Unit 307: Applying water-borne paint systems using high volume low pressure spray equipment

Sample scheme of learning

Please revise the following text to suit your requirements.

This sample scheme of learning covers both classroom and workshop based learning for Unit 307. It is based on 60 hours delivered over 11 sessions, plus additional hours for independent learning. Some suggestions of independent learning are made in the session plans.

This is only an example of a possible scheme of learning. You can use it as it is, adjust it or extract content to suit your delivery needs, or the needs of individual learners. We have endeavoured to make the schemes of learning as flexible as possible: where sessions may be taught out of order, this has been signposted. You may find it useful to use our lesson plan template to translate and adapt the sessions.

The schemes of learning are intended to be learner-focused, and they embrace current pedagogical methodology such as flipped and blended learning. They include the following types of learning tasks:

- **Pre-learning** – tasks for the learner to complete in advance of the session to allow for flipped learning
- **Active learning** – active, experiential and discovery learning approaches
- **Challenge focus** – stretching tasks to challenge more able learners
- **Independent learning** – tasks that learners can complete individually or collaboratively without tutor supervision. These tasks may be given as homework.

Reference is made within the scheme of learning to learning materials and other resources required for each session. A version of this scheme of learning with **full supporting materials** is also available to purchase on **SmartScreen.co.uk**. Resources consist of physical equipment required, as well as any technologies needed. Where possible we have included blended learning activities that make good use of technology so as to help centres fulfil the minimum amount of digital teaching recommended by the government.

The scheme of learning also signposts opportunities within the unit content to introduce the following wider skills and government initiatives:

- English, mathematics and ICT
- employability skills and behaviours
- British values (including the Prevent strategy).

Centres should also incorporate the following themes, where appropriate. Although they are not specifically referred to in the scheme of learning, City & Guilds regards these as essential in the teaching of the qualification:

- spiritual, moral, social and cultural issues
- health and safety considerations, in particular the need to impress upon learners the fact that they must preserve the health and safety of others as well as themselves
- environmental education and related European issues.

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Unit 307: Applying water-borne paint systems using high volume low pressure spray equipment

Sample scheme of learning

Course/qualification: _____ **Tutor's name**: _____

Number of sessions: 11 **Delivery hours**: 60 **Venue**: _____ **Group**: _____

Learning outcomes:	**To enable learners to**:
• Perform preparation and protection of adjacent surfaces, furniture and fittings • Demonstrate the safe use of a functioning HVLP spray system • Understand how to rectify faults and defects in HVLP spray equipment and applied coatings • Perform cleaning, maintenance and storage of HVLP spray equipment and materials	• Understand how to prepare the work area and surrounding surfaces prior to applying coatings by HVLP spray equipment • Understand the advantages and disadvantages of using HVLP equipment, how to prepare coatings prior to application, and how to set up and use HVLP spray equipment • Identify and rectify equipment faults and application of coating faults while using HVLP spray equipment • Understand how to clean, maintain and store HVLP equipment and dispose of materials safely

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Session 1: Preparing the work area **Suggested Teaching Time**: 4 hours

Learning Outcome: 1. Perform preparation and protection of adjacent surfaces, furniture and fittings

Learners to perform preparation and protection of adjacent surfaces, furniture and fittings. Most of the practical tasks require the use of scaffold systems; therefore, this unit could be delivered after the learners have had training on the safe use of scaffold systems.

- Understand the health and safety considerations when preparing the work area.
- Understand the factors to consider when preparing and protecting the work area prior to setting up an HVLP spray system.
- Understand the environmental factors to consider when preparing and protecting adjacent surfaces, furniture and fittings.

Topics: 1.1 – Preparing the work area

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **list** the furniture, fixtures and fittings from one of the rooms within **their** homes and **record which items they would remove and which protect**. The **information** will be used as underpinning knowledge for session. **Active learning:** • Tutor to produce **Presentation 1** to explain the learning outcomes and topics to be covered for this unit. Tutor could use following link to introduce topic: www.youtube.com/watch?v=oNagIA8sKY0. • Learners to **take notes**, and tutor to **verbally question** them on the **topics** covered to **check** their understanding of the subject. • Learners to **discuss** their **list** of fixtures and fittings in **pairs** to see if there are any similarities in their findings. They should compare and question each other's results from the **pre-learning task**. Tutor to go around the class and **facilitate discussion** whilst offering advice and guidance. • Tutor to produce **Presentation 2** on the health and safety considerations, environmental factors and the preparation factors to consider for the work	**Resources** For the tutor to devise/source in advance: • **Presentation 1** • **Presentation 2** • **Activity 1** • **Activity 2** • **Activity 3** • **Worksheet 1** **Materials** • Photos of door and window fittings • Images of furniture • Images of office	• Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 1** and **Presentation 2**. • Tutor to check learners' answers in **Activities 1, 2** and **3**, and **Worksheet 1**, and ask learners questions about the subject content. • Tutor to check more able learners' understanding by marking the short summaries about protecting items prior to using HVLP spray equipment, and provide feedback where appropriate. • Tutor to check learners'

