WJEC Entry Level/Level 1 Foundation Engineering

Draft Specification

For teaching from September 2027
First award 2029

This is a DRAFT specification. Centres should therefore expect some changes in the final version published in September 2026.

Qualification Information

Qualification title	WJEC Entry Level/Level 1 Foundation Engineering
Qualification objective	To introduce learners to vocational sectors through accessible, practical learning experiences that develop foundational skills, support personal development, and enable progression to further education and training.
WJEC Qualification Code	tbc
QiW Number	tbc
Age groups approved for	14–16, 16–19, 19+
First teaching	September 2027
First certification	Summer 2029

Version	Description	Date
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Our specifications may change over time. WJEC will inform centres of any amendments and the most up to date version of the specification will always be on the website.		

This specification meets the requirements of the following regulatory documents published by Qualifications Wales:

- Made for Wales WRFQ Qualification Approval Criteria which set out requirements for any new WRFQ qualification Approved for first teaching from September 2027 and beyond.
- Standard Conditions of Recognition which contains the rules that all awarding bodies and their qualifications must meet when offering qualifications to learners in Wales.

Empowering learners, supporting teachers

As Wales' largest awarding body, we have over 75 years of experience in delivering trusted, high-quality qualifications that support learners, educators, and employers across Wales.

We provide a wide range of bilingual qualifications that are accessible, engaging, and designed to meet the needs of today's learners.

Our qualifications are backed by expert subject teams, high quality resources, and responsive specialist support. Our work is guided and shaped through close collaboration with schools, colleges, regional consortia, sector experts, and Qualifications Wales.

As the only awarding body offering qualifications in every suite of the 14–16 National Qualifications offer, we are proud to play a key role in supporting the Welsh Government's ambition to make education in Wales a source of national pride, and we remain committed to helping every learner achieve their potential and progress with confidence.

A strong foundation for future success

Our Work-Related Foundation Qualifications (WRFQs) are designed to inspire and support learners, offering a two-year programme that is accessible, engaging, and rooted in real-world learning. With a strong emphasis on practical activities and hands-on experience, these qualifications help learners build confidence, develop essential skills, and enjoy meaningful success.

A key feature of our WRFQs is their unitised structure that allows learners to complete some assessments in Year 10 and others in Year 11. This staged approach provides a manageable pace of learning, reduces assessment pressure, and supports steady, meaningful progression.

Our flexible approach to assessment empowers teachers to create meaningful, learner-centred assessment activities while ensuring that all learners have fair and appropriate opportunities to demonstrate their achievements. The combination of clearly defined assessment criteria and adaptable task design promotes purposeful learning experiences that support progress, celebrate individual strengths, and reflect the diverse ways learners develop their knowledge and skills.

Our compensatory grading approach acknowledges that learners may perform differently across the qualification. Our approach enables stronger performance in one area to counterbalance weaker performance in another, contributing to a fairer and more supportive assessment experience.

With content that is relevant, motivating, and tailored to learners' needs, our WRFQs provide a solid foundation for post-16 study.

Whether learners continue in the subject or not, they will gain valuable knowledge, practical skills, and a sense of accomplishment that prepares them for life, learning, and work.

Contents

Summary of assessment

Unit 1: Introduction to Engineering Centre marked non-examination assessment
Has four learning outcomes and is focused on learning about what the engineering sector is, key job roles, key tools, equipment and process used and how to work safely. Portfolio of evidence – maximum assessment time of 9 hours. Assessed in centre and moderated by WJEC.
Unit 2: Producing a Product **Centre marked non-examination assessment**
Has five learning outcomes and is focused on developing practical engineering skills and covers the whole process of undertaking practical tasks. Portfolio of evidence – maximum assessment time of 21 hours. Assessed in centre and moderated by WJEC.

This is a unitised qualification.

Unit 1 is an introductory unit and is intended to be taught first.

Unit 1 will be available from summer 2028, with Unit 2 available in summer 2029.

The first award of the qualification will be 2029.

1. Introduction

1.1. Purpose and aims

WJEC Work-Related Foundation Qualifications (WRFQs) are designed to meet the needs of learners aged 14 to 16, providing relevant and meaningful learning experiences that reflect their stage of development. The qualifications are firmly rooted in the context of Wales and the Welsh economy, ensuring that learners engage with content that is locally authentic and nationally significant.

WRFQs offer engaging and accessible content and assessment that supports the development of practical skills, knowledge, and understanding. By aligning with the Curriculum for Wales, these qualifications contribute to the realisation of its four purposes and principles of progression, helping learners become ambitious, capable, and ready to learn throughout life.

In addition, WRFQs support learners in developing an awareness of employment opportunities and pathways to post-16 study, including vocational courses that lead to occupational competence. This ensures that learners are well-prepared for their next steps in education or training.

The WRFQ in Engineering aims to support learners to:

- develop essential knowledge and understanding of the Engineering, its lifecycle and the specific nature of the Engineering in Wales
- understand the Engineering sector covering different trade and professional job roles
- develop learners' practical skills in relation to age-appropriate tasks safely and effectively
- foster transferable skills such as communication, planning and reviewing
- progress to VCSE Engineering or other Level 1 to 3 courses as appropriate.

1.2. Curriculum for Wales

This WRFQ Engineering qualification is underpinned by the Curriculum for Wales framework and has been designed to ensure that learners can continue to make progress towards the four purposes whilst studying for this qualification. Central to this design are the principles of progression[1], along with the statements of what matters[2] in the Area of Learning and Experiences for Science and Technology.

In developing this qualification, we have considered where there are opportunities to embed the cross-curricular themes and where there are opportunities for integral skills and cross-curricular skills to be developed. Appendix A provides a simple mapping, and information to support teachers will be provided in the Guidance for Teaching.

We have also considered where the qualification can generate opportunities for integrating the learning experiences noted in Section 2.3; Guidance for Teaching will include further information on integrating these learning experiences into delivery.

[1] Curriculum for Wales - Hwb
[2] Curriculum for Wales - Hwb

The WRFQ Engineering qualification supports the Curriculum for Wales by:

- supporting the Science and Technology statements of what matters by giving learners the opportunity to:
  - gain an understanding of some of the concepts underpinning science and technology, and their application in local, national and global contexts
  - understand and appreciate how and why the Engineering in their locality and elsewhere in Wales, is designed, constructed and can change
  - develop some design thinking skills and technical knowledge to help meet society's needs and wants
- supporting the Science and Technology principles of progression by encouraging learners to:
  - problem solve and understand that design can be iterative
  - develop resilience and greater independence
  - increase their breadth and depth of knowledge and underlying concepts
  - refine their application of skills through exploration and reviewing
  - demonstrate a growing ability to transfer existing skills and knowledge into new, and increasingly unfamiliar contexts.

1.3. Prior learning and progression

Although there is no formal requirement for prior learning, this qualification is primarily designed for learners aged 14 to 16, working at entry level of the Credit and Qualifications Framework for Wales (CQFW). It builds on basic skills and understanding developed through earlier learning experiences, typically from ages 3 to 14.

The qualification supports learners in developing essential knowledge, practical skills, and confidence, providing a solid foundation for future learning and everyday life. It also prepares learners for progression to further study, training, or employment. The inclusion of a Level 1 Pass recognises higher levels of achievement and provides a clear pathway to Level 1/2 qualifications, including VCSE Engineering, supporting continued progression and learner aspiration. In addition, the qualification provides a coherent, satisfying and worthwhile course of study for learners who do not progress to further study in this subject.

1.4. Guided learning hours and Total Qualification Time

WRFQ Engineering has been designed to be delivered within 120 guided learning hours. The qualification has been primarily designed as a 2-year programme for learners in years 10 and 11. Centres have flexibility in how they structure and deliver their courses within the total GLH for the qualification. The amount of content within each unit provides an indication of the anticipated percentage of GLH required for each unit.

	GLH
Unit 1	36
Unit 2	84
Totals	**120 hours**

Total qualification time (TQT) is the total amount of time, in hours, expected to be spent by a learner to achieve a qualification. It includes both the GLH, and additional time spent in preparation, study and some formative assessment activities.

As WRFQs are primarily designed for pre-16 entry level learners, all learning and assessment within the qualification is intended to be guided. Accordingly, the total qualification time has been set at 120 hours.

1.5. Use of language

As our understanding of diversity, equity, and inclusion evolves, so must our language. Terminology will be updated as needed to ensure it reflects individual identities and fosters respect and accuracy. Language used will be as specific as possible. Staying informed and adaptable is crucial, as inclusive language promotes dignity and equity. Recognising that language will continue to evolve, we will remain open to making further amendments where appropriate, to ensure it accurately represents and supports all individuals. We will inform centres of any amendments and the most up to date version of the specification will always be on the website.

1.6. Equality and fair access

This qualification is designed to be accessible to all learners, regardless of gender, ethnicity, religion, culture, or any other protected characteristic as defined by the Equality Act 2010. These characteristics include age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex, and sexual orientation. Inclusive design principles have been applied throughout the qualification, including the use of varied assessment formats, clear and unbiased language, and diverse examples that reflect the breadth and diversity of the Engineering sector. Every effort has been made to avoid, where possible, features that could unjustifiably create barriers to access or achievement.

Access arrangements and reasonable adjustments are available for eligible learners to ensure they can participate fully in assessments and demonstrate their knowledge and skills. These adjustments do not alter the intended demand of the assessment but support fair access. Guidance on access arrangements and reasonable adjustments is provided in the Joint Council for Qualifications (JCQ) document *Access Arrangements, Reasonable Adjustments: General and Vocational Qualifications*, available at www.jcq.org.uk.

This qualification adheres to the principles outlined in the JCQ guidance. As a result of inclusive design and provision for reasonable adjustments, very few learners should encounter a complete barrier to any part of the assessment process.

2. Units

2.1. Unit format

GLH	Indicates the estimated number of hours a learner will spend under direct supervision or instruction to complete the unit. This includes classroom teaching, practical activities, and supervised study.
Overview of unit	Provides a concise summary of the unit's purpose, scope, and relevance. It outlines the key themes, skills, and knowledge areas covered, and how the unit supports progression in the vocational area.
Learning Outcomes	Lists the specific skills, knowledge, and understanding that learners are expected to demonstrate upon successful completion of the unit.
Summary of assessment	Summarises the assessment approach for the unit. This section also suggests the amount of time learners should spend completing assessments.
Resources required for assessment	Details the materials, equipment, facilities, and staffing needed to carry out the assessment effectively. This ensures consistency and fairness in delivery across centres.
Links to other WJEC units and qualifications	Identifies connections with other units or qualifications offered by WJEC, including progression routes and/or opportunities for integrated delivery.
Content	Outlines the knowledge, understanding, and skills that learners need to be taught to meet the assessment criteria.
Assessment criteria	Provides specific, observable, and measurable criteria that learners must meet to demonstrate achievement of the learning outcome. Four different bands of assessment criteria are provided, reflecting differing levels of learner ability.
Example tasks	Provides a range of suitable tasks for each level of assessment criteria. These tasks are not mandatory. Teachers should ensure that assessment tasks and activities are suitable for the needs and abilities of each group of learners.
Opportunities for integrating learning experiences	Highlights learning experiences which may be generated by delivery of the unit. More information is provided in the Guidance for Teaching. Experiences will not be directly assessed.

2.2. Learning outcome stems

In WJEC WRFQ qualifications, learning outcome stems are used to indicate the depth and type of learning expected.

'Learners will know' or 'Learners will be aware' are used when learners are expected to recall simple facts or recognise key information.

'Learners will understand' is used when learners need to show they can make sense of basic concepts and apply them in familiar, supported situations.

'Learners will be able to' is used when learners are expected to carry out straightforward practical tasks, follow instructions, or demonstrate basic techniques.

These stems ensure that outcomes are accessible, achievable, and appropriate for foundation learners developing confidence in vocational areas.

2.3. Content

Content is provided for each learning outcome, outlining the knowledge, understanding and skills that learners need to be taught to meet the assessment criteria.

All content must be delivered unless otherwise indicated:

- the use of 'including' indicates that the specified content is mandatory and may be assessed. Centres may also choose to incorporate additional content or examples beyond those listed
- the use of 'for example' or 'such as' indicates that the specified content is provided for guidance only, and alternative examples may be used.

2.4 Assessment tasks

Example assessment tasks are provided at the end of each unit along with any specific resource requirements. These tasks are designed to balance manageability, learner engagement, reliability, and validity.

Centres may choose to use these tasks as provided, adapt them or develop their own alternatives. Any centre-devised tasks must enable learners to meet all associated assessment criteria.

Unit 1 Introduction to Engineering

GLH	36
Overview of unit	Engineering is all around us. It helps create the outputs we use and see every day, producing solutions to solve problems in our lives, which can have a positive impact on how we live. This unit introduces learners to the importance of engineering in our lives. The engineering sector in Wales is large and diverse, and this unit focuses on developing an understanding of the wide range of engineering sectors and what they make or do. From aerospace to civil engineering, learners will further develop an understanding of the contribution engineering makes to our lives. This unit also introduces learners to the roles within engineering and the responsibilities associated with those roles. Engineering encompasses a wide range of disciplines, including design, maintenance, quality assurance and sustainability, all of which contribute to creating, improving, and maintaining the products, systems, and infrastructure that support everyday life. This unit introduces learners to the tools, instruments and processes used in engineering, providing a foundational understanding of the purpose of each. To support safe working, learners will also be introduced to common hazards in engineering environments and how they can protect themselves and others. The purpose of the unit is to explore: • the role engineering plays in our lives • the roles and responsibilities in the engineering sector • the purposes of tools, equipment and processes • safe working practices in engineering.
Learning Outcomes	By completing this unit, learners will: 1.1 know the role of engineering in our lives 1.2 know the roles and responsibilities in the engineering sector 1.3 understand the purpose of basic tools, instruments and processes used in engineering 1.4 understand safe working practices in engineering.

Summary of assessment	Assessment for this unit will be carried out through teacher-set activities that enable learners to demonstrate what they have learned in practical and accessible ways. To achieve each learning outcome, learners must provide evidence that meets the assessment criteria. Example tasks are included after the unit. Centres must ensure that assessment activities do not exceed the maximum duration of 9 hours. For most learners, assessment will typically fall within the indicative range of 7–9 hours, though shorter durations may be used where appropriate, particularly for Entry Level learners. The range must not be treated as a minimum, and centres must avoid overassessment. Centres must record the approximate time each learner spends on assessment activities for moderation and quality assurance purposes.
Resources required for assessment	There are no specific requirements for assessment.
Links to other WJEC units and qualifications	Learners completing this unit may also be interested in: Skills for Life: Science and Technology in Everyday Life Skills for Life: Skills in the Natural Environment Skills for Life: Sustainability in Action Skills for Work: Career Creativity Skills for Work: Exploring Career Pathways Skills for Work: Jobs for the Future Skills for Work: Sustainable Economic Development Skills for Work: Work Experience Skills for Work: Working in Wales

Content

Learning outcome 1.1 **The learner will know the role of engineering in our lives**	**Taught content**
1.1.1 Purpose of engineering	Engineering helps solve problems in our lives: • to support comfortable living • to produce energy • to support safety • to improve efficiency and sustainability.

1.1.2
Uses of engineering
	Engineering helps create the outputs we use and see every day:
	
	• transport:
	  • aeroplanes
	  • bicycles
	  • buses
	  • cars
	  • motorcycles
	  • trains
	  • scooters
	• technology:
	  • Bluetooth
	  • computers
	  • the internet
	  • smart phones
	  • wi-fi
	• energy systems:
	  • to produce electricity
	  • to get and use oil and gas
	  • to heat and cool buildings
	  • to generate renewable energy.

1.1.3 The impact of engineering	Engineering helps us in many ways: • improve quality of life • save time and energy • reduce environmental impact • make systems safer and more reliable • support economic growth and jobs • respond to global challenges.

Learning outcome 1.2 **The learner will know the roles and responsibilities in the engineering sector**	**Taught content**
1.2.1 The common roles and responsibilities in the engineering sector	The common roles: • design engineer • electrical engineer • electronic engineer • maintenance engineer • mechanical engineer. The common responsibilities of these roles.
1.2.2 The levels of roles in the engineering sector	The levels of roles in engineering and their differences: • operator – semi-skilled • technician – skilled • advanced technician • engineer. How engineers can progress through these different levels and what it takes to reach the next level.
1.2.3 The engineering sectors operating in Wales	These engineering sectors and what they make or do: • aerospace • automotive • civil engineering • environmental • food and drink • mechanical manufacturing • marine and offshore • oil and gas • space engineering.

Learning outcome 1.3 **The learner will understand the purpose of basic tools, instruments and processes used in engineering**	**Taught content**

1.3.1
General tools and instruments
	The purpose of:
	
	• general engineering tools:
	  • centre punch
	  • engineer's square
	  • files
	  • hacksaw
	  • hammer
	  • screwdrivers
	  • scriber
	  • spanners
	  • tape measure
	  • tap and die
	• measuring instruments:
	  • digital calliper
	  • micrometer
	  • steel rule
	  • vernier calliper.
	
	The most suitable engineering tools and instruments for engineering tasks.

1.3.2
Engineering processes
	The purpose of engineering processes:
	• material removal and joining processes:
	  • material removal:
	  • cutting
	  • drilling
	  • filing
	  • hack sawing
	  • manual turning
	• joining processes:
	  • fasteners:
	  • bolts, nuts and washers
	  • pop rivets
	  • self-tapping screws
	  • split pins
	  • joining:
	  • engineering adhesives
	  • metal inert gas (MIG) welding
	• surface finishes for metals:
	  • bluing
	  • paint
	  • plastic coatings
	  • polish finish.
	
	The most suitable engineering process for engineering tasks.

Learning outcome 1.4 **The learner will understand safe working practices in engineering**	**Taught content**
1.4.1 Common engineering workplace hazards	Common hazards and examples of hazards: • chemical hazards • electrical hazards • fire hazards • mechanical hazards • physical hazards.
1.4.2 Personal Protective Equipment (PPE) used in engineering	Different types of PPE: • eye and face protection • foot protection • hand protection • hearing protection • respiratory protective equipment (RPE). The most suitable PPE for different types of hazards.

1.4.3
Health and safety signs, purposes and actions in engineering
	The purpose and required necessary action for the following health and safety signs:
	
	• mandatory:
	  • wear ear protection
	  • wear gloves
	  • wear safety footwear
	  • wear safety googles
	• hazards:
	  • corrosive substance
	  • explosive risk
	  • flammable material
	  • toxic material
	• warning:
	  • forklift trucks operating
	  • high voltage
	  • hot surface
	  • slippery surface.
	
	The importance of these health and safety signs in engineering.

1.4.4 Safe working practices and regulations in engineering	Key legislation and its purpose: • Control of Substances Hazardous to Health (COSHH) • Health and Safety at Work Act (HASAWA) 1974 • Manual Handling Operations (MHO) • slips, trips and falls (STF) prevention guidance. Key employer duties: • employer duty to ensure safety • ensuring regulations are followed to enforce safety (for example, COSHH, MHO). • use of risk assessments. Safe working practices: • workplace hazards must be controlled using risk assessments • why and when PPE should be used • displaying safety signs and staff awareness and compliance.

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO1.1 The learner will know the role of engineering in our lives	1.1.1 Name some purposes of engineering. Match some examples to purposes of engineering.	1.1.1 Give the different purposes of engineering. List some different examples of purposes of engineering.	1.1.1 Identify different purposes of engineering. Identify different examples of purposes of engineering.	1.1.1 Outline the different purposes of engineering. Outline examples of the different purposes of engineering.	/4
	1.1.2 Name some types of outputs engineering helps to create. Match some examples to outputs engineering helps to create.	1.1.2 Give the different types of outputs engineering helps to create. List different examples of outputs engineering helps to create.	1.1.2 Identify different types of outputs engineering helps to create. Identify different examples of outputs engineering helps to create.	1.1.2 Outline the different types of outputs engineering helps to create. Outline examples of the different outputs engineering helps to create.	/4
	1.1.3 Name some ways engineering impacts lives. Match some examples of how engineering impacts lives.	1.1.3 Give some different ways engineering impacts lives. List some different examples of how engineering impacts lives.	1.1.3 Identify different ways engineering impacts lives. Identify different examples of how engineering impacts lives.	1.1.3 Outline the different types of impacts of engineering. Outline examples of the different ways engineering impacts lives.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO1.2 The learner will know the roles and responsibilities in the engineering sector	1.2.1 Match some common roles in engineering and their responsibilities.	1.2.1 Give some common roles in engineering and their responsibilities.	1.2.1 State the common roles in engineering and their responsibilities, using some examples.	1.2.1 Outline the common roles in engineering and their different responsibilities using examples.	/4
	1.2.2 Sort the levels of roles in engineering in order. Name at least one way an engineer can progress to a new level in engineering.	1.2.2 Give the levels of roles in engineering in order. Give some ways an engineer can progress to a new level in engineering.	1.2.2 State the levels of roles in engineering in order and why they are different. State different ways an engineer can progress through these levels using some examples.	1.2.2 Outline the different levels of roles in engineering and explain the importance of these levels using examples. Outline different ways an engineer can progress through these levels using examples.	/4
	1.2.3 Match some engineering sectors to what they make or do.	1.2.3 Label the different engineering sectors and what they make or do.	1.2.3 State the different engineering sectors and what they make or do, using some examples.	1.2.3 Outline the different engineering sectors and what they make and do using examples.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO1.3 The learner will understand the purpose and use of general engineering tools and instruments	1.3.1 Choose some general engineering tools and instruments and select their correct purposes. Choose suitable engineering tools and instruments for a given task.	1.3.1 Summarise most of the general engineering tools and instruments and their purposes. Select suitable engineering tools and instruments for different tasks.	1.3.1 Outline the general engineering tools and instruments and their purposes and suggest some examples of tasks they could be used for. Suggest suitable engineering tools and instruments for different tasks and why they are suitable.	1.3.1 Describe the general engineering tools and instruments and their purposes, using examples of what tasks they could be used for. Explain why different tools and instruments are most suitable for different tasks.	/4
	1.3.2 Choose some engineering processes and select their purposes. Choose suitable engineering processes for a given task.	1.3.2 Summarise some different engineering processes and their purposes. Choose suitable engineering processes and why they are suitable for different tasks	1.3.2 Outline the engineering processes and their purposes. Outline suitable engineering processes for different tasks and why they are suitable.	1.3.2 Explain each of the different engineering processes and their purposes. Explain why different processes are most suitable for different tasks.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO1.4 The learner will understand safe working practices in engineering	1.4.1 Select some common examples of hazards in engineering.	1.4.1 Summarise some different common hazards in engineering.	1.4.1 Outline common hazards in engineering using some examples.	1.4.1 Describe different common hazards in engineering using a range of examples.	/4
	1.4.2 Select some different types of PPE used in engineering and correctly match some examples. Select some suitable PPE for a specified hazard.	1.4.2 Summarise some different types of PPE used in engineering using some examples. Select suitable PPE for a range of hazards.	1.4.2 Outline types of PPE used in engineering using examples. Suggest suitable PPE for different hazards.	1.4.2 Describe the PPE used in engineering using examples. Explain why different PPE is most suitable for different hazards.	/4
	1.4.3 Select some common health and safety signs used in engineering and match to their purpose and the required necessary action.	1.4.3 Summarise some different health and safety signs used in engineering and their purposes and the required necessary action.	1.4.3 Outline the purpose and required necessary actions for health and safety signs used in engineering. Suggest reasons why health and Safety signs used in engineering are important.	1.4.3 Explain the purpose and required necessary actions needed for the health and safety signs used in engineering. Explain the importance of health and safety signs used in engineering.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO1.4 The learner will understand safe working practices in engineering	1.4.4 Select and match some key legislation to its purpose. Select at least one way engineering workers are kept safe by their employers. Select some reasons why safe working practice are important.	1.4.4 Summarise some different key legislation and their purposes. Summarise some different ways engineering workers are kept safe in their employers. Summarise some ways safe working practice are important.	1.4.4 Outline the key legislation and their purposes. Outline the ways engineering workers are kept safe by their employers using some examples. Suggest reasons why safe working practices are important.	1.4.4 Explain the key legislation and their purposes. Explain the different duties of an employer to keep engineering workplaces safe and their importance. Explain why safe working practices are important using examples.	/4
				Total number of points awarded	**/48**

Examples of tasks

LO1.1

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- naming the purpose: learners are given images of problems in people's lives such as being cold in a home and they have to name/match purposes of engineering for example, to support comfortable living then select/match to an example such as central heating
- gallery walk: display images and words around the classroom showing examples of outputs we use and see every day for example, smart phones. Learners move around with stickers showing the types of outputs engineering helps create for example, energy systems, technology, transport and add them to the correct examples.
- interactive matching game: learners use drag-and-drop activity to match types of impacts of engineering for example, improve quality of life with relevant examples.

The following activities would be suitable for use with Entry Level 2 learners (with support):

- category sorting grid: learners are given a grid with two columns with the headings: The Purpose of Engineering and Examples of Engineering. Learners complete the grid with a mixture of purposes and examples; they would be given picture cards to help them complete the grid
- a learning walk: learners walk around the school site, recognising outputs engineering helps create for example, computer. Learners give the category of the item identified for example, technology
- watch and recognise: learners watch clips of relevant programs where they give examples of the ways engineering helps us and gives some other relevant examples and impacts.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- talk and identify: learners read examples aloud and identify which purpose of engineering they match, using a prepared list of purposes
- web quest: learners use a search engine and specific search criteria to find things engineering helps create and examples, then record them in a software of their choice
- fill-in-the-blanks activity: learners are given statements about impacts of engineering and fill in the blanks with suitable examples and then use these to do a poster or short presentation.

The following activities would be suitable for use with Level 1 learners (done independently):

- speech/presentation: learners prepare and deliver a speech or presentation outlining the purposes of engineering using relevant examples
- time capsule letter: learners write a letter for a time capsule, outlining the main different types of outputs engineering creates with detailed examples
- blog: learners create a blog with the main different types of impacts of engineering and provide different examples.

LO1.2

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- guess who: learners are given cards with engineering roles for example, design engineer and separate cards with responsibilities for example, designing products. Learners match the role to a responsibility
- role poster: learners are given prepared role cards with images/icons. They stick the cards onto a poster with the correct responsibility listed underneath
- sort the ladder: learners are given cards for operator, technician, advanced technician, engineer, and a list of ways to progress. They sort them in order of progression and choose at least one to name how that role can progress using the list provided
- picture match: learners are given images of engineering sectors and cards with what they make or do and match to sector.

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- question and answer: learners have to say if a role is a common engineering role or not, and then they give some detail about the roles and the responsibilities (they could be given a list of responsibilities and they have to give the correct ones)
- scenario cards: learners are given short scenarios for example, maintains equipment to ensure it works safely and identify the role responsible, such as maintenance engineer
- identify and order: learners are given descriptions of the levels of engineering roles and put them in the correct order
- progression recognition: learners give ways that engineers can progress to higher levels for example, gaining qualifications, experience, training from a list of statements
- picture labelling: provide learners with pictures of engineering sectors, and then learners can either write the correct label or select the correct label from ones provided.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- spoken role task: learners read aloud examples of engineering tasks and link them to the correct role, giving a short description of what the role does, with an example of this in practice
- research card activity: learners research one engineering role and write the role and its responsibility on a card. Cards are then matched in small groups and they talk about the differences
- talk about the ladder: learners clearly say the different order of roles (operator, technician advanced technician, engineer) and the purpose of each level and give examples of why they are different or this can be done through question and answer
- progression scenarios: learners read scenarios of career progression and identify which methods help engineers move up levels for example, experience, mentoring, training
- spoken sector task: learners are given pictures of the sectors to talk about, using examples – learners could be asked questions as prompts.

The following activities would be suitable for use with Level 1 learners (done independently):

- presentation: learners prepare and deliver a presentation outlining the main different roles in engineering and their responsibilities using examples
- report: learners write a short report outlining the main responsibilities of different engineering roles, and why they are important using examples
- flowchart: learners create a flowchart showing the levels of engineering roles in order and outline how progression occurs at each stage

- question time: learners are asked questions about the engineering sectors and have to provide answers with examples – learners could do this in pairs as an interview or vlog.

LO1.3

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- card match: learners are given three sets of cards one with images of general tools or instruments, another with images of simple engineering tasks and another that has the correct purpose of the tools and instruments – they have to choose the correct tool or instrument for the task and the correct purpose
- gallery walk: display images or use real examples of engineering processes around the classroom or workshop – learners then choose the correct process in response to simple task requests. Learners could also be given task cards that they have to match to the correct processes that they identify
- interactive matching game: drag-and-drop activity where learners match engineering processes for example, drilling, to their purposes such as join metals.

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- sorting grid: learners are given a table with columns 'Tool/Instrument/Purpose' and they sort a set of cards showing this information into the correct column, and use that to create a simple poster(s) or presentation including the main points
- workshop walk: learners walk around a school workshop to find different processes for different given tasks – they provide a reason for their choices
- scenario cards: learners are given short task descriptions and select the most suitable processes – they provide reasons for their choices.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- information share: learners give a talk or create a poster or presentation about the tools and instruments and their purposes – they provide some suitable tasks for each one with a reason for its use
- local business/workshop visit: learners observe tools, instruments and/or processes in a real engineering setting, then record what they saw and why each was used for a particular task
- fill-in-the-blanks activity: learners complete statements describing the purpose of tools, instruments, or processes, for example. *A micrometer is used to* _____ this information could then be used to create a poster/presentation or talk.

The following activities would be suitable for use with Level 1 learners (done independently):

- presentation: learners prepare and deliver a presentation describing tools, instruments, and processes, including why each is suitable for a variety of different tasks
- practical demonstration: learners perform simple tasks in the workshop for example, drilling a hole and explain the choice of tool or process, and why it was suitable
- report: learners write a report comparing different processes for a given task, explaining why certain options are more suitable than others.

LO1.4

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- hazard selection: learners are given cards with examples of visual or written examples of common hazards for example, wet floor, they then select the hazard it shows
- PPE picture selection: learners are given pictures of PPE and a description of it, and they match them up and then give examples of tasks, they then select the PPE to be used
- sign spotting: display printed health and safety signs around the room. Learners walk around and stick labels on them that provide their name, and explain the required necessary action for each sign
- drag and drop: create an interactive quiz where the learner matches the key legislation to its purpose. You could also provide different images of workers and get the learner to select ways that the workers could work safely.

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- sorting grid: learners are given a table with columns ‘hazard/PPE/health and safety sign and purpose/action’ – learners will place cards into the correct column, and use this information to make a poster or presentation
- scenario cards: learners are given short engineering workplace scenarios for example, using chemicals in a lab and they summarise the hazards, PPE and relevant safety signs needed
- what sign game: learners are shown pictures of health and safety signs and they have to identify them and then provide the required necessary action to match the sign – this information could then be used to create a poster or quiz
- legislation activities: learners are given cards with legislation names and they have to give the key points – this could be bronze, silver, gold approach – bronze one or two points, silver three points etc. Learners could also be provided with images or scenarios of workers or workplaces, and they give ways to work safely and why this is important.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- role play: learners act out workplace scenarios showing hazards and how to apply PPE, follow signs and safe practices
- risk assessment activity: learners are given pictures or scenarios of engineering tasks and identify hazards, then suggest suitable PPE needed and identify the regulations that apply
- safety manual: learners create a manual about the health and safety signs and required necessary actions, with reasons why they are important to the sector
- interactive timeline: learners create a timeline showing the development of key health and safety legislation and link each to its purpose and impact.

The following activities would be suitable for use with Level 1 learners (done independently):

- presentation: learners prepare and deliver a presentation describing common hazards, suitable PPE, health and safety signs and relevant legislation explaining why each is important
- case study report: learners read an engineering accident case study and write a report explaining the hazards, how PPE and safety signs could have prevented it and which legislation applies
- safety briefing: learners either write or present a briefing to explain importance of safety providing examples of good and bad practice
- safety audit: learners conduct a mini audit of a classroom, workshop or workplace, identifying hazards, recommending PPE, checking for signs and linking observations to legislation and safe practices and can give some recommendation to improve.

Opportunities for integration of learning experiences relating to the world of work

This unit generates opportunities for the following learning experiences to be developed (experiences will not be directly assessed):

- interacting with guest speakers from the engineering sector to gain first-hand insight into real-world practices and expectations
- asking questions and discussing current trends, challenges and innovations in the sector with industry professionals
- visiting local buildings, developments or sites or attending events to understand the engineering sector first-hand
- gaining inspiration and motivation from hearing personal career journeys and success stories.

The Guidance for Teaching will include further information on the opportunities provided by the qualification for teachers/centres to integrate these learning experiences and skills into delivery.

Opportunities to develop cross-cutting themes, cross-curricular skills and integral skills are signposted in Appendix A. Further information is provided in the Guidance for Teaching.

Unit 2 Producing a Product

GLH	84
Overview of unit	This unit focuses on the practical application of skills in a workshop environment. Learners develop the ability to interpret engineering drawings and information in order to plan and carry out practical tasks safely and efficiently. The unit supports learners in planning engineering activities, selecting appropriate tools and equipment, and following safe working procedures. Learners will develop hands-on skills in cutting, shaping and fitting materials, while applying control measures to manage risks in engineering environments. Accuracy and quality are key themes throughout the unit. Learners will use measuring equipment to check work against set tolerances, record outcomes, and review practical work to identify opportunities for improvement. This supports the development of good engineering practice and attention to detail. The unit also develops learners' understanding of safe closing-down procedures, including checking equipment after use, restoring workspaces, and reporting issues, supporting safe and responsible working practices in engineering. The purpose of the unit is to enable learners to: • interpret engineering drawings and information • plan and carry out practical engineering tasks safely • use tools and processes effectively • check accuracy and quality of work • close down engineering activities safely and responsibly.
Learning Outcomes	By completing this unit, learners will: 2.1 Be able to interpret and use engineering information from charts and drawings 2.2 Be able to plan safe and efficient practical engineering activities 2.3 Be able to cut and shape materials safely and effectively 2.4 Be able to check the accuracy of work 2.5 Be able to close down engineering activities safely
Summary of assessment	Assessment for this unit will be carried out through teacher-set activities that enable learners to demonstrate what they have learned in practical and accessible ways. To achieve each learning outcome, learners must provide evidence that meets the assessment criteria. Example tasks are included after the unit. Centres must ensure that assessment activities do not exceed the maximum duration of 21 hours. For most learners, assessment will typically fall within the indicative range of 19–21 hours, though shorter durations may be used where

	appropriate, particularly for Entry Level learners. The range must not be treated as a minimum, and centres must avoid overassessment. Centres must record the approximate time each learner spends on assessment activities for moderation and quality assurance purposes.
Resources required for assessment	Centres need the necessary tools, instruments, equipment, PPE and materials that will enable learners to undertake practical tasks that meet the learning outcomes. For example, see 2.3.2, 2.3.3, 2.3.5 and 2.4.1 for specific references.
Links to other WJEC units and qualifications	Learners completing this unit may also be interested in: Skills for Life: Basic First Aid Skills for Life: Personal Safety Skills for Life: Sustainability in Action Skills for Work: Overcoming Barriers Skills for Work: Personal Development Planning Skills for Work: Wellbeing and Work

Content

Learning outcome 2.1 **The learner will be able to interpret and use engineering information from charts and drawings**	**Taught content**
2.1.1 Interpret dimensional information	Understand dimensional information including: • angles • chamfers • diameters • dimensions • linear dimensions • radii.
2.1.2 Interpret technical information	Understand technical information including: • cutting speeds • thread sizes • tolerances.
2.1.3 Use dimensional and technical information to complete engineering tasks	Relate the skills from 2.1.1 and 2.1.2 to practical making tasks by: • understanding task requirements • understanding technical information • completing different tasks effectively.

Learning outcome 2.2 **The learner will be able to plan safe and efficient engineering activities**	**Taught content**
2.2.1 Planning engineering tasks	Planning a task by effectively: • producing a list of the tools and equipment required to complete the task • working out the individual steps for making and considering risk and control measures • considering the timeframes for making.
2.2.2 Carrying out engineering tasks safely	Carry out practical engineering tasks safely by: • following workshop safety rules and relevant regulations • interpreting risk assessments • applying control measures • using PPE correctly.

Learning outcome 2.3 **The learner will be able to cut and shape materials safely and effectively**	**Taught content**
2.3.1 Preparing materials for marking out	Prepare materials in readiness for marking out to ensure accuracy, clarity and safety by: • removing debris, oil, rust • removing burrs, sharp edges • applying the marking out medium effectively.
2.3.2 Marking out	Mark out a range of material forms including: • bar stock • flat or sheet materials • round/cylindrical sections. Use marking out methods including: • direct marking using instruments • use of templates. Use a range of marking out equipment including: • dividers/trammels • protractors • punches • rulers/tape measures • scribers • squares.

Learning outcome 2.3 **The learner will be able to cut and shape materials safely and effectively**	**Taught content**
2.3.3 Hand fitting methods	Use a range of hand fitting methods to cut and shape materials including: • cutting screw threads • drilling • filing • hand sawing.
2.3.4 Tolerances	Working within general set tolerances when cutting and shaping materials during: • hand fitting work • sheet metal work.
2.3.5 Checking and finishing off completed work	Check completed work for cleanliness and finishing off sharp edges by: • de-burring • de-greasing.

Learning outcome 2.4 **The learners will be able to check the accuracy of work**	**Taught content**
2.4.1 Using equipment to measure accuracy	Use equipment for measuring accuracy such as: • engineers square • feeler gauges • micrometer • steel rule • vernier calliper.
2.4.2 Checking dimensional accuracy	Review completed work effectively by: • checking the dimensional accuracy against set tolerances.
2.4.3 Recording outcomes and improvements	Record and review outcomes effectively by: • documenting outcomes of dimensional accuracy checks • identifying opportunities for future improvement.

Learning outcome 2.5 **The learner will be able to close down engineering activities safely**	**Taught content**
2.5.1 Performing visual inspections	Perform an effective visual inspection of tools and equipment by: • checking for any general visual signs of wear or damage • checking specifically for blunt cutting edges • checking PPE for specific damage.
2.5.2 Checking equipment after use	Check equipment after use effectively by: • checking that equipment is isolated • checking that guards are present and functional.
2.5.3 Restoring workspaces	Restore workspace effectively by: • removing and storing tools • removing and/or suitably disposing of waste material • reporting any issues with tools and equipment • storing of workpieces.

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO2.1 The learner will be able to interpret and use engineering information from drawings and charts	2.1.1 Interpret basic dimensional information on simple engineering drawings, and charts with some accuracy.	2.1.1 Interpret dimensional information on different engineering drawings, and charts with some accuracy.	2.1.1 Interpret dimensional information on different engineering drawings, and charts mostly accurately.	2.1.1 Interpret dimensional information on different engineering drawings and charts accurately.	/4
	2.1.2 Interpret basic technical information on simple engineering drawings, and charts with some accuracy.	2.1.2 Interpret technical information on different engineering drawings and charts with some accuracy.	2.1.2 Interpret most technical information on different engineering drawings, and charts mostly accurately.	2.1.2 Interpret technical information on different engineering drawings and charts accurately.	/4
	2.1.3 Use some given dimensional, and technical information to carry out basic making tasks effectively.	2.1.3 Use given dimensional and technical information to carry out basic and more complex making tasks effectively.	2.1.3 Use given dimensional, and technical information to carry out more complex making tasks effectively.	2.1.3 Use given dimensional and technical information to carry out complex making tasks effectively.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO2.2 The learner will be able to plan safe and efficient practical engineering activities	2.2.1 Plan for basic making tasks effectively covering some of the required elements.	2.2.1 Plan both basic and more complex making tasks effectively covering most of the required elements.	2.2.1 Plan for more complex making tasks, effectively covering the required elements.	2.2.1 Plan for complex making tasks, effectively covering the required elements.	/4
	2.2.2 Show awareness of basic safety procedures with some understanding of risks and control measures.	2.2.2 Follow safety procedures with some clear understanding of risks and control measures.	2.2.2 Demonstrate a clear understanding of most risks and control measures and following safety procedures effectively.	2.2.2 Demonstrate a clear understanding of all risks and control measures and following safety procedures effectively.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with a minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO2.3 The learner will be able to cut and shape materials safely and effectively	2.3.1 Show basic preparation of materials for marking out.	2.3.1 Carry out some effective preparation of materials for marking out.	2.3.1 Demonstrate mostly effective preparation of materials for marking out.	2.3.1 Demonstrate effective preparation of materials for marking out.	/4
	2.3.2 Show marking out of some different basic forms, using some different basic methods and equipment.	2.3.2 Carry marking out of some different forms using a range of different methods and equipment.	2.3.2 Demonstrate mostly effective marking out of different forms using a range of methods and equipment.	2.3.2 Demonstrate effective marking out of different forms using a range of methods and equipment.	/4
	2.3.3 Show a range of simple cutting or shaping methods using some different hand tools.	2.3.3 Carry out a range of hand fitting methods using some different hand tools.	2.3.3 Demonstrate mostly effective hand fitting methods using different hand tools.	2.3.3 Demonstrate effective hand fitting methods using different hand tools.	/4
	2.3.4 Carry out hand fitting work to a tolerance of +/- 2mm. Carry out sheet metal work to a tolerance of +/- 7mm.	2.3.4 Carry out hand fitting work to a tolerance of +/- 1.5mm. Carry out sheet metal work to a tolerance of +/- 6mm.	2.3.4 Carry out hand fitting work to a tolerance of +/- 1mm. Carry out sheet metal tasks to a tolerance of +/- 5mm.	2.3.4 Carry out hand fitting tasks to a tolerance of +/- 0.8mm. Carry out sheet metal tasks to a tolerance of +/- 4mm.	/4
	2.3.5 Show basic checking of completed work with some basic finishing off, if required.	2.3.5 Carry out some effective checking of completed work and finishing off, if required.	2.3.5 Demonstrate mostly effective checking and finishing off to an acceptable standard.	2.3.5 Demonstrate effective checking and finishing off to a good standard.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 point)**	**Entry 3 with minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO2.4 The learner will be able to check the accuracy of work	2.4.1 Use some different equipment effectively to check measurements with some degree of accuracy.	2.4.1 Use different measuring equipment effectively, to check measurements with a fair degree of accuracy.	2.4.1 Demonstrate mostly effective use of different measuring equipment with good degree of accuracy.	2.4.1 Demonstrate accurate use of different measuring equipment with high level of accuracy.	/4
	2.4.2 Show basic checking and reviewing of work for size or shape.	2.4.2 Carry out some effective checking and reviewing of work against set tolerances.	2.4.2 Demonstrate mostly effective checking and reviewing of completed work against set tolerances.	2.4.2 Demonstrate effective checking and reviewing of completed work against set tolerances.	/4
	2.4.3 Show simple recording of outcomes, though they may not all be accurate/clear. Present some simple future improvements though these may not be achievable/realistic.	2.4.3 Carry out some effective recording of outcomes with some accuracy and clarity. Present some future improvements that are achievable/realistic.	2.4.3 Demonstrate effective recording of outcomes that are mostly accurate and clear. Present future improvements that are mostly achievable and realistic.	2.4.3 Demonstrate effective recording of outcomes that are accurate and clear. Present achievable and realistic future improvements.	/4

Learning outcome	Assessment Criteria – the learner can:				
	Entry 1 with a high level of support: (1 point)	**Entry 2 with a moderate level of support: (2 points)**	**Entry 3 with minimal level of support: (3 points)**	**Level 1 independently: (4 points)**	**Points awarded**
LO2.5 The learner will be able to close down engineering activities safely	2.5.1 Show a general quick visual inspection of tools and equipment for obvious wear/damage.	2.5.1 Carry out a general visual inspection of tools and equipment for obvious wear/damage.	2.5.1 Demonstrate an effective visual inspection of tools and equipment for obvious and less obvious wear/damage.	2.5.1 Demonstrate an effective and thorough visual inspection of tools and equipment for all types of wear/damage.	/4
	2.5.2 Show a general quick check of equipment.	2.5.2 Carry out a general check of equipment.	2.5.2 Demonstrate some effective checks are made to confirm equipment is isolated and safe.	2.5.2 Demonstrate effective and comprehensive checks are made to confirm equipment is isolated and safe.	/4
	2.5.3 Show a basic tidy that restores the workspace .	2.5.3 Carry out a general tidy to restore the workspace.	2.5.3 Demonstrate a mostly effective restoring of the workspace.	2.5.3 Demonstrate an effective and thorough restoring of the workspace.	/4
				Total number of points awarded	**/64**

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Examples of tasks

LO2.1

The learner will be able to interpret engineering information from drawings and charts.

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- label the drawing: learners are given a very simple engineering drawing with key features highlighted. They label basic information such as length, diameter, and shape using word cards
- measure and match: using a ruler, learners measure a pre-marked feature on a workpiece, and match it to the given dimension on the drawing
- simple presentation task: learners copy basic information from a drawing into a simple worksheet or boxed template.

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- dimension identification: learners identify and circle linear dimensions and diameters on a simple drawing
- basic measuring task: learners use given dimensions from a drawing to measure a prepared component using a steel ruler
- sketch activity: learners produce a simple freehand sketch showing key dimensions taken from a drawing.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- interpret features: learners interpret angles, chamfers and radii from an engineering drawing and explain their meaning verbally or in writing
- use technical data: learners use information from a drawing or chart (for example, cutting speed or tolerance range) to carry out a guided task
- drawing views: learners present information using a simple isometric or orthographic view, including key dimensions.

The following activities would be suitable for use with Level 1 learners (done independently):

- full interpretation task: learners independently interpret a detailed engineering drawing including tolerances, thread sizes, and multiple dimensions
- application task: learners use technical data such as thread specifications and tolerances to carry out an engineering-related task or decision
- formal presentation: learners produce a clear and accurate engineering drawing using recognised conventions, including title block, correct views, and dimensions.

LO2.2

The learner will be able to plan safe and efficient practical engineering activities.

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- yes/no safety cards: learners are shown images of workshop activities and identify whether they are safe or unsafe
- PPE matching: learners match PPE items to a simple task (for example, drilling → goggles)
- Two-step plan: learners sequence two basic steps for a simple task (for example, measure → cut) using picture cards.

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- simple risk assessment review: learners read a short, simplified risk assessment and identify hazards and risks using a checklist
- observed PPE use: learners use PPE correctly during a supervised practical activity
- sequencing task: learners arrange several steps for a simple practical task in the correct order.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- applying control measures: learners demonstrate understanding by applying appropriate control measures during a practical task
- independent PPE selection: learners choose and use appropriate PPE for a task with minimal prompting
- safe working observation: learners are observed following safe working practices throughout the activity
- task planning worksheet: learners plan the steps required to complete a practical task, including listing tools, equipment, and PPE.

The following activities would be suitable for use with Level 1 learners (done independently):

- risk assessment application: learners independently interpret a risk assessment and demonstrate control measures during a practical engineering activity
- full task plan: learners produce a detailed plan for a practical engineering activity, including:
  - tools, equipment, and PPE list
  - step-by-step method
  - estimated timeframes for each stage.

LO2.3

The learner will be able to cut and shape materials safely and effectively.

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- material cleaning activity: learners clean pre-cut materials using cloths and files to remove dirt, oil, and obvious sharp edges with close supervision
- simple marking task: learners use a ruler and marker or scribe to mark straight lines or simple shapes on flat material
- guided cutting activity: learners carry out a simple cutting or shaping task (for example, hand sawing or filing) following step-by-step instructions
- cleanliness check: learners visually check their work and wipe down materials to remove dirt or swarf
- fit check: learners check finished work against a simple guide or template to confirm it is close to size (within broader tolerances).

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- preparation checklist: learners follow a checklist to remove rust, oil, debris, and sharp edges before marking out
- flat and bar marking: learners mark out straight lines and simple features on flat or bar materials using rulers, squares, and scribers
- hand fitting practice: learners carry out filing or hand sawing tasks to shape materials.
- deburring activity: learners remove burrs using files or deburring tools. Learners degrease and clean completed work
- measured outcome: learners produce components within stated Entry Level 2 tolerances using a steel ruler for checking.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- independent preparation: learners prepare materials for marking out, selecting appropriate tools to remove burrs and apply marking out medium
- varied material marking: learners mark out features on flat, bar, and cylindrical materials using direct marking and templates
- multi-process task: learners carry out filing, hand sawing, and drilling to shape a component
- quality check: learners inspect work for sharp edges and cleanliness and carry out de-burring and cleaning as required
- measured checking: learners measure completed work with suitable measuring equipment and confirm it meets specified Entry Level 3 tolerances.

The following activities would be suitable for use with Level 1 learners (done independently):

- preparation plan: learners plan and carry out full material preparation independently, selecting suitable tools and methods
- complex marking task: learners accurately mark out flat, bar, and cylindrical materials using a full range of marking out equipment
- extended hand fitting task: learners carry out filing, hand sawing, drilling, and thread cutting to produce an accurate component
- quality assurance: learners complete final checks to ensure work is clean, burr-free, and safe to handle

- precision outcome: learners achieve tighter tolerances for hand fitting and sheet metal tasks and verify results using suitable measuring equipment.

LO2.4

The learner will be able to check the accuracy of work.

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- steel ruler practice: learners use a steel ruler to measure the length or width of a simple component with tutor guidance
- shape and size check: learners visually check finished work for overall shape and size against a simple guide
- tick-sheet recording: learners record measurements by ticking boxes or circling options on a prepared worksheet.

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- basic measuring task: learners use a steel ruler to measure length, width, or diameter of a component
- dimension check: learners check completed work against given measurements from a simple drawing or worksheet
- measurement table: learners record measured values in a provided table.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- expanded measuring task: learners measure internal and external dimensions using a steel ruler and vernier calliper. Learners use an engineer's square or feeler gauges to check flatness or squareness
- tolerance comparison: learners compare measured dimensions to given tolerances and identify whether the component is within limits
- clear recording: learners record measurements neatly with units and notes. Learners suggest realistic improvements to tools, methods, or marking out to improve accuracy.

The following activities would be suitable for use with Level 1 learners (done independently):

- precision measuring: learners accurately measure components using micrometers and vernier callipers. Learners carry out squareness, flatness, and gap checks using engineer's squares and feeler gauges
- tolerance verification: learners check all critical dimensions against set tolerances and make pass/fail decisions
- professional recording: learners present clear, accurate measurement records using tables or inspection sheets. Learners evaluate results and plan specific improvements to future practical tasks, such as tool choice, sequence, or technique.

LO2.5

The learners will be able to close down engineering activities safely.

The following activities would be suitable for use with Entry Level 1 learners (with high level support):

- spot the problem: learners are shown tools with obvious faults (for example, damaged handle, blunt edge) and identify whether they are safe or unsafe
- switch-off check: learners follow tutor guidance to confirm that equipment is switched off after use
- guided tidy-up: learners remove tools from benches and place them in clearly labelled storage areas.

The following activities would be suitable for use with Entry Level 2 learners (with moderate support):

- tool checking checklist: learners inspect hand tools for blunt edges or visible damage using a simple checklist
- isolation confirmation: learners check that equipment is switched off and unplugged where appropriate. Learners confirm that guards are in place and note if anything is missing
- correct storage task: learners store tools and workpieces in designated locations.

The following activities would be suitable for use with Entry Level 3 learners (with minimal support):

- visual inspection routine: learners inspect tools, equipment and PPE for wear, damage, or blunt edges
- safety confirmation: learners carry out checks to confirm machines are isolated and safe to leave. Learners check that guards are correctly fitted and functional
- full close-down: learners remove and store tools, dispose of waste correctly, and store workpieces safely.

The following activities would be suitable for use with Level 1 learners (done independently):

- shutdown inspection: learners carry out a structured inspection of tools, equipment and PPE using an inspection checklist
- isolation and guarding:
  - safe isolation checks: learners confirm equipment is isolated following workshop procedures. Learners confirm guards are present, correctly fitted, and functional
  - planned close-down: learners plan and carry out full restoration of the workspace. Learners present a clear written report of faults or defects found, including recommended actions.

Developing a Portfolio of Evidence – Unit 2 (LO1–LO5)

Learners will build a portfolio of evidence across Unit 2 by completing a series of integrated practical engineering tasks. Evidence should be collected naturally through workshop activities and may be supported by assessor observation and learner reflection.

LO2.1

The learner will be able to interpret engineering information from drawings and charts.

Learners can evidence LO1 by working from simple to more complex engineering drawings and charts. Evidence may include:

- annotated engineering drawings highlighting angles, diameters, dimensions radii, thread sizes or tolerances
- completed worksheets showing interpretation of drawing information
- simple sketches, isometric drawings, or orthographic views produced by the learner
- assessor observation records confirming correct interpretation during practical tasks
- photographs of marked-up drawings used to carry out tasks.

LO2.2

The learner will be able to plan safe and efficient practical engineering activities.

Learners develop evidence by planning and preparing for practical activities. Evidence may include:

- completed risk assessments (provided or adapted templates depending on level)
- PPE selection checklists linked to specific tasks
- step-by-step task plans showing sequencing and time considerations
- lists of tools, equipment, and PPE required
- assessor observation records confirming safe working practices
- learner reflections on how safety measures were applied during tasks.

LO2.3

The learner will be able to cut and shape materials safely and effectively.

Evidence for LO3 is generated through hands-on practical work in the workshop. Evidence may include:

- photographs of material preparation, marking out, cutting, and shaping stages
- marked-out materials showing correct use of tools and techniques
- completed components demonstrating cutting, shaping, and finishing
- assessor observation records confirming correct use of tools and safe working
- measurement records showing achieved tolerances
- learner reflections on what went well and what could be improved.

LO2.4

The learner will be able to check the accuracy of work.

Learner's evidence LO4 by measuring completed work and reviewing accuracy. Evidence may include:

- measurement records using steel rulers, vernier callipers, micrometers, or squares
- tolerance check sheets comparing actual dimensions to required dimensions
- annotated photographs showing measurements being carried out
- written or verbal feedback identifying errors and improvement opportunities
- assessor observation confirming correct use of measuring equipment.

LO2.5

The learner will be able to close down engineering activities safely.

Learners collect evidence through safe shutdown and workspace restoration activities. Evidence may include:

- completed shutdown or inspection checklists for tools, equipment, and PPE
- photographs of correctly restored workspaces
- fault or defect reports for damaged tools or equipment
- assessor observation records of isolation checks and tidy-down procedures.

Opportunities for integration of learning experiences relating to the world of work

This unit generates opportunities for the following learning experiences to be developed (experiences will not be directly assessed):

- interacting with guest speakers from the Engineering sector to gain first-hand insight into real-world practices and expectations
- asking questions and discuss current trends, challenges and innovations in the sector with industry professionals
- learning about different career pathways, training routes and qualifications directly from Engineering employers and training providers
- developing networking skills by engaging with Engineering workers
- visiting local buildings, developments or sites or attending events to understand the Engineering sector first-hand
- gaining inspiration and motivation from hearing personal career journeys and success stories.

The Guidance for Teaching will include further information on the opportunities provided by the qualification for teachers/centres, to integrate these learning experiences and skills into delivery.

Opportunities to develop cross-cutting themes, cross-curricular skills and integral skills are signposted in Appendix A. Further information is provided in the Guidance for Teaching.

3. Assessment

This qualification is assessed through a portfolio of evidence that is internally assessed and externally quality assured through a process of external moderation. Information on the moderation process can be found in the document *Internal Assessment: A guide for centres*, which can be accessed from the administration section of the WJEC website.

Assessment should only be undertaken once the relevant teaching and learning has been completed. Centres must ensure that candidates are not assessed continuously or prematurely.

3.1. Assessment tasks

Teachers have the flexibility to design assessment tasks and activities that best meet the needs of their learners. This approach enables assessments to be tailored to the interests, abilities, and context of each learner group. It also allows teachers to be creative and to offer learners a range of opportunities to demonstrate their knowledge, skills, and understanding.

Assessment tasks must enable learners to meet each assessment criterion for the unit at the level appropriate to their performance. Each assessment criterion is structured across four levels, from Entry 1 to Level 1, and a learner's achievement may vary across different tasks within the same unit. This approach recognises progress at every stage and values individual achievement, skills development, and growth.

To support centres in designing suitable assessments, example tasks are provided after each unit within this specification. Although these examples are presented for each individual learning outcome, teachers may devise tasks that span multiple learning outcomes, provided they enable learners to demonstrate achievement of all relevant assessment criteria at the level appropriate to their performance.

3.2. Assessment duration

Centres must ensure that assessment activities do not exceed the maximum duration stated in the unit summary for each unit. This is intended to support comparability across centres while allowing for reasonable adjustments based on learner needs and the nature of centre devised tasks.

For most learners, assessment activities should normally fall within the indicative time for each unit, though shorter durations may be used where appropriate, particularly for Entry Level learners. The range must not be treated as a minimum, and centres must avoid overassessment.

Centres must record the approximate time spent on assessment activities for each learner and each unit. These records must be retained for moderation and quality assurance purposes.

3.3. Evidence requirements

Learners may demonstrate that they have met the assessment criteria through a range of evidence types, including:

- teacher observation – direct observation of the learner carrying out a task or activity
- assignments or written tasks – structured written responses to set tasks, appropriate to the learner's level
- creative outputs – artwork, models, digital media or other creative products that demonstrate applied skills
- group work evidence – contributions to group tasks, supported by observation notes or learner reflections
- learner statement – a written or recorded account by the learner reflecting on what they did and what they learned
- peer or self-assessment – structured opportunities for learners to evaluate their own or others' work (with guidance)
- photographic evidence – images showing the learner's work or participation in an activity, with context provided
- practical workbooks or logbooks – records of activities completed over time, including reflections and feedback
- project work – extended tasks or investigations that demonstrate planning, execution, and review
- simulated activities – tasks carried out in a controlled environment that replicate real-world scenarios
- teacher/assessor questioning – responses to structured questions, either written or oral, to confirm understanding
- video/audio recordings – recordings of the learner performing a task, giving a presentation, or participating in a discussion
- witness testimonies – statements from teachers, support staff, or others who have observed the learner's performance.

Learner evidence for each unit should be compiled into a portfolio for both internal assessment and external moderation. The term 'portfolio' refers to a structured collection of evidence.

The portfolio must be accompanied by a completed Learner Assessment Record, which can be accessed from the qualification page of the WJEC website (link to be added when page is available). This Learner Assessment Record must be used to record:

- the assessment activities learners have completed (what they have done)
- where the evidence is located
- teacher comments
- the level of support and guidance that learners have received
- the approximate amount of time the learner has spent on assessment
- which assessment criteria the learner has met
- the grade awarded and the overall total number of assessment criteria achieved at or above the grade awarded.

All evidence must be clearly referenced to the relevant assessment criteria. All evidence must be submitted digitally. Where learners produce paper-based work or physical evidence, these should be scanned, photographed or filmed so that a clear digital version can be submitted. Information on the submission process can be found in the document e-submission: *IAMIS (Internal Assessment Mark Input System) Upload – Subject Guidance*, which can be accessed from the administration section of the WJEC website.

3.4. Support and guidance

Teachers should support learners as they build their portfolio. Support should reflect the level the learner is working at:

- Entry 1 learners will require a high level of support, including verbal, visual and practical assistance, use of symbols, or assistive technology. Tasks and evidence collection should be highly structured to enable meaningful participation and achievement through supported engagement.
- Entry 2 learners should demonstrate emerging independence but may require prompts, guided questioning or scaffolded templates to plan, organise and reflect on their work.
- Entry 3 learners are expected to work with minimal support, requiring only occasional guidance to confirm understanding or review progress.
- Level 1 learners should work independently while still receiving the support they need to succeed. Teachers and tutors can provide advice on planning and structuring their answers, as well as sourcing information and presenting evidence, where appropriate. Support can also include clarifying instructions, prompting reflection or helping learners to identify next steps, without completing the work on the learner's behalf.

This graduated model of support ensures that learners develop independence, confidence, and skills as they progress through the levels.

3.5. Supervision and authentication

Learners must be supervised by a teacher while completing assessment activities. Teachers may clarify task requirements but must not provide feedback on the evidence being produced. Both learners and teachers must sign declarations confirming the authenticity of submitted work.

Collaboration: group work is permitted only where specified. Individual contributions must be clearly identifiable and assessed independently to ensure fairness. Learners must provide individual responses, and evidence must be attributable to each learner. Authentication sheets must be signed by both the teacher and the learner.

3.6. Marking (assessment judgements)

To ensure consistency and reliability in assessment, all marking must be carried out by a designated teacher or assessor with appropriate subject expertise.

Teachers and assessors must ensure that:

- judgements are made solely against the assessment criteria, not based on overall impressions or learner effort
- written evidence is clearly annotated to show how it meets specific criteria
- performance evidence (for example, presentations or practical demonstrations) is documented using observation records that include both descriptive and summative comments, clearly indicating which criteria have been met and at what level
- all evidence is authentic, clearly annotated, and accurately recorded, with sufficient detail to support assessment decisions
- where used, observation records must contain enough detail to justify the grade awarded.

Each learning outcome is supported by four distinct performance bands of assessment criteria, designed to reflect a broad spectrum of learner abilities. It is recognised that a learner's performance may vary across different learning outcomes within the same unit. Evidence submitted by candidates must align with the expectations set out in the assessment criteria.

Where performance is observed by someone other than the teacher, a witness statement must be completed. The teacher is responsible for authenticating the statement through scrutiny of supporting evidence and/or questioning the learner or witness. Authenticated witness statements may contribute to the overall assessment evidence, and documentation of authentication must be included.

A standardised pro forma is provided for both observation and witness records. Learners should be provided with a copy of the pro forma in advance to support transparency and consistency.

3.7. Resubmitting evidence prior to moderation

Teachers may allow a learner one opportunity to improve their evidence and resubmit it for reassessment before the final decision is submitted for moderation. This process is referred to as resubmission.

Candidates may resubmit to:

- address omissions or incomplete evidence for the current level
- attempt to achieve additional or higher-level assessment criteria (for example, progressing from Entry 2 to Entry 3 or Level 1).

Internal assessment must be scheduled to allow sufficient time for resubmission, where needed, prior to external moderation.

Any feedback provided to candidates must:

- be factual, based on what has been observed in their work
- indicate which assessment criteria have not been met and/or confirm the level currently achieved
- avoid giving explicit instructions on how to meet higher-level criteria
- be documented and made available for external moderation if requested.

Teachers must not:

- permit multiple resubmissions based on minor changes following feedback
- allow learners to add, amend, or remove any work after a resubmission has been assessed.

Candidates are not required to produce an entirely new set of evidence. They should focus only on the areas where they aim to improve or progress.

The time allowed for resubmission should not exceed the total time provided for the initial generation of evidence.

Centres should maintain internal records of resubmissions to provide a clear audit trail, including the learner's original level and any resubmission. Only the final evidence and assessment decisions need to be submitted for external moderation.

Once assessment decisions have been submitted for moderation, no further amendments can be made to the evidence. Candidates have one opportunity to resit assessment in a future assessment series (see section 4.5).

3.8. Malpractice

Before the course starts, the teacher is responsible for informing candidates of WJEC's regulations concerning malpractice. Candidates must not take part in any unfair practice in the preparation of work for their WRFQ.

Information regarding malpractice is available in our Guide to preventing, reporting and investigating malpractice.

All cases of suspected or actual malpractice must be reported immediately to WJEC (malpractice@wjec.co.uk). If candidates commit malpractice, they may be penalised or disqualified from the examinations.

In all cases of malpractice, centres are advised to consult the JCQ booklet Suspected Malpractice: Policies and Procedures.

4. Technical information

4.1. Unit entry

This is a unitised qualification. Candidates are entered for each unit separately.

Assessment opportunities will be available in summer each year until the end of the life of the qualification.

External moderation of Unit 1 will be available for the first time in summer 2028 (and every January and summer series thereafter).

External moderation of Unit 2 will be available for the first time in summer 2029 and every January and summer thereafter.

Entry for individual units must be made by submitting the relevant unit shown below:

Unit		Entry Codes	
		English medium	**Welsh medium**
Unit 1	Introduction to Engineering	tbc	tbc
Unit 2	Producing a Product	tbc	tbc

If a candidate has been entered for but is absent for a unit, the absence does not count as an attempt.

4.2. Qualification entry

The qualification will be awarded for the first time in summer 2029.

Candidates will be entered for the qualification when entering for aggregation (cash-in).

Aggregation does not take place automatically; it is necessary to enter the relevant code for aggregation to take place.

	English medium	**Welsh medium**
Cash-in code	tbc	tbc

The current edition of our Entry Procedures and Coding Information gives up-to-date entry procedures.

4.3. Grading

WRFQs will be awarded on a four-point scale.

WRFQs will be awarded on a four-point scale Entry 1 to Level 1, where Level 1 is the highest grade.

Unit grades

Candidates will be awarded a summative grade for each unit determined by the total points the learner has achieved within that unit.

Each Entry 1 criteria is allocated **1** point, each Entry 2 criteria is allocated **2** points, each Entry 3 criteria is allocated **3** points and each Level 1 criteria is allocated **4** points.

To obtain Entry 1, the candidate must achieve 20% of the available points for the unit.

To obtain Entry 2, the candidate must achieve 40% of the available points for the unit.

To obtain Entry 3, the candidate must achieve 60% of the available points for the unit.

To obtain Level 1, the candidate must achieve 80% of the available points for the unit.

The table below shows the minimum number of points a candidate must achieve to be awarded each unit grade.

	Max points	E1	E2	E3	L1
Unit 1	48	10	19	29	38
Unit 2	64	13	26	38	51

Candidates who do not achieve the minimum number of points to be awarded Entry 1 will have their unit achievement reported as unclassified (U).

Qualification grade

The qualification grade will be based upon the overall points the candidate achieves across both units.

To obtain Entry 1, the candidate must achieve 20% of the total available points.

To obtain Entry 2, the candidate must achieve 40% of the total available points.

To obtain Entry 3, the candidate must achieve 60% of the total available points.

To obtain Level 1, the candidate must achieve 80% of the total available points.

The table below shows the minimum number of points a candidate must achieve to be awarded each qualification grade.

	Max points	E1	E2	E3	L1
Qualification	112	22	45	67	90

Candidates who do not achieve the points required to achieve an Entry 1 Pass will have their achievement reported as unclassified (U) and will not receive a certificate.

4.4. Resitting assessments after external moderation

Candidates may resit each unit once (two attempts in total). The highest grade achieved across the two attempts will be used in determining the final outcome for the qualification.

When resitting:

- candidates may resubmit previously submitted work. Candidates and teachers must ensure that new and/or amended evidence is clearly identifiable
- if a candidate was entered for an assessment but recorded as absent, the absence does not count as an attempt
- if a candidate submitted evidence but did not meet any assessment criteria, this will count as an attempt
- where the qualification includes multiple units, evidence and decisions from other units will be carried forward, provided the learner has not exceeded the maximum number of attempts for any unit
- if a candidate exceeds the permitted number of attempts for any unit, they will be required to retake the qualification in full.

4.5. Retaking the qualification

If a candidate enters a unit for a third time, they must re-enter and retake all units.

The candidate must produce a new portfolio of evidence. Candidates cannot improve previously submitted work; all evidence must be generated afresh for the resit. Where centres produced a context for assessment, a new context should be used.

When retaking a qualification, a candidate may have up to two attempts at each unit. No results from units taken prior to the retake can be used in aggregating the new grade(s).

Appendix A: Opportunities for embedding elements of the Curriculum for Wales

The table below indicates where the qualification provides opportunities for embedding elements of the Curriculum for Wales. More detailed information is provided in the Guidance for Teaching: Unit Delivery Guides.

Curriculum for Wales Strands	Unit 1	Unit 2
Cross-cutting themes		
Local, national and international contexts	1.1.2, 1.1.3, 1.2.3	
Sustainability	1.1.1, 1.2.3, 1.4.1,	
Relationships and sexuality education	1.1.3, 1.2.2, 1.2.3, 1.3.1, 1.3.2,	
Human rights education	1.1.1, 1.1.3, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	
Careers and work-related experiences	1.2.1, 1.2.2, 1.2.3, 1.4.1, 1.4.2, 1.4.3, 1.4.4	

Cross-curricular skills – Literacy		
Listening	1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	
Reading	1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.3.1, 2.3.2, 2.3.3. 2.3.4, 2.3.5, 2.3.5, 2.4.1,2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3
Speaking	1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.4.3
Writing	1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	2.2.1, 2.4.3

Curriculum for Wales Strands	Unit 1	Unit 2
Cross-curricular skills – Numeracy		
Developing mathematical proficiency	1.3.1, 1.3.2,	2.1.1, 2.1.2, 2.1.3, 2.3.2, 2.3.3, 2.3.5, 2.4.1,2.4.2, 2.4.3
Understanding the number system helps us to represent and compare relationships between numbers and quantities	1.3.1, 1.3.2,	2.1.1, 2.1.2, 2.1.3, 2.3.2, 2.3.3, 2.3.5, 2.4.1,2.4.2, 2.4.3
Learning about geometry helps us understand shape, space and position and learning about measurement helps us quantify in the real world	1.3.1, 1.3.2,	2.1.1, 2.1.2, 2.1.3, 2.3.2, 2.3.3, 2.3.5, 2.4.1,2.4.2, 2.4.3
Learning that statistics represent data and that probability models chance help us make informed inferences and decisions	1.3.1, 1.3.2,	2.1.1, 2.1.2, 2.1.3, 2.3.2, 2.3.3, 2.3.5, 2.4.1,2.4.2, 2.4.3

Digital Competence		
Citizenship		
Interacting and collaborating		2.2.1, 2.4.3
Producing		2.2.1, 2.4.3
Data and computational thinking	1.3.1, 1.3.2,	2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.3.1, 2.3.2, 2.3.3. 2.3.4, 2.3.5, 2.3.5, 2.4.1,2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3
Curriculum for Wales Strands	**Unit 1**	**Unit 2**
Integral Skills		
Creativity and innovation	1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.3.1, 2.3.2, 2.3.3. 2.3.4, 2.3.5, 2.3.5, 2.4.1,2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3
Critical thinking and problem solving	1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.3.1, 2.3.2, 2.3.3. 2.3.4, 2.3.5, 2.3.5, 2.4.1,2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3
Planning and organisation	1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.3.1, 2.3.2, 2.3.3. 2.3.4, 2.3.5, 2.3.5, 2.4.1,2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3
Personal effectiveness	1.2.1, 1.2.2, 1.2.3, 1.3.1, 1.3.2, 1.4.1, 1.4.2, 1.4.3, 1.4.4	2.1.1, 2.1.2, 2.1.3, 2.2.1, 2.2.2, 2.3.1, 2.3.2, 2.3.3. 2.3.4, 2.3.5, 2.3.5, 2.4.1,2.4.2, 2.4.3, 2.5.1, 2.5.2, 2.5.3

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