEs assist teachers to make consistent and comparable evidence-based AP to BA judgments about the patterns of evidence in a folio of work. They provide transparency about how decisions about grades are made, and for conversations among teachers, children and parents/carers about the qualities in children’s work matched to the valued features in the curriculum expectations and the standards.

2.2.1 Making an on-balance judgment for mid-year reporting

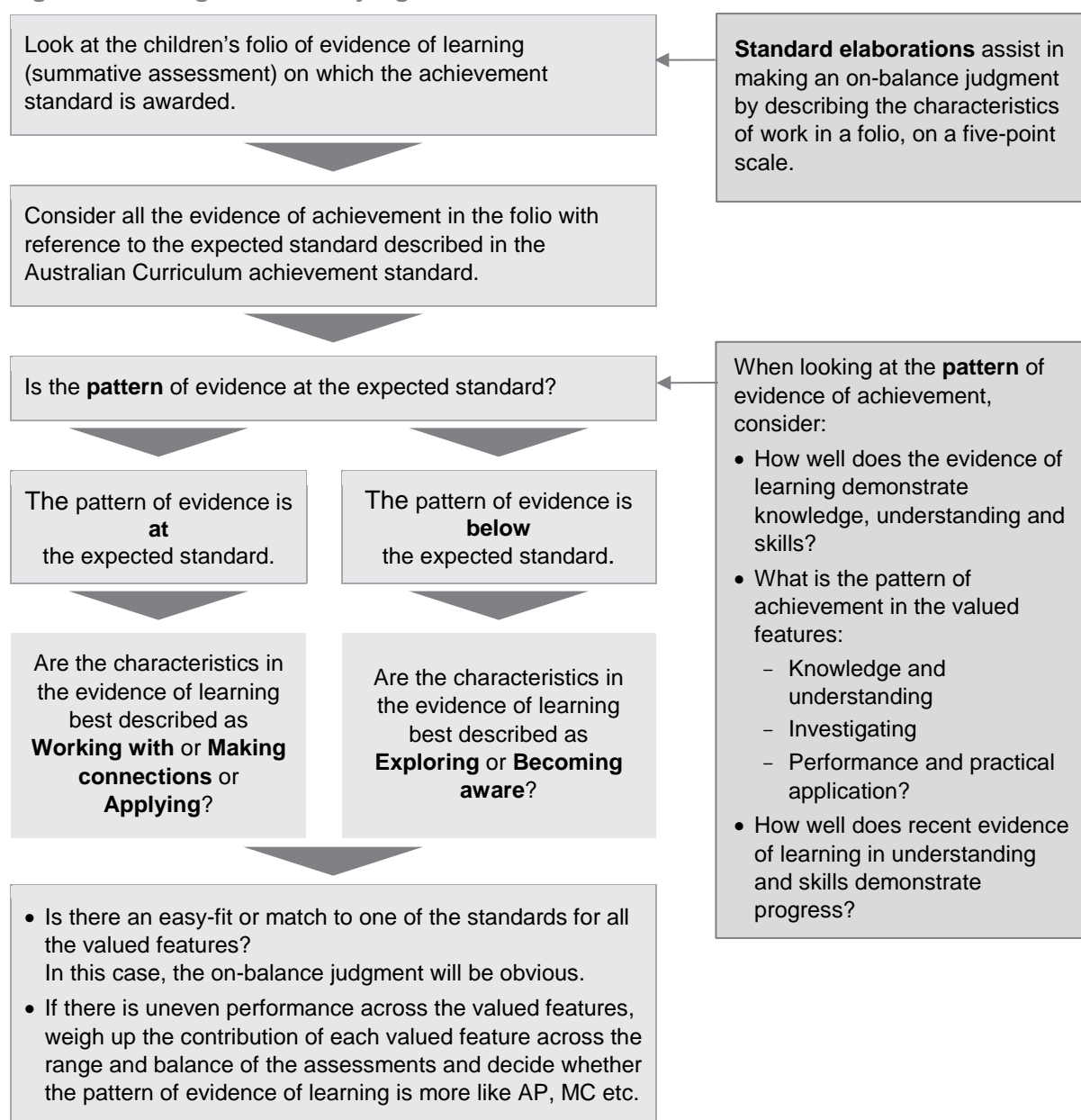
For mid-year reporting, the on-balance judgment is based on the pattern of evidence of children's achievement and progress *at the time of reporting* and in relation to what has been taught and assessed during the reporting period.

The application of the Australian Curriculum achievement standard during the year requires a judgment based on matching qualities in children's work rather than checking coverage.

The standard elaborations (Section 1.1.3) assist in making an on-balance judgment for mid-year reporting.

The process for assessing and making judgments about children's achievement may be assisted by progressively recording children's achievement for each assessment on a child's profile or similar.

Figure 4: Making on-balance judgments



2.2.2 Moderation

The achievement standards guide teacher judgment about how well children have achieved. The most effective way to build consistent and comparable on-balance teacher judgment is through planned activities when teachers — in a partnership or team situation — engage in focused professional dialogue to discuss and analyse the quality of children’s work, compare their judgments about children’s achievement and determine the match between the evidence in children’s work and standards. This process is known as moderation.

Professional dialogue increases teachers’ awareness about the variety of ways in which children may respond to the assessment and the types of evidence that may be available to support teacher judgments. In this way, teachers gain valuable insights about how the standards can be demonstrated in children’s work. They build a shared understanding about the match of evidence to standards, enhancing classroom practice and supporting the alignment of curriculum and assessment.

Moderation provides children and their parents/carers with confidence that the standards awarded are defensible judgments of achievement and that the report is meaningful, professional and consistent.

See the following factsheets for more information:

- Consistency of judgments — Calibration model:
www.qcaa.qld.edu.au/downloads/p_10/as_coj_calibration.doc
- Consistency of judgments — Conferencing model:
www.qcaa.qld.edu.au/downloads/p_10/as_coj_conferencing.doc
- Consistency of judgments — Expert model:
www.qcaa.qld.edu.au/downloads/p_10/as_coj_expert.docx.

3 Digital Technologies

3.1 Digital Technologies achievement standards

The Australian Curriculum achievement standards and content descriptions are the **mandatory aspects** of the Australian Curriculum for schools to implement. The achievement standards are organised under two dimensions, **understanding** and **skills**, and describe a broad sequence of expected learning across P–10.

The achievement standard should be read in conjunction with the content descriptions, available from: www.australiancurriculum.edu.au/technologies/digital-technologies/curriculum/f-10.

The achievement standards describe expected student learning at each band level. They emphasise the depth of conceptual understanding, the sophistication of skills and the ability to apply essential knowledge expected of students.

Teachers use the achievement standards during and at the end of a period of teaching to make on-balance judgments about the quality of learning students demonstrate.

Table 4: The Australian Curriculum achievement standard

Dimension	What children are expected to know and do
<p>Understanding <i>the concepts underpinning and connecting knowledge in a learning area and the ability to appropriately select and apply knowledge to solve problems in that learning area</i></p>	<p>By the end of Year 2</p> <p>Students identify how common digital systems (hardware and software) are used to meet specific purposes. They use digital systems to represent simple patterns in data in different ways.</p>
<p>Skills <i>the specific techniques, strategies and processes in a learning area</i></p>	<p>By the end of Year 2</p> <p>Students design solutions to simple problems using a sequence of steps and decisions. They collect familiar data and display them to convey meaning. They create and organise ideas and information using information systems and share information in safe online environments.</p>

3.1.1 Digital Technologies standard elaborations

The SEs have been developed using the Australian Curriculum: Digital Technologies achievement standard. In Queensland, the Australian Curriculum achievement standard represents a **Working with (WW) standard** — a sound level of knowledge and understanding of the content, and application of skills.

Teachers can use the SEs to:

- match the evidence of learning in a folio or collection of children's work gathered over the reporting period to determine how well a child has achieved against the achievement standard on a five-point scale (see Section 2: [Reporting](#))
- inform the development of an assessment program and individual assessments (see Section 1.4: [Assessment folio](#))
- inform the development of task-specific standards (see Section 1.4: [Assessment folio](#) and Section 1.5: [Making judgments](#)).

Using the SEs

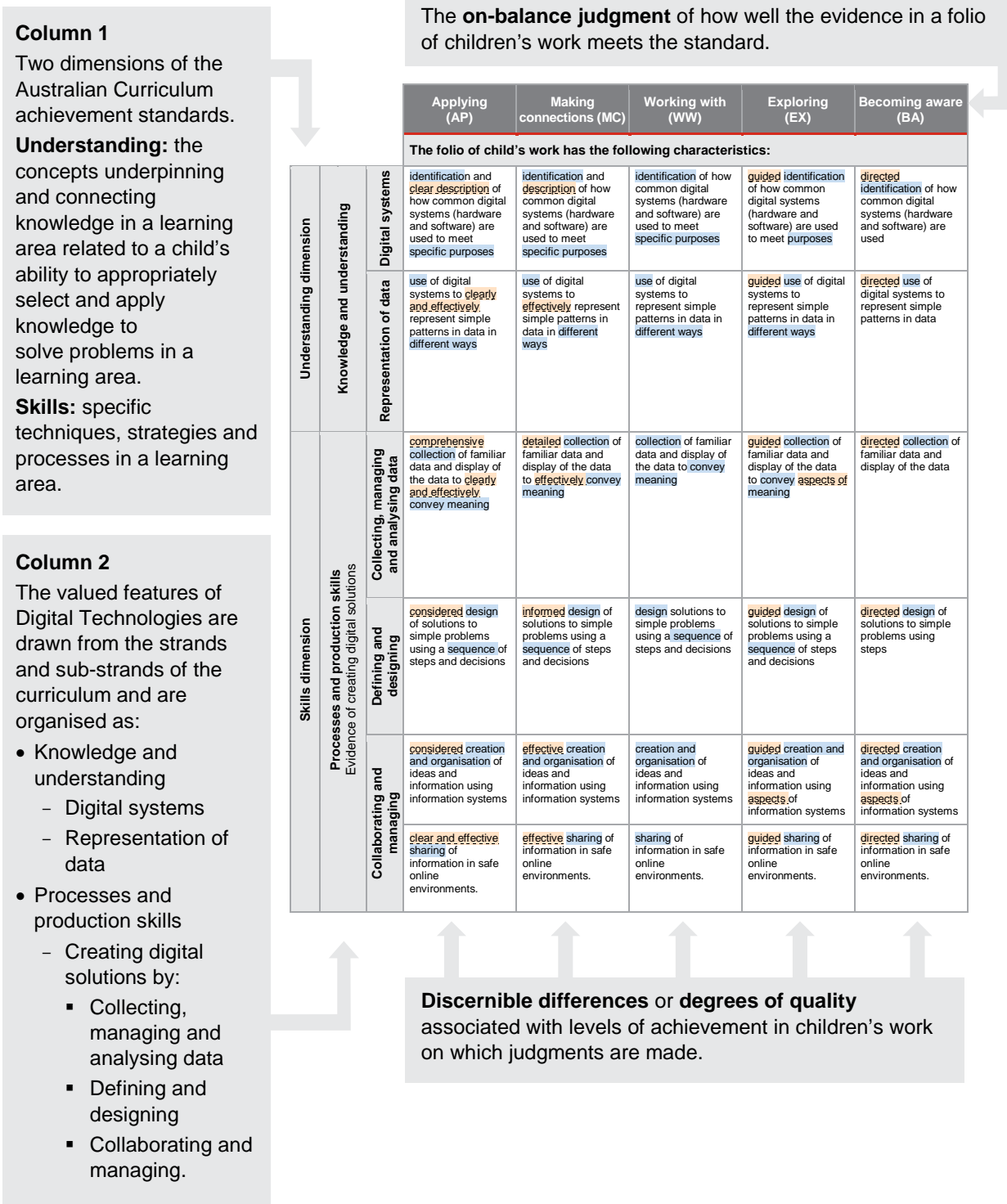
The valued features in the content descriptions and the achievement standards determine the structure of the SEs. (See [Figure 5: The structure of the Digital Technologies standard elaborations for Prep Year to Year 2.](#))

The Digital Technologies SEs for Prep Year to Year 2 are available from the QCAA website: www.qcaa.qld.edu.au/36096.html.

The QCAA have produced four short videos (available at www.qcaa.qld.edu.au/31525.html) which outline the purpose and use of the Australian Curriculum standards elaborations:

- Using the standards elaborations to assist in developing an assessment program
- Developing task-specific standards
- Making an on-balance judgment on an individual assessment
- Making an on-balance judgment on a folio of student work.

Figure 5: The structure of the Digital Technologies standard elaborations for Prep Year to Year 2



3.2 Digital Technologies assessment

3.2.1 Assessment techniques, assessment tasks/formats and categories of response

The following tables provide information and examples about assessment techniques, tasks/formats and categories of response for developing a range and balance within an assessment program. The techniques, tasks/formats and categories of response used should consider the age and capacity of the child.

[Appendix 4: Glossary](#) provides a glossary of terms used throughout the assessment techniques.

Table 5: Assessment techniques, tasks/formats and categories of response for Digital Technologies

Technique: Guided digital projects	Technique: Collection of work
To assess children’s abilities to create digital solutions to simple problems by collecting and displaying familiar data, creating and organising ideas and sharing information using information systems in safe online environments.	To assess children’s responses to a series of focused tasks, within a single or cohesive context.
Description	
<ul style="list-style-type: none"> • Guided digital projects require children to apply their knowledge and understanding of digital systems to design solutions to simple problems using a sequence of steps and decisions. They should have: <ul style="list-style-type: none"> – a benefit, purpose or use – a user or audience – a real-world technologies context. • Children use a variety of process and production skills when completing digital projects. For more detailed information about these processes and skills, please see Appendix 3: Processes and production skills. • In a P–2 context, guided digital project work is guided and involves teachers supporting children to plan steps, follow directions and work safely. • All practical work must be organised with children’s safety in mind. Schools must ensure that their practices meet current guidelines. These are clearly explained at the Queensland Government, Department of Education, Training and Employment website: http://education.qld.gov.au/health/safety/index.html. 	<ul style="list-style-type: none"> • A collection of work consists of children’s responses to a small number of short tasks, conducted in class over a series of lessons. • In a P–2 context, teachers guide and collaborate with children to make the requirements of each task explicit.

Continues over page

Technique: Guided digital projects	Technique: Collection of work
Task/Format	
<p>Examples of guided digital project tasks/formats may include:</p> <ul style="list-style-type: none"> • creating a range of digital solutions, through guided play and integrated learning, such as: <ul style="list-style-type: none"> – using robotic toys to navigate a map – recording science data with software applications – simple interactive stories and animations – creating webcasts and podcasts. 	<p>Examples of collection of work tasks/formats may include:</p> <ul style="list-style-type: none"> • descriptions of digital systems and their features: <ul style="list-style-type: none"> – annotated drawings and/or photographs – labelled diagrams – 3D models – oral and/or written texts • collections and representations of data: <ul style="list-style-type: none"> – tallies – tables – graphs <p>explanations of steps and decisions:</p> <ul style="list-style-type: none"> – flowcharts – diagrams – oral and/or written instructions <ul style="list-style-type: none"> • using information systems to present data <ul style="list-style-type: none"> – PowerPoint presentations – iPad applications • evaluations of processes and products <ul style="list-style-type: none"> – reflective journal entries.
Categories of response	
Responses can be written, spoken/signed or multimodal (integrate visual, print and/or audio features).	

Recording devices to gather evidence

Observation records allow teachers to record evidence of children’s learning in a range of contexts. In Prep Year to Year 2, observation records may be particularly useful in enabling teachers to document the understanding and skills children demonstrate through the assessment techniques listed in [Table 5: Assessment techniques, tasks/formats and categories of response for Digital Technologies](#). Additionally, observation records may be used to record evidence that children are only capable of demonstrating physically or verbally. Observation records may be digital and/or written. Example formats may include:

- teacher annotation of children’s work samples
- anecdotal records/note-taking of observed behaviours
- whole class, small group and individual questioning
- informal and/or guided discussions with children about their work
- understanding and skills checklists.

3.2.2 Assessment conditions

In Prep Year to Year 2, teachers consider the context of the task and the year level of the children to make decisions about the length of time and conditions under which assessment tasks are conducted. There are no prescribed times or lengths for tasks in Prep Year to Year 2. The length of responses should be considered in the context of the assessment. Longer responses do not necessarily provide better quality evidence of achievement.

4 Design and Technologies

4.1 Design and Technologies achievement standards

The Australian Curriculum achievement standards and content descriptions are the **mandatory aspects** of the Australian Curriculum for schools to implement. The achievement standards are organised under two dimensions, **understanding** and **skills**, and describe a broad sequence of expected learning across P–10.

The achievement standard should be read in conjunction with the content descriptions, available from: www.australiancurriculum.edu.au/technologies/design-and-technologies/curriculum/f-10.

The achievement standards describe expected student learning at each band level. They emphasise the depth of conceptual understanding, the sophistication of skills and the ability to apply essential knowledge expected of students.

Teachers use the achievement standards during and at the end of a period of teaching to make on-balance judgments about the quality of learning students demonstrate.

Table 6: The Australian Curriculum achievement standard

Dimension	What children are expected to know and do
<p>Understanding <i>the concepts underpinning and connecting knowledge in a learning area and the ability to appropriately select and apply knowledge to solve problems in that learning area</i></p>	<p>By the end of Year 2</p> <p>Students describe the purpose of familiar products, services and environments and how they meet the needs of users and affect others and environments. They identify the features and uses of some technologies for each of the prescribed technologies contexts.</p>
<p>Skills <i>the specific techniques, strategies and processes in a learning area</i></p>	<p>By the end of Year 2</p> <p>With guidance students create designed solutions for each of the prescribed technologies contexts. They describe given needs or opportunities. Students create and evaluate their ideas and designed solutions based on personal preferences. They communicate design ideas for their designed products, services and environments using modelling and simple drawings. Following sequenced steps students demonstrate safe use of tools and equipment when producing designed solutions.</p>

4.1.1 Design and Technologies standard elaborations

The SEs have been developed using the Australian Curriculum: Design and Technologies achievement standard. In Queensland, the Australian Curriculum achievement standard represents a **Working with (WW) standard** — a sound level of knowledge and understanding of the content, and application of skills.

Teachers can use the SEs to:

- match the evidence of learning in a folio or collection of children's work gathered over the reporting period to determine how well a child has achieved against the achievement standard on a five-point scale (see Section 2: [Reporting](#))
- inform the development of an assessment program and individual assessments (see Section 1.4: [Assessment folio](#))
- inform the development of task-specific standards (see Section 1.4: [Assessment folio](#) and Section 1.5: [Making judgments](#)).

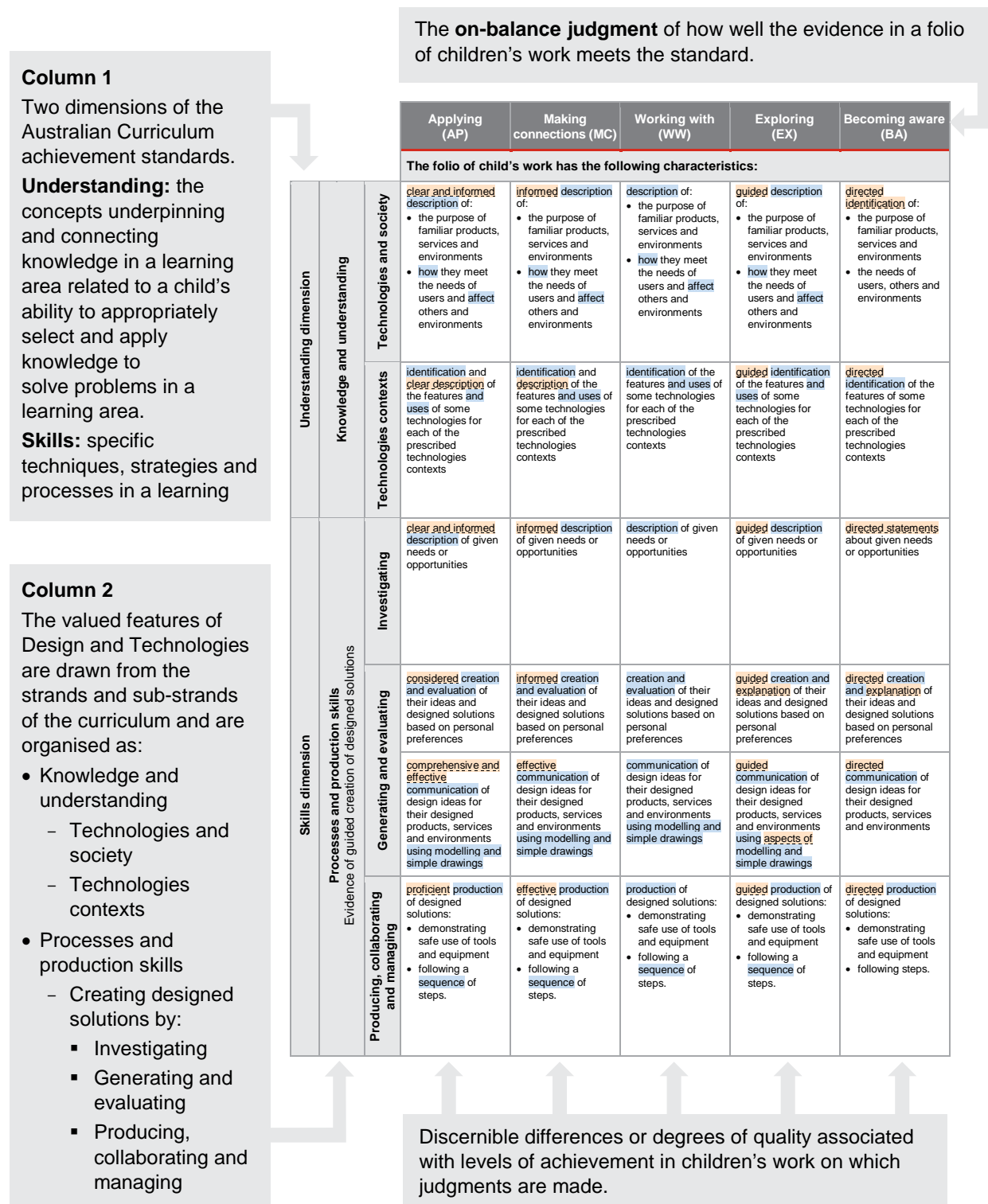
Using the SEs

The valued features in the content descriptions and the achievement standards determine the structure of the SEs. (See [Figure 6: The structure of the Design and Technologies standard elaborations for Prep Year to Year 2](#)). The Design and Technologies SEs for Prep Year to Year 2 are available from the QCAA website: www.qcaa.qld.edu.au/36096.html.

The QCAA have produced four short videos (available at www.qcaa.qld.edu.au/31525.html) which outline the purpose and use of the Australian Curriculum standards elaborations:

- Using the standards elaborations to assist in developing an assessment program
- Developing task-specific standards
- Making an on-balance judgment on an individual assessment
- Making an on-balance judgment on a folio of student work.

Figure 6: The structure of the Design and Technologies standard elaborations for Prep Year to Year 2



4.2 Design and Technologies assessment

4.2.1 Assessment techniques, assessment tasks/formats and categories of response

The following tables provide information and examples about assessment techniques, formats and categories for developing a range and balance within an assessment program. The techniques, tasks/formats and categories of response used should consider the age and capacity of the child.

[Appendix 4: Glossary](#) provides a glossary of terms used throughout the assessment techniques.

Table 7: Assessment techniques, tasks/formats and categories of response for Design and Technologies

Technique: Guided design projects	Technique: Collection of work
To assess children’s abilities to create design solutions by investigating needs or opportunities, evaluating and communicating ideas and safely following a sequence of steps.	To assess children’s responses to a series of focused tasks, within a single or cohesive context.
Description	
<p>Guided design projects require children to use their knowledge, understanding and skills to design, plan, produce and evaluate products, services and environments. They should have:</p> <ul style="list-style-type: none"> • a personal and/or family setting where there is an immediate, direct and tangible outcome • a focus on playfulness and practical exploration. <p>Children use a variety of processes and production skills when completing design projects. See Appendix 3: Processes and production skills.</p> <p>In a P–2 context, design project work is guided and involves teachers supporting children to plan steps and follow directions and work safely.</p> <ul style="list-style-type: none"> • All practical work must be organised with children’s safety in mind. Schools must ensure that their practices meet current guidelines. These are clearly explained at the Queensland Government, Department of Education, Training and Employment website: education.qld.gov.au/health/safety/index.html. 	<ul style="list-style-type: none"> • A collection of work consists of children’s responses to a small number of short tasks, conducted in class over a series of lessons. • In a P–2 context, teachers guide and collaborate with children to make the requirements of each task explicit.

Continues over page

Technique: Guided design projects	Technique: Collection of work
Task/Format	
<p>Examples of guided design project formats may include opportunities:</p> <ul style="list-style-type: none"> • to make design decisions based on personal and family needs such as: <ul style="list-style-type: none"> – caring about places and resources they use considering environmental sustainability factors • to design products, services and environments based in the following three contexts: <ul style="list-style-type: none"> – Engineering principles and systems – Food and fibre production – Materials and technologies specialisations. 	<p>Examples of collection of work tasks/formats may include:</p> <ul style="list-style-type: none"> • descriptions of the characteristics and properties of materials and components used to produce designed solutions: <ul style="list-style-type: none"> – annotated drawings and/or photographs – labelled diagrams – 3D models – oral and/or written texts • exploring technologies used to realise designed solutions: <ul style="list-style-type: none"> – tables – graphs • explanations of steps and design decisions: <ul style="list-style-type: none"> – flowcharts – diagrams – oral and/or written instructions • evaluations of processes and products <ul style="list-style-type: none"> – reflective journal entries.
Categories of response	
Responses can be written, spoken/signed or multimodal (integrate visual, print and/or audio features).	

Recording devices to gather evidence

Observation records allow teachers to record evidence of children’s learning in a range of contexts. In Prep Year to Year 2, observation records may be particularly useful in enabling teachers to document the understanding and skills children demonstrate through the assessment techniques listed in [Table 7: Assessment techniques, tasks/formats and categories of response for Design and Technologies](#). Additionally, observation records may be used to record evidence that children are only capable of demonstrating physically or verbally. Observation records may be digital and/or written. Example formats may include:

- teacher annotation of children’s work samples
- anecdotal records/note-taking of observed behaviours
- whole class, small group and individual questioning
- informal and/or guided discussions with children about their work
- understanding and skills checklists.

4.2.2 Assessment conditions

In Prep Year to Year 2, teachers consider the context of the task and the year level of the children to make decisions about the length of time and conditions under which assessment tasks are conducted. There are no prescribed times or lengths for tasks in Prep Year to Year 2. The length of responses should be considered in the context of the assessment. Longer responses do not necessarily provide better quality evidence of achievement.

Appendix 1: Principles of assessment

The following principles were developed to inform the policy context of the national curriculum and provide a basis on which local decisions about specific approaches to assessment can be built.

1. The main purposes of assessment are to inform teaching, improve learning and report on the achievement of standards.
2. Assessment is underpinned by principles of equity and excellence. It takes account of the diverse needs of children and contexts of education, and the goal of promoting equity and excellence in Australian schooling.
3. Assessment is aligned with curriculum, pedagogy and reporting. Quality assessment has curricular and instructional validity — what is taught informs what is assessed, and what is assessed informs what is reported.
4. Assessment aligned with curriculum, pedagogy and reporting includes assessment of deep knowledge of core concepts within and across the disciplines, problem solving, collaboration, analysis, synthesis and critical thinking.
5. Assessment involves collecting evidence about expected learning as the basis for judgments about the achieved quality of that learning. Quality is judged with reference to published standards and is based on evidence.
6. Assessment evidence should come from a range of assessment activities. The assessment activity is selected because of its relevance to the knowledge, skills and understanding to be assessed, and the purpose of the assessment.
7. Information collected through assessment activities is sufficient and suitable to enable defensible judgments to be made. To show the depth and breadth of the children's learning, evidence of children's learning is compiled over time. Standards are reviewed periodically and adjusted according to evidence to facilitate continuous improvement.
8. Approaches to assessment are consistent with and responsive to local and jurisdictional policies, priorities and contexts. It is important that schools have the freedom and support to develop quality assessment practices and programs that suit their particular circumstances and those of the children they are assessing.
9. Assessment practices and reporting are transparent. It is important that there is professional and public confidence in the processes used, the information obtained and the decisions made.

Appendix 2: Educational equity

Equity means fair treatment of all.

In developing teaching, learning and assessment programs, teachers provide opportunities for all children to demonstrate what they know and what they can do.

Catering for diversity

Schools and school sectors determine which children require special provisions, applying principles of participation and equity. Consideration should be given to:

- adjustments and supports for children who have been identified as having specific educational requirements to make participation possible in all or part of the teaching and learning experiences and assessments
- interpreter or educational devices (e.g. pictures, electronic whiteboards, interactive devices) to assist children for whom English is not their first language and who are assessed as not achieving a reading level appropriate to complete the assessment.

In exceptional circumstances, the school, in consultation with staff and parents/carers, may make decisions about the level of children's engagement with a particular assessment, according to school sector policy.

Inclusive strategies

Adjustments to teaching, learning and assessment can be grouped into five broad areas: *timing, scheduling, setting, presentation and response*.

Teachers consider the inclusive strategies to make adjustments to teaching and learning experiences and assessments to enable all children to demonstrate their knowledge, skills or competencies.

The inclusive strategies should be considered in combination when planning, developing and documenting the adjustment of learning experiences and assessment. For example, when planning an assessment, the teacher may need to consider adjusting the timing, setting, presentation and response to ensure the child is given the opportunities to demonstrate their learning.

Evaluating the use and effectiveness of any adjustment is necessary to ensure meaningful child participation and achievement.

Further information

For further information and supporting resources, see:

- QCAA, Equity in education (includes QCAA's Equity statement):
www.qcaa.qld.edu.au/10188.html
- QCAA, Catering for diversity:
www.qcaa.qld.edu.au/18307.html
- ACARA, Student diversity:
www.acara.edu.au/curriculum/student_diversity/student_diversity.html.

Appendix 3: Processes and production skills

In the early years, children are curious about their world and are interested in exploring it. They have opportunities to learn through purposeful and directed play to develop attitudes of care about the places and resources they use.

Through these processes and production skills they:

- identify relationships between imagined and virtual worlds and the real world, between people and products, and between resources and environments (systems thinking)
- explore materials, tools and equipment and use drawing and modelling to communicate their design ideas
- engage in design thinking — where children learn about and experience connections between technologies and the designed world
- engage in computational thinking — where they begin to learn the importance of preparing precise instructions when solving problems using digital systems, creating ideas and information and sharing them online with known people.

Digital Technologies

Children use their knowledge and understanding of data and digital systems to apply processes and production skills as they create digital solutions. They apply the four-stage process of defining, designing, implementing and evaluating when individually or collaboratively managing projects to create digital solutions. Solutions may be developed using combinations of readily available hardware and software applications, and/or specific instructions provided through programming.

Children will engage in learning activities that do not require the full use of the process. For example, in the early years children will:

- experiment with different ways of using digital systems to capture and present data
- they will explore alternative sets of instructions through guided play when writing simple sequences of steps
- learn to apply safe and ethical practices to protect themselves and others as they interact online for learning and communicating.

In Prep Year to Year 2

Children will:

- collect, organise, manipulate and present data, including numerical, categorical, text, image, audio and video data, in creative ways to create meaning
- define and design digital solutions *through* guided play and integrated learning
- communicate ideas and information (Foundation Year to Year 4).

Source: Australian Curriculum: Technologies

Design and Technologies

By the end of each band children will:

- be actively involved in projects; this usually involves personal and family settings where there is an immediate, direct and tangible outcome, and where playfulness and practical exploration are a focus
- work on design projects that develop processes and production skills in investigating, generating, producing, evaluating, and collaborating and managing
- consider the impact of their decisions and of technologies on others and the environment including in relation to preferred futures
- reflect on their participation in a design process
- focus on enterprise and marketing by involving local audiences and promotion through displays and presentations and sharing products and services from a personal perspective.

In Prep Year to Year 2

Children will:

- investigate — involves exploring and investigating needs and opportunities
- generate and evaluate — involves making judgments throughout a design process and about the quality and effectiveness of their designed solutions by:
 - communicating and creating innovative ideas using a range of technologies including a variety of graphical representation techniques, such as drawing, modelling and explaining design ideas; labelling drawings; drawing objects as two-dimensional images from different views; drawing products and simple environments and verbalising design ideas
- produce — involves learning and applying a variety of skills and techniques to make products, services or environments designed to meet specific purposes and user needs
- collaborate and manage — involves planning (with teacher support) simple steps and following directions to complete their own or group design ideas or projects, and managing their own role within team projects
 - they are aware of others around them and the need to work safely and collaboratively when making designed solutions.

Source: Australian Curriculum: Technologies

Appendix 4: Glossary

Key assessment terms

Term	Description
assessment	the purposeful and systematic collection of evidence about children's achievements
assessment task	a tool or instrument to gather evidence of children's achievement
skills	the specific techniques, strategies and processes in a learning area
understanding	the concepts underpinning and connecting knowledge in a learning area, related to a children's ability to appropriately select and apply knowledge to solve problems in that learning area

Terms used in assessment techniques

The following definitions help to clarify the terms used in the Prep Year to Year 2 Technologies assessment techniques. These definitions should be read in conjunction with ACARA's Technologies glossary: www.australiancurriculum.edu.au/technologies/glossary.

Key:

- Digital Technologies term
- Design and Technologies term
- Common to both subjects

Term	Description
algorithm	the step-by-step procedures required to solve a problem; see also computational thinking
apply; applying	use or employ in a particular situation
collaborating and managing (design process)	children learn to work collaboratively and to manage time and other resources to effectively create designed solutions; to do this they: <ul style="list-style-type: none"> • work individually and in groups to plan, organise and monitor timelines, activities and the use of resources • progress from planning steps in a project through to more complex project management activities that consider various factors (e.g. time, cost, risk, quality control) • progressively develop the ability to communicate and share ideas throughout the process, negotiating roles and responsibilities and making compromises to work effectively as a team
collaborating and managing (technologies process)	creating and communicating information, especially online, by creating websites, and interacting safely using appropriate technical and social protocols; in Digital Technologies, children should be given opportunities to develop <i>collaborating and managing</i> skills progressively: <ul style="list-style-type: none"> • in Prep to Year 4, children communicate ideas and information

Term	Description
collecting, managing and analysing data	involves the nature and properties of data, how they are collected and interpreted using a range of digital systems and peripheral devices and interpreting data when creating information
computational thinking	a problem-solving method that involves various techniques and strategies that can be implemented by digital systems ; techniques and strategies include organising data logically, breaking down problems into parts (decomposing), defining abstract concepts, and designing and using algorithms , patterns and models
communicate; communication	sharing of information and design ideas; includes using graphical representation techniques (e.g. drawing, sketching and modelling) to create innovative ideas that focus on high-quality designed solutions
constructed environments	environments developed, built and/or made by people for human and animal activity, including buildings, streets, gardens, bridges and parks; include natural environments after they have been changed by people for a purpose
creation; create; creating	putting elements together to form a coherent or functional whole; reorganising elements into a new pattern or structure through generating, planning, or producing; <i>creating</i> requires users to put parts together in a new way or synthesise parts into something new and different a new form or product
creation; create; creating	putting elements together to form a coherent or functional whole; reorganising elements into a new pattern or structure through designing, planning, or implementing; <i>creating</i> requires users to put parts together in a new way or synthesise parts into something new and different a new form or product
criteria for success	a descriptive list of essential features against which success can be measured; may be predetermined, negotiated with the class or developed by children; compilation of <i>criteria for success</i> involves: <ul style="list-style-type: none"> • literacy skills to select and use appropriate terminology • clarifying the project task and defining the need or opportunity to be resolved
data	the discrete representation of information using number codes; may include characters (alphabetic, numbers, symbols), images (still and moving), sounds and instructions that can be manipulated, stored and communicated by digital systems
decompose	to separate a complex problem into parts to allow it to be more easily understood; see also computational thinking
defining (technologies process)	describes the problem and/or opportunity and states what is required of the solution
designing (technologies process)	states what is required of the solution

Term	Description
design processes	<p>in Design and Technologies, <i>design processes</i> are:</p> <ul style="list-style-type: none"> • investigating • generating • producing • evaluating • collaborating and managing; <p>see also technologies processes</p>
designed solutions	<p>the products, services or environments that have been created for a specific purpose or intention as a result of design thinking, design processes and production processes;</p> <p>in Design and Technologies Prep to Year 2, children should have opportunities to:</p> <ul style="list-style-type: none"> • create <i>designed solutions</i> at least once in <i>three</i> prescribed technologies contexts • experience designing and producing products, services and environments (this may occur through integrated learning)
digital solution; digital solutions	<p>the result (or output) of transforming data into information or action using digital systems, skills, techniques and processes to meet a need or opportunity;</p> <p>in Digital Technologies:</p> <ul style="list-style-type: none"> • children create solutions that will use data, require interactions with users and within systems, and will have impacts on people, the economy and environments • solutions may be developed using combinations of readily available hardware and software applications, and/or specific instructions provided through programming (e.g. instructions for a robot, an adventure game, products featuring interactive multimedia including digital stories, animations and websites) • in Prep to Year 2, children should have opportunities to create a range of digital solutions through guided play and integrated learning, such as: <ul style="list-style-type: none"> – using robotic toys to navigate a map – recording science data with software applications
digital systems	<p>digital hardware and software components (internal and external) used to transform data into digital solutions; when digital systems are connected they form a network; for example:</p> <ul style="list-style-type: none"> • a smartphone is a digital system that has software (apps, an operating system), input components (e.g. touch screen, keyboard, camera and microphone), output components (e.g. screen and speakers), memory components (e.g. silicon chips, solid state drives), communication components (e.g. SIM card, wi-fi, bluetooth or mobile network antennas), and a processor made up of one or more silicon chips • a desktop computer with specific software and hardware components for dairy farming; the computer is connected via cables to milking equipment and via wi-fi to sensors that read tags on the cows; through these hardware components the software records how much milk each cow provides; such systems can also algorithmically control attaching milking equipment to each cow, providing feed and opening gates
digital environments	<p>environments that are entirely presented or experienced with digital technologies; can be a situation, a sphere of activity, or a simulated place (e.g. a social network that provides a digital environment for communicating with friends, software that provides a digital environment for editing photographs)</p>
directed	<p>following the instructions of the facilitator</p>

Term	Description
environment	a place or space in which technologies processes operate and/or one of the outputs of technologies processes; environments can be natural, managed, constructed or digital
evaluate; evaluating (design process)	examine and judge the merit or significance of something; children evaluate and make judgments throughout a design process and about the quality and effectiveness of their designed solutions and those of others; to do this they: <ul style="list-style-type: none"> • identify criteria for success (in Prep to Year 2 the teacher may guide the development of these criteria; progressively children develop criteria which become increasingly more comprehensive) • consider the implications and consequences of actions and decision-making • determine effective ways to test and judge their designed solutions • reflect on processes and transfer their learning to other design opportunities
evaluate; evaluating (technologies process)	measures performance against established criteria; estimates the nature, quality, ability, extent or significance to make a judgment determining the value; in Digital Technologies, <i>evaluating</i> includes: <ul style="list-style-type: none"> • solutions that have been developed by children • examining how well existing information systems meet different needs
explanation; explain	provide additional information that demonstrates understanding of reasoning and/or application
features	a distinctive attribute, characteristic, property or quality of something (e.g. an object, material, living thing, system or event)
generating (design process)	children develop and communicate ideas for a range of audiences; to do this they: <ul style="list-style-type: none"> • create change, make choices, weigh up options, consider alternatives and document various design ideas and possibilities • use critical and creative thinking strategies to generate, evaluate and document ideas to meet needs or opportunities that have been identified by an individual, group or wider community • evaluate, justify and synthesise what they learn and discover • use graphical representation techniques when they draw, sketch, model and create innovative ideas that focus on high-quality designed solutions; <i>generating creative and innovative ideas</i> involves thinking differently; it entails proposing new approaches to existing problems and identifying new design opportunities considering preferred futures; <i>generating and developing ideas</i> involves identifying various competing factors that may influence and dictate the focus of the idea
graphical representations techniques	techniques used to communicate ideas and plans (e.g. sketching, drawing, modelling, making patterns, technical drawing, computer-aided drawing); in Design and Technologies Prep to Year 2, children: <ul style="list-style-type: none"> • draw, model and explain design ideas • label drawings • draw objects as two-dimensional images from different views • draw products and simple environments and verbalise design ideas
guided; guidance	visual and/or verbal prompts to facilitate or support independent action

Term	Description
investigating (design process)	<p>children critique, explore and investigate needs, opportunities and information; as creators and consumers they:</p> <ul style="list-style-type: none"> critically reflect on the intention, purpose and operation of technologies and designed solutions examine values, analyse, question and review processes and systems reflect on how decisions they make may have implications for the individual, society and the local and global environment, now and in the future explore and investigate technologies, systems, products, services and environments as they consider the needs of society progressively develop effective investigation strategies and consider the contribution of technologies to their lives and make judgments about them; <p>children may respond to design briefs or develop design briefs in response to needs and opportunities</p>
managed environments	environments coordinated by humans (e.g. farms, forests, marine parks, waterways, wetlands, storage facilities)
natural environments	environments in which humans do not make significant interventions (e.g. oceans, natural woodlands, national parks)
prescribed technologies contexts	see technologies contexts
processes and production skills	the skills needed to create designed solutions ; see also technologies processes
processes and production skills	the skills needed to create digital solutions ; see technologies processes
producing (design process)	<p>actively realising (making) designed solutions using appropriate resources and means of production;</p> <p>in Design and Technologies, children learn and apply a variety of skills and techniques to make products, services or environments designed to meet specific purposes and user needs;</p> <p>to do this they:</p> <ul style="list-style-type: none"> apply knowledge about components, materials and their characteristics and properties to ensure their suitability for use learn about the importance of adopting safe work practices develop accurate production skills to achieve quality designed solutions develop the capacity to select and use appropriate materials, systems, components, tools and equipment use work practices that respect the need for sustainability; <p>the use of modelling and prototyping to accurately develop simple and complex physical models supports the production of successful designed solutions</p>
producing	actively realising (making) designed solutions using appropriate resources and means of production
product; products	<p>one of the outputs of technologies processes, the end result of processes and production;</p> <p><i>products</i> are the tangible end results of natural, human, mechanical, manufacturing, electronic or digital processes to meet a need or want</p>

Term	Description
production processes	in Design and Technologies, the technologies context-specific processes used to transform technologies into products, services or environments (e.g. the steps used for producing a product)
project	<p>the set of activities undertaken by children to address specified content, involving:</p> <ul style="list-style-type: none"> • understanding the nature of a problem, situation or need • creating, designing and producing a solution to the project task • documenting the process; <p>a project has:</p> <ul style="list-style-type: none"> • a benefit, purpose and use • a user or audience who can provide feedback on the success of the solution • limitations to work within • a real-world technologies context influenced by social, ethical and environmental issues • criteria for success to judge its success
prototyping	<p>a trial product or model built to test an idea or process to inform further design development; a <i>prototype</i> can be developed in the fields of service, design, electronics or software programming; its purpose is to see if and how well the design works; prototypes are tested by users and systems analysts;</p> <p><i>prototyping</i> is the process of developing a prototype; it provides specifications for a real, working product or system rather than a virtual or theoretical one</p>
service	<p>one of the outputs of technologies processes, the end result of processes and production;</p> <p><i>services</i> are the less tangible outcome (compared to products) of technologies processes to meet a need or want; they may involve development or maintenance of a system and include catering, cloud computing (software as a service), communication, transportation and water management;</p> <p>services can be communicated by charts, diagrams, models, posters and procedures</p>
technologies	the materials, data, systems, components, tools and equipment used to create solutions for identified needs and opportunities, and the knowledge, understanding and skills used by people involved in the selection and use of these
technologies contexts	<p>in Design and Technologies, these are the contexts that children can focus on when using processes and production skills to design and produce products, services and environments;</p> <p>the prescribed technologies contexts are:</p> <ul style="list-style-type: none"> • engineering principles and systems • food and fibre production • food specialisations (Years 5 through 10 only) • materials and technologies specialisations (Years 5 through 10 only)
technologies processes	<p>the processes that allow the creation of a solution for an audience (end user, client or consumer) and involve the purposeful use of technologies and other resources and appropriate consideration of impact when creating and using solutions;</p> <p>typically require critical and creative thinking such as: computational, design or systems thinking</p> <p>in Design and Technologies, <i>technologies processes</i> involve:</p> <ul style="list-style-type: none"> • design processes • technologies-specific production processes

Term	Description
technologies processes	<p>the processes that allow the creation of a solution for an audience (end user, client or consumer) and involve the purposeful use of technologies and other resources and appropriate consideration of impact when creating and using solutions; typically require critical and creative thinking, such as computational, design or systems thinking;</p> <p>in Digital Technologies, the <i>technologies processes</i> involve:</p> <ul style="list-style-type: none"> • defining • designing • implementing • evaluating • collaborating and managing