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Key learning activity/approach	Suggested materials and resources	Skills check
area prior to using HVLP spray equipment. Tutor to facilitate a discussion with learners and check their underpinning knowledge of the topic. Tutor could use the following links to help engage learners: www.youtube.com/watch?v=ORUJ6gWBhrY and www.youtube.com/watch?v=3pGQk9VSfVs. • Tutor could hand out photos/images from one from one of these categories: domestic fixtures and fittings, workshop machinery, office furniture and work stations, with Post-it notes for learners to identify the items. Learners to work **individually** and **write on** Post-it notes whether to **remove** the item from the room or **protect** it within the room. • Tutor to produce **Activity 1** on identifying items to be removed/protected within work area for learners to complete in pairs. Once completed, learners need to **swap papers** with peers; tutor to use **directed** verbal questions when marking the **Activity**. • Tutor to **place** learners into **small groups** with a **category** to discuss. Learners to **discuss** their Post it notes and **decide** the best method of protecting items and adjacent surfaces within their given category. Once done, **Post-it notes** should be placed on **flip chart sheets** for presentation. • Learner groups to then **present** their flip chart information to peers with tutor facilitating. • Tutor to **demonstrate** how to **mask up** items on doors and windows within classroom/work area, and also how to **lay** plastic sheeting and drop cloths **correctly**. Learners to **observe** and **answer** any verbal questions from the tutor. • Tutor to produce **Activity 2**, which could be a matching task where an item would need to be matched up with the relevant protection method. Learners to work in pairs to complete this activity and create a debate on the subject. Once completed, learners to swap papers for peer-marking and tutor to help if necessary. • Tutor to produce **Activity 3**, which could be a wordsearch puzzle	furniture • Images of work stations • Images of machinery • Flip chart • Coloured pens • Post-it notes	specifications and method statements to ensure their understanding of applying HVLP spray systems to different scenarios.

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Key learning activity/approach	Suggested materials and resources	Skills check
incorporating the different protection methods used. Once completed, learners to swap papers, with tutor to facilitate and check answers with learners. • Tutor to produce **Worksheet 1**, which could be a series of questions created to check learners' underpinning knowledge. Once completed, learners to swap papers for **peer-marking** with support from the tutor. **Challenge focus:** • More able learners to be given **two photos/images** from **each** category, ie domestic dwelling, office setting and factory floor, and write a **short summary** about which protection materials, equipment and resources would be needed to protect items prior to using HVLP spray equipment. **Independent learning:** • Learners to **take photos** on site of the different areas and rooms that are being painted by traditional methods, and **write out** a **specification** and **method statement** of how they would complete the same task by using HVLP spray system.		

Opportunities to develop maths, English, ICT and wider skills:

English:	British values:
• Learners can demonstrate **writing** skills when producing a **method statement** about preparing a room prior to applying coatings by HVLP spray system. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used.	• Talk about **appropriate learner behaviour**, both at college and at work, when looking at learners' codes of conduct and the similarities with working in a construction context. • Talk about how learners may come into contact with wider **public institutions**, such as the **Health and Safety Executive** and the

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• **Speaking and listening** skills in **presenting** can be developed during the protection of items task. Learners to use the **correct format** with an **introduction**, **supporting evidence** and **statements**, and **conclusions**. They should adapt the content to **suit the audience** and **purpose**.	**local council**, the need for learners to **respect** them, and why they are **important** in ensuring that safe working practices and planning permissions are followed as part of a construction project. **Employability:** • Learners should demonstrate they can **actively listen** during the demonstration, **understand** what has been said and **act** accordingly by following the instructions correctly. • Learners should be encouraged to use techniques to ensure that they understand the instructions, eg repeating back what was said, summarising or asking clarifying questions.

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Session 2: Masking tapes

Suggested Teaching Time: 4 hours

Learning Outcome: 1. Perform preparation and protection of adjacent surfaces, furniture and fittings

- Learners to identify the different masking tapes used during the preparation of work areas prior to using HVLP spray equipment.
- Learners to apply masking tapes to door and window furniture, carpets and components within designated work areas.
- Some of the practical tasks require the use of scaffold systems; therefore, this unit could be delivered after the learners have had training on the safe use of scaffold systems.

Topics: 1.2 – Masking tapes

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **visit** their local building merchants and pick up **leaflets** on different masking tapes available for preparing work areas. Then they are to **list** the characteristics of the masking tapes and bring their findings to class. **Active learning:** • Tutor to **ask** learners to discuss their findings from the pre-learning activity prior to delivering presentation. • Tutor to produce **Presentation 3** on the different masking tapes used during preparation of work areas. Tutor could use the following video as an introduction for the topic: www.youtube.com/watch?v=uZJxl__1RvU. Learners to **answer** any verbal questions from the tutor on the subject. • Tutor to produce **Activity 4**, which could be a wordsearch puzzle on different masking tapes used during the preparation stage. Learners to complete activity individually and, once completed, swap papers and peer-mark with assistance from the tutor. • Tutor to **demonstrate** how to **mask up** items within classroom and work area, and **show** learners how to **remove** the masking tape correctly.	**Resources** For the tutor to devise/source in advance: • **Presentation 3** • **Activity 4** • **Activity 5** • **Worksheet 2** **Materials** • Exterior tape • Interior tape • Low tack tape • Crepe tape • Seven-day tape • Cue cards/paper/ pens	• Use **Worksheets 2**, and **Activities 4** and **5** to check learners' underpinning knowledge on subject learning outcomes. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 3**. • Tutor to check learners' answers in **Activities 4** and **5**, and **Worksheet 2**, asking them questions about the subject content. • Tutor to check learners' capabilities during the completion of the practical activity, and offer advice and guidance where necessary. • Tutor to check more able learners' online research task to see if the

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Key learning activity/approach	Suggested materials and resources	Skills check
• Learners to **split** into small groups; each group to be given a different masking tape and **practise** masking up items. Tutor to **facilitate** and offer information, advice and guidance to learners while carrying out the task. • Learners to work in **pairs** and **create** a small **PowerPoint** presentation identifying which masking tapes were easy to handle and to state any problems encountered. **Presentations** to be **delivered** to peers; tutor to **facilitate** and ask learners **verbal** questions on the topic. • Tutor to produce **Activity 5**, which could be a crossword puzzle covering the different types of masking tape covered. Learners to complete the activity individually and, once completed, papers to be swapped for marking with assistance from the tutor. • Learners to complete **Worksheet 2** in pairs. This could be a question paper developed to check learners' underpinning knowledge on the topic. Once finished, learners to swap papers and peer-mark with assistance from the tutor. **Challenge focus:** • More able learners to imagine that they are working for an employer, and that they have been told to compare costs against the value of different types of masking systems for a project. Learners to conduct **online research** and compile a **report**, outlining this information for their employer. Use the following website to start learners off: www.tapes-direct.co.uk. **Independent learning:** • Learners to conduct online **research** for the health and safety requirements of using the **different masking tapes** when preparing work areas for spraying. They are to write a **short summary** about the importance of adhering to these requirements and the risks of what would happen if they did not.		challenge focus was met.

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners to use **reading** skills in the acquiring leaflets task, **evaluating** each resource's **usefulness**, **bias** and **point of view**. They should practise determining the **purpose** or **main argument** of each resource. • Speaking and listening skills can be demonstrated in developing the discussion about using the different masking tapes available and giving a point of view, as well as allowing and responding to others' opinions. **ICT:** • Learners could use appropriate **presentation software** to complete their presentation about using masking tapes.	**British values:** • Learners to develop their **self-knowledge**, **self-esteem** and **self-confidence** when discussing their findings from the pre-learning task. • Introduce and talk about the **importance** of **respecting others** in the workplace as part of looking at individual strengths and weaknesses, and how different people's skills might complement one another when working in a team. **Employability:** • Learners should demonstrate **self-analysis** by **identifying** the **skills** needed in the painting and decorating industry, and use this to evaluate and prioritise their **own strengths** and **skill gaps** for development. • Learners should be encouraged to take **responsibility** for their own development.

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Session 3: Protective sheeting

Suggested Teaching Time: 4 hours

Learning Outcome: 1. Perform preparation and protection of adjacent surfaces, furniture and fittings

- Some of the practical tasks require the use of scaffold systems; therefore, this unit could be delivered after the learners have had training on the safe use of scaffold systems.
- Learners must be able to identify different protective sheeting used for work areas when spraying.
- Learners to use different protective sheeting in the designated work area.

Topics: 1.3 – Protective sheeting

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **access** the internet and **list** the different protective sheeting available to use when preparing surfaces prior to spraying. The **findings** will be used as **underpinning** for the following session. **Active learning:** • Tutor to produce **Presentation 4** on the different sheeting available to use when protecting surfaces prior to spraying. Tutor could use the following video as part of the introduction for the topic: www.youtube.com/watch?v=34oZiihCDqk. Learners to **take notes** during delivery, as tutor will use **verbal questioning** to check their underpinning knowledge. • Learners to discuss appropriate **PPE** to be worn when preparing work areas. Learners also to produce a **method statement** on preparing work areas. Tutor to **supervise** and offer information, advice and guidance to learners when discussing appropriate PPE and writing **method statements**. • Tutor to produce **Activity 6**, which could be a crossword puzzle on the	**Resources** For the tutor to devise/source in advance: • **Presentation 4** • **Activity 6** • **Worksheet 3** **Materials** • Paper/pens • Flip charts • Dust sheets (lightweight, protective backing and heavy duty) • Polythene sheets (loose and	• Use **Worksheet 3** and **Activity 6** to check learners' underpinning knowledge on the subject. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 4**. • Tutor to check more able learners' understanding by observing their multiple work areas during practice sessions and providing feedback where appropriate. • Tutor to check learners' specifications and method statements to ensure their understanding of applying HVLP spray systems to different scenarios.

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Key learning activity/approach	Suggested materials and resources	Skills check
different protective sheeting used during the preparation of areas and surfaces prior to spraying. • Learners to work in pairs and **produce** a flip chart **presentation** on the materials, equipment and tools required to prepare a work area for spraying; tutor to **list** a range of **work areas** to choose from. • Tutor to **demonstrate** how to **prepare** work areas and adjacent surfaces with a range of **different materials** and equipment. After each task has been **demonstrated**, learners to work in pairs to **complete** the same tasks. • Learners to continue to **practise** preparing areas and surfaces. Tutor to facilitate and give support where needed. • Tutor to produce **Worksheet 3**: question paper for learners to complete in pairs; once completed, papers to be swapped and **peer-marked**. **Challenge focus:** • More able learners to **attempt** to prepare more than one work area during practice sessions, for example an office, a welfare facility and a classroom. **Independent learning:** • Learners to **research** the different types of protective sheeting and materials that are **needed** for protecting various surfaces, which can be purchased from suppliers, and **list** the **advantages** and **disadvantages** of the manufactured materials.	adhesive) • Masking paper • Masking machines • Masking shield • Tarpaulin • Drop sheets	

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners can demonstrate **writing** skills when producing a **presentation** on the materials, tools and equipment needed for the task. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used. • **Speaking and listening** skills in **presenting** can be developed during the presentation task. Learners to use the **correct format** with an **introduction**, **supporting evidence** and **statements**, and **conclusions**. They should adapt the content to **suit the audience** and **purpose**. **Maths:** • Learners will need to **measure length and width** using metres in a decorating context, as part of the preparing work area floors, windows, etc task. **ICT:** • Learners could use appropriate **presentation software** to complete their presentation on the correct tools, equipment and materials for preparing the work area.	**British values:** • Remind learners about **staying safe online** and raise awareness of the potential risk of radicalisation, as part of the government's '**prevent strategy**'. • Remind learners about the **importance** of the **laws of England**, and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace. • Talk about how learners may come into contact with wider **public institutions**, such as the **Health and Safety Executive** and the **local council**, the need for learners to **respect** them, and why they are **important** in ensuring safe working practices and that planning permissions are followed as part of a construction project. **Employability:** • Learners can demonstrate how they **change** their **communication style** to suit their **audience** in the presentation task about protective sheeting. Use of **appropriate language**, **tone** and **body language** should be analysed. Learners should have successfully identified that the **purpose** of the presentation is to **inform**, and acted accordingly.

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Session 4: Advantages and disadvantages

Suggested Teaching Time: 4 hours

Learning Outcome: 2. Demonstrate the safe use of a functioning HVLP spray system

- Some of the practical tasks require the use of scaffold systems; therefore, this unit could be delivered after the learners have had training on the safe use of scaffold systems.
- Learners to be aware of the advantages and disadvantages of using HVLP spray systems.

Topics: 2.1 – Advantages and disadvantages

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **use** the ICT search engine and access the following link www.finishsystems.com/hvlp.html to **record** the advantages and disadvantages of using HVLP spray equipment. The information recorded will be **used** as underpinning knowledge for the session. **Active learning:** • Tutor to produce **Presentation 5** on the advantages and disadvantages of using HVLP spray equipment. Learners will use their **records** during the **discussion** with the tutor. Tutor could use the following link as part of the introduction to the subject: www.youtube.com/watch?v=NotMhXx4gPY. • Learners to **take notes** on the different advantages and disadvantages of HVLP spray equipment. • Tutor to create **Activity 7**, which could be a wordsearch puzzle identifying the different advantages and disadvantages of using HVLP systems**.** Tutor could also produce questions within **Worksheet 4** to test learners' underpinning knowledge on the subject. Once completed, learners to swap papers and **peer-mark**, with tutor facilitating. • Tutor to split learners into **small groups** and give each group an image	**Resources** For the tutor to devise/source in advance: • **Presentation 5** • **Activity 7** • **Activity 8** • **Worksheet 4** **Materials** • Images of HVLP spray guns • Gravity feed spray gun • Suction feed spray gun • Pressure feed spray gun	• Use **Worksheet 4**, and **Activities 7** and **8** to check learners' underpinning knowledge of subject learning outcomes. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 5**. • Tutor to verbally question learners during small group exercise to check underpinning knowledge. • Tutor to make sure that learner posters are fit for purpose and that learners have met all requirements.

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Key learning activity/approach	Suggested materials and resources	Skills check
or an actual HVLP spray gun, asking them to **identify** it and what coatings can be sprayed with it. Each group to spend **five–ten minutes** with each image/spray gun and **create** a **poster** of the gun and record its **advantages** and **disadvantages**. Once learners have created a poster, tutor to **ask** them to **swap images/spray guns** and **repeat** the task until **all** images/spray guns have been covered by the class; **tutor** to **facilitate** session. • Learners to **produce** a flip chart **poster of all spray guns, with the advantages and disadvantages** identified by the group, and then **present** their findings to their peers, with tutor facilitating. • Tutor to use **verbal open questioning** to check learners' underpinning knowledge on the subject topic and then **give** them the correct advantages and disadvantages of each spray gun and system. • Tutor to produce **Activity 8** and create a missing word exercise for learners to complete individually. Once completed, learners to **swap papers** and **peer-mark** while tutor gives out correct answers. **Challenge focus:** • More able learners to **draw** one of the HVLP spray guns with the advantages and disadvantages listed next to the image to be used as a classroom resource for the topic – component parts to be identified. **Independent learning:** • Learners to use **ICT search engine** and list the **functions** of HVLP spray systems to be used as underpinning knowledge for the next session. Use the following link as an example: www.secondchancegarage.com	• Cue cards • Paper/pens/ notepads • Flip chart/paper	

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners demonstrate **reading** skills in the advantages and disadvantages research task – **identifying** and **summarising** the **main points** of HVLP systems' advantages and disadvantages. • Learners can demonstrate **writing** skills when producing a **list/record** about the advantages and disadvantages of HVLP spray equipment. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used. • **Speaking and listening** skills in **presenting** can be developed during the advantages and disadvantages of HVLP spray system presentation task. Learners to use the **correct format** with an **introduction**, **supporting evidence** and **statements**, and **conclusions**. They should adapt the content to **suit the audience** and **purpose** **ICT:** • Learners have the opportunity to use **advanced search techniques** to **locate, select and evaluate** relevant online sources that provide suitable information about the advantages and disadvantages of HVLP spray systems	**British values:** • Remind learners about **staying safe online** and raise awareness of the potential risk of radicalisation, as part of the government's '**prevent strategy**'. • Learners to develop their **self-knowledge**, **self-esteem** and **self-confidence** when researching advantages and disadvantages of HVLP spray systems for presentation tasks. • Talk about the importance of **respecting democracy** and **free speech** as part of the identifying advantages and disadvantages debate task. Ensure that learners understand the need to respect other people's point of view and let them make their point of view heard. **Employability:** • Learners to learn how to **use feedback** by **listening openly**, and **accepting** both **praise** and **criticism**, as part of getting peer review comments on their poster presentations. They should be encouraged to **clarify** any feedback as needed and think of their **own next steps** for improvement.

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Session 5: Function and assembly of the HVLP spray gun equipment **Suggested Teaching Time**: 6 hours

Learning Outcome: 2. Demonstrate the safe use of a functioning HVLP spray system

- Learners must be able to identify and understand the function and assembly of HVLP spray systems.
- Learners to identify spray gun and spray unit components.

Topics: 2.2 – Function and assembly of the HVLP spray gun equipment

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **produce a list** of different HVLP spray guns and systems used to apply water-borne coatings, by using **internet search engines**. **Lists** will be used as underpinning knowledge for the session. **Active learning:** • Introduction of topic by tutor and facilitate **discussion** with learners on the different lists of HVLP spray guns provided via **pre-learning task.** • Tutor to produce **Presentation 6** on the different component parts and their functionality of the various spray guns and units. Tutor to recap the importance of health and safety when working with tools, equipment and components. The following link could be used to show learners a range of different HVLP systems available to use: www.youtube.com/watch?v=pOkWtHn9aTI. • Tutor to **demonstrate** how to **disassemble** spray guns and spray units while **asking verbal questions** to the group to **check** underpinning knowledge gained on component parts. Learners to **take** notes and answer verbal questions. • Tutor to create **Activity 9**, which could be an unscramble words exercise about the function and assembly of HVLP guns, for learners to complete individually. Once finished, learners to swap papers and **peer-**	**Resources** For the tutor to devise/source in advance: • **Presentation 6** • **Activity 9** • **Activity 10** • **Worksheet 5** **Materials** • Range of HVLP spray guns, such as gravity feed spray gun, suction feed spray gun and pressure feed spray gun • Tools and equipment needed	• Use **Activities 9** and **10**, and **Worksheet 5** to test learners on subject knowledge. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 6**. • Tutor to verbally question individual learners on why they are using a particular tool, etc to check their underpinning knowledge of the topic. • Tutor to challenge learners on their step-by-step guides to check their understanding of the topic.

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Key learning activity/approach	Suggested materials and resources	Skills check
mark with assistance from the tutor. • Learners to split into **three** groups. Each group to be given one of the HVLP spray guns, and the tools and equipment needed to disassemble it. • All groups to write out a **step-by-step** guide on **flip chart paper** on how to **disassemble** the spray gun **components**, adding the **appropriate tools, materials** and **equipment** needed to complete the task. Tutor to facilitate and give assistance where required. • Learners to **present** their information via **flip chart** to the rest of the class and **answer** questions directed to them from tutor and peers. • Tutor to create **Activity 10**, which could be a matching exercise where learners need to match components with the relevant names, and ask learners to complete the activity individually. Once finished, swap papers and peer-mark with assistance from the tutor. • Learners to complete **questions** within **Worksheet 5**, which the tutor will have produced for the topic covered. This could be used to check learners' underpinning knowledge. Once finished, swap papers and peer-mark with assistance from the tutor. **Challenge focus:** • More able learners to **reassemble** one of the spray gun **systems** after lubricating moving parts and check that all components move freely once reassembled. **Independent learning:** Learners to conduct **online research** on the health and safety requirements of preparing **paint materials** and the **equipment needed** when completing the task of **straining, mixing and thinning** coatings. Once found, they are to **produce a leaflet** of the requirements/regulations to be used for the next session.	to disassemble and reassemble spray guns and units • Cue cards/paper/ pens • Flip charts	

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners demonstrate **reading** skills in the pre-learning task, **identifying** and **summarising** the **main points** about the different components that make up a spray gun and spray unit. • Learners can demonstrate **writing** skills when producing a **step-by-step guide** on how to strip down spray guns and spray units. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used. • **Speaking and listening** skills in **presenting** can be developed during the **flip chart presentation** task. Learners to use the **correct format** with an **introduction**, **supporting evidence** and **statements**, and **conclusions**. They should adapt the content to **suit the audience** and **purpose**. **ICT:** • Learners have the opportunity to use **advanced search techniques** to **locate, select and evaluate** relevant online sources that provide suitable information about the different component parts of HVLP spray system equipment.	**British values:** • Learners to develop their **self-knowledge**, **self-esteem** and **self-confidence** when working in groups presenting their flip chart presentation. • Remind learners about the **importance** of the **laws of England**, and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace. • Talk about **appropriate learner behaviour**, both at college and at work, when discussing tasks to be completed throughout the day. • Talk about how learners may come into contact with wider **public institutions**, such as the **Health and Safety Executive** and the **local council**, the need for learners to **respect** them, and why they are **important** in ensuring safe working practices and that planning permissions are followed as part of a construction project. **Employability:** • Learners can demonstrate how they **change** their **communication style** to suit their **audience** in the presentation task about disassembling spray guns and units. Use of **appropriate language**, **tone** and **body language** should be analysed. Learners should have successfully identified that the **purpose** of the presentation is to **inform**, and acted accordingly.

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Session 6: Preparation of paint materials

Suggested Teaching Time: 6 hours

Learning Outcome: 2. Demonstrate the safe use of a functioning HVLP spray system

- Learners must understand and demonstrate the correct preparation of materials to be sprayed, and understand the consequences of not preparing them correctly.
- Learners to identify the equipment used to prepare coatings.
- Learners to prepare coatings prior to spraying.
- Learners to understand the consequences of poor preparation.

Topics: 2.3 – Preparation of paint materials

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **produce a list** of different equipment needed to prepare coatings prior to spraying by using the **internet**, eg www.international-pc.com. The **list** will be used as underpinning knowledge for the session. **Active learning:** • Tutor to introduce the topic and facilitate **discussion** with learners on the different equipment needed when preparing coatings prior to spraying, referring to the **pre-learning task.** • Tutor to produce **Presentation 7** on the preparation of coatings prior to spraying and recap the importance of **health and safety** when working with tools, equipment and components. • Tutor to produce **Activity 11**, which could be an unscramble words exercise on identifying equipment and preparation methods. Once finished, learners to swap papers and **peer-mark** with assistance from the tutor.	**Resources** For the tutor to devise/source in advance: • **Presentation 7** • **Activity 11** • **Activity 12** • **Worksheet 6** **Materials** • Viscometer • Ford cup • Ratio stick • Paint strainers • Mixing sticks • Clean containers	• Use **Activities 11** and **12**, and **Worksheet 6** to test learners on subject knowledge. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 7**. • Tutor to verbally question individual learners on their knowledge of contamination of materials and incorrect viscosity of coatings. • Tutors to verbally question individual learners on their style of preparation.

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Key learning activity/approach	Suggested materials and resources	Skills check
• Tutor to use following link as part of delivery of subject: www.youtube.com/watch?v=pFxAwEBzbno. • Tutor to **demonstrate** how to **prepare** coatings correctly by using the different equipment available, while **asking verbal questions** to the group to **check** underpinning knowledge gained on: viscometer, Ford cup and ratio stick. Learners to **take** notes and answer verbal questions. • Tutor to **explain** the consequences of poor preparation and **verbally question** learners' knowledge of **contamination** of materials and **incorrect viscosity** of coatings. • Learners to **select** equipment and prepare coatings prior to spraying. Tutor to **facilitate** and **verbally question** learners on their **style** of preparation. • Tutor to create **Activity 12**, which could be a crossword puzzle on identifying equipment and preparation methods. Once finished, swap papers and peer-mark with assistance from the tutor. • Learners to complete **questions** within **Worksheet 6**, which tutor will have produced to check learners' understanding of the topic. Once finished, learners are to swap papers and peer-mark with assistance from the tutor. **Challenge focus:** • More able learners to **prepare solvent-borne** coatings in **preparation** of **applying** them during the **airless spraying** exercises which will be covered **later** during the qualification. The **mixed** coatings can be **stored** for later use. **Independent learning:** • Learners to **record** the **information** gained as **underpinning knowledge** during the session to **use** as a **guide** for when they move on to the **airless spraying** unit within the qualification.	• Cloths • Coatings • Thinners • Paper/pens • Flip chart/paper	

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners demonstrate **reading** skills in the pre-learning task, **identifying** and **summarising** the **main points** when researching about equipment needed to prepare coatings prior to spraying. **ICT:** • Learners have the opportunity to use **advanced search techniques** to **locate, select and evaluate** relevant online sources that provide suitable information about different equipment needed to prepare coatings prior to spraying.	**British values:** • Remind learners about the **importance** of the **laws of England**, and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace. • Talk about **appropriate learner behaviour** both at college and at work when discussing tasks to be completed throughout the day. • Talk about how learners may come into contact with wider **public institutions**, such as the **Health and Safety Executive** and the **local council**, the need for learners to **respect** them, and why they are **important** in ensuring safe working practices and that planning permissions are followed as part of a construction project. **Employability:** • Learners should demonstrate they can **actively listen** during the demonstrations, **understand** what has been said and **act** accordingly by following the instructions correctly. Learners should be encouraged to use techniques to ensure that they understand the instructions, eg **repeating back** what was said**, summarising** or **asking clarifying questions**.

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Session 7: Equipment faults

Suggested Teaching Time: 4.5 hours

Learning Outcome: 3. Understand how to rectify faults and defects in HVLP spray equipment and applied coatings

- Learners must be able to identify and understand the different equipment faults that can occur when spraying with HVLP equipment.

Topics: 3.1 – Equipment faults

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **produce a checklist** of the different faults to look out for with HVLP spray guns and systems by **conducting online research**. The **checklist** will be used as underpinning knowledge for the session. **Active learning:** • Tutor to introduce topic and facilitate **discussion** with learners on the different faults that can occur with HVLP spray guns and equipment, provided via the **pre-learning task.** • Tutor to produce **Presentation 8** on the different faults that can occur with HVLP spray guns and units. Tutor to recap the importance of **health and safety** when working with tools, equipment and components. Learners to **take notes** for **underpinning knowledge** on the subject. • Tutor to create **Worksheet 8**, which could be a series of long and short questions to test learners' understanding of the different faults that can occur with equipment and coatings. • Tutor to use **component parts** of HVLP spray equipment during delivery of topic to **explain** where **faults** could come from. Learners to **answer** verbal questions from the tutor on the subject. • Tutor to produce **Activity 13**, which could be a missing words exercise covering the faults that occur with the equipment and coatings. Learners	**Resources** For the tutor to devise/source in advance: • **Presentation 8** • **Activity 13** • **Activity 14** • **Worksheet 8** **Materials** • Range of HVLP spray guns, such as gravity feed spray gun, suction feed spray gun and pressure feed spray gun • Tools and equipment needed to disassemble and reassemble spray	• Use **Activities 13** and **14**, and **Worksheet 8** to test learners on subject knowledge. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 8**. • Tutor to create teams to answer questions on component parts of the systems used; learners can identify the cause of the fault and relate it to the component parts. • Tutor to ask open verbal questions when contaminated coatings are being applied by the more able learners.

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Key learning activity/approach	Suggested materials and resources	Skills check
could complete it individually and, once finished, swap papers and **peer-mark** with assistance from the tutor. • Tutor to **create** faults with equipment and materials to **demonstrate** how they would impact on the application of coatings. Learners to **record** faults and causes for **revision** purposes. • Tutor to produce **Activity 14** and check learners' understanding of names associated with faults by way of a wordsearch exercise. Learners to complete the exercise individually and, once finished, learners swap papers and peer-mark with assistance from the tutor. • Learners to complete **questions** about equipment faults in **Worksheet 8**, which tutor could develop to check learners' underpinning knowledge. Once finished, learners to swap papers and peer-mark with assistance from the tutor. **Challenge focus:** • More able learners to **spray contaminated coating** to show other learners the consequences of dirty equipment. **Independent learning:** • Learners to conduct **online research** for other faults and causes of equipment faults that can occur with **airless** spray equipment. Write a short report comparing findings with those relating to HVLP spray equipment.	guns and units • Cue cards/paper/ pens • Flip charts	

Opportunities to develop maths, English, ICT and wider skills:

English:	British values:
• Learners demonstrate **reading** skills in the pre-learning task,	• Remind learners about the **importance** of the **laws of England**,

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identifying and **summarising** the **main points** about the different faults that can occur with spray guns and spray units. **ICT:** • Learners have the opportunity to use **advanced search techniques** to **locate, select and evaluate** relevant online sources that provide suitable information about the **different** component faults of HVLP spray system equipment.	and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace. • Talk about **appropriate learner behaviour**, both at college and at work, when discussing tasks to be completed throughout the day. • Talk about how learners may come into contact with wider **public institutions**, such as the **Health and Safety Executive** and the **local council**, the need for learners to **respect** them, and why they are **important** in ensuring safe working practices and that planning permissions are followed as part of a construction project. **Employability:** • Learners can demonstrate how they **change** their **communication style** to suit their **audience** in the presentation task about disassembling spray guns and units. Use of **appropriate language**, **tone** and **body language** should be analysed. Learners should have successfully identified that the **purpose** of the presentation is to **inform**, and acted accordingly.

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Session 8: Application faults

Suggested Teaching Time: 4.5 hours

Learning Outcome: 3. Understand how to rectify faults and defects in HVLP spray equipment and applied coatings

- Learners must be able to identify and understand the characteristics, causes and remedies of application faults that can occur when using an HVLP spray set-up.
- Learners to be aware of the following faults that can occur when spraying: runs, sags, dry spray, banding, overspray, orange peel and pitting.

Topics: 3.2 – Application faults

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **produce** a **chart** with a range of application faults that can occur during spraying. As some of the **faults** are also **caused** by poor workmanship when using paint rollers and brushes, learners will have some prior knowledge on the subject. The **chart** should have the **name** of the fault and **either** spraying recorded as reason for fault or brush/roller, or **both**. **Active learning:** • Tutor to produce **Presentation 9** to inform learners on how to identify the causes and names of application faults that occur during spray application. Learners to **take notes** during delivery, as tutor will use **verbal questioning** to check their underpinning knowledge. • As part of the delivery of the topic, the tutor could use following link, which identifies some of the application faults that occur when applying coatings: www.mig-welding.co.uk/paint-faults.htm. • Tutor to create **Activity 15**, which could be an activity on unscrambling the words related to the different application faults that can occur when spraying. Learners to complete the **Activity** individually and, once completed, swap papers for **peer-marking** with assistance from the	**Resources** For the tutor to devise/source in advance: • **Presentation 9** • **Activity 15** • **Activity 16** • **Worksheet 9** **Materials** • Images of spray application faults • PPE equipment • Spray equipment coatings • Cue cards/paper/ pens	• Use **Activities 15** and **16**, and **Worksheet 9** to test learners on subject knowledge. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 9**. • Tutor to ask directed verbal questions when carrying out demonstration, in order to check learners' underpinning knowledge. • Tutor to encourage learners to verbally question more able learners during demonstration on how the application methods can cause faults.

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Key learning activity/approach	Suggested materials and resources	Skills check
tutor. • Tutor to **demonstrate** how to prevent the identified coating faults occurring during spraying demonstration. Learners to **take notes** to be used as underpinning for the topic. Tutor to **verbally question** learners during demonstration to check underpinning knowledge. • Tutor to create **Activity 16**, which could be a cryptogram exercise, where the learners have to work out the names of faults. Learners to complete this **Activity** individually. Once completed, papers to be swapped and **peer-marked** with assistance from the tutor. • Learners to complete **Worksheet 9** in pairs, answering questions that the tutor has developed on the topic of application faults. Once completed, papers to be swapped and peer-marked with tutor facilitating. **Challenge focus:** • More able learners to **support tutor** during spraying demonstration, **causing faults** by poor application methods. Tutor to then **reiterate** correct application techniques to **avoid** faults occurring. **Independent learning:** • Learners to **record the knowledge** gained in a **reflective** diary/log, outlining **key facts** about the session that will **help** them to **avoid** application faults occurring when applying **coatings** by HVLP spray equipment.		

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners can demonstrate **writing** skills when producing a **fact sheet and brief guide** about the correct tools, materials and equipment needed to prepare coatings correctly to avoid faults occurring. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used. • **Speaking and listening** skills can be demonstrated in developing the **discussion** about the importance of thinning, mixing and straining coatings, **giving a point of view** as well as **allowing** and **responding** to **others' opinions**.	**British values:** • Learners to develop their **self-knowledge**, **self-esteem** and **self-confidence** when completing application faults task. • Remind learners about the **importance** of the **laws of England**, and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace. **Employability:** • Learners should demonstrate they can **actively listen** during the demonstration, **understand** what has been said and **act** accordingly by following the instructions correctly. Learners should be encouraged to use techniques to ensure that they understand the instructions, eg **repeating back** what was said**, summarising** or **asking clarifying questions**.

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Session 9: Set up HVLP equipment and apply surface coatings (covered over two consecutive sessions)

Suggested Teaching Time: 15 hours

Learning Outcome: 2. Demonstrate the safe use of a functioning HVLP spray system

- Learners must be able to select and check the appropriate equipment needed to apply coatings by HVLP spraying methods.
- Learners to prepare coatings for spraying correctly.
- Learners to apply coatings by HVLP spray equipment.
- Learners to identify and select the correct PPE needed for practical tasks.
- Learners to follow all health and safety regulations when applying coatings by HVLP.

Topics: 2.4 – Set up HVLP equipment and apply surface coatings

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to watch the following video clip: www.youtube.com/watch?v=NotMhXx4gPY on applying water-borne coatings using HVLP spray equipment. Learners to then **write** out a **method statement**, a **risk assessment** and an **equipment list** that states the tools, materials and equipment needed to apply coatings by HVLP spray equipment; this will be used as **underpinning knowledge** for the session. **Active learning:** • Tutor to produce **Presentation 10** on how to set up HVLP spray equipment and **apply** coatings, incorporating relevant health and safety regulations. Learners to **take notes** during delivery, as tutor will use **verbal questioning** to check their underpinning knowledge. • Tutor to create **Activity 17**, which could be a matching exercise about setting up HVLP spray equipment. Learners could, individually, match up the name of a component with a description. Once completed, learners to swap papers for **peer-marking** with assistance from the	**Resources** For the tutor to devise/source in advance: • **Presentation 10** • **Activity 17** • **Activity 18** • **Worksheet 10** **Materials** • Viscometer • Ford cup • Coatings • Ratio stick	• Use **Activities 17** and **18**, **Worksheet 10** to test learners on subject knowledge. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 10**. • Tutor to use verbal open questions with the group when demonstrating application methods to check their underpinning knowledge. • Tutor to question learners on their choice of protection materials when preparing surfaces and work area.

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Key learning activity/approach	Suggested materials and resources	Skills check
tutor. • Learners to discuss and select appropriate **PPE** for task of preparing and applying coatings by HVLP spray equipment. Tutor to facilitate and offer advice where needed. • Learners to work in **pairs** and **prepare** work areas and items that are to be **sprayed** by HVLP equipment. More **able** learners to **facilitate** and help **peers** with tasks • Tutor to **demonstrate** how to prepare coatings for spraying, then how to set up the HVLP spray equipment – **each stage** is to be covered **separately** to allow learners to **take notes**. After each stage has been demonstrated, learners to **work in pairs** and copy demonstrations. Tutor to **facilitate**, and give **advice** and **support** where needed. • Tutor to **demonstrate** the safe way of **applying** coatings to **various items** and **surfaces** by HVLP spray equipment. • Learners in pairs to **practise** applying coatings using HVLP spray equipment and appropriate tools, materials and equipment needed. Tutor to **facilitate** during the practice sessions. • Tutor to create **Activity 18**, which could be an unscramble words exercise on the different HVLP components needed to set up the system and the application methods used. Learners to complete activity individually and, once finished, swap papers for marking with assistance from the tutor. • Tutor to create a question paper for **Worksheet 10** – to be completed in pairs – which could be about the preparation of paint materials and setting up the HVLP system, as well as applying coatings. Once completed, papers to be swapped and peer-marked, with assistance from the tutor when checking the answers. • Learners to **continue** to use HVLP spray equipment, and **apply**	• Strainer • Containers • Mixing sticks • PPE equipment • HVLP spray equipment • Paper/pens • Flip charts	

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Key learning activity/approach	Suggested materials and resources	Skills check
coatings to surfaces and items, as **directed** by the tutor. • Tutor to **demonstrate** how to **shut system** down **safely** and **clean** equipment prior to the next use. **Challenge focus:** • More able learners to **support** peers with **practice** exercise where needed, and to **help** tutor with **shutting-down process** and **flushing** systems ready for next use. **Independent learning:** • Learners to **record knowledge** gained in a **reflective** diary/log, outlining **key facts** about the session that will **help** them with the following tasks of **shutting down systems, cleaning and storage** of HVLP spray equipment.		

Opportunities to develop maths, English, ICT and wider skills:

English:	British values:
• Learners can demonstrate **writing** skills when producing a **method statement**, a **risk assessment** and an **equipment list** that states the tools, materials and equipment needed to apply coatings by HVLP spray equipment. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used. • **Speaking and listening** skills can be demonstrated in developing the **discussion** about the importance of selecting correct equipment and applying coatings, **giving a point of view** as well	• Remind learners about **staying safe online** and raise awareness of the potential risk of radicalisation, as part of the government's '**prevent strategy**'. • Learners to develop their **self-knowledge**, **self-esteem** and **self-confidence** when completing application of coatings task. • Remind learners about the **importance** of the **laws of England**, and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace.

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as **allowing** and **responding** to **others' opinions**. **Maths:** • Learners will need to **measure viscosity of coatings** using flow and timings in a decorating context, as part of the mixing coatings task for calculating the amount of coating needed for tasks. **ICT:** • Learners have the opportunity to use **advanced search techniques** to **locate, select and evaluate** relevant online sources that provide suitable information about the HVLP spray equipment needed to complete the application of coatings task and health and safety legal information.	**Employability:** • Learners should demonstrate they can **actively listen** during the demonstration, **understand** what has been said and **act** accordingly by following the instructions correctly. Learners should be encouraged to use techniques to ensure that they understand the instructions, eg **repeating back** what was said, **summarising** or **asking clarifying questions**.

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Session 10: Safe disposal of materials **Suggested Teaching Time**: 4 hours

Learning Outcome: 4. Perform cleaning, maintenance and storage of HVLP spray equipment and materials

- Learners must understand the importance of, and demonstrate, the safe emptying and disposal of materials in accordance with current legislation.
- Learners to identify and select the correct PPE needed for practical tasks.

Topics: 4.2 – Safe disposal of materials

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to **refer** to previous training notes on **disposing of materials** while following relevant **regulations** that are currently in place. Disposing of waste coatings after spraying is the **same process** as doing so after applying coatings by brush and roller. Learners to produce a **fact sheet** on how to dispose of waste coatings to be used for the session. Learners could use the HSE website as a guide on the regulations: www.hse.gov.uk. **Active learning:** • Tutor to produce **Presentation 11,** introducing the disposal of materials prior to cleaning and storing HVLP spray equipment correctly, using relevant equipment and tools needed for the task. Tutor to also incorporate relevant health and safety regulations. Learners to **take notes** during delivery, as tutor will use **verbal questioning** to check their underpinning knowledge. • Learners to **work in pairs** and write a **step-by-step guide** on disposing of materials correctly, following all relevant regulations, and then **present** it to their peers. Tutor to **facilitate** and offer **advice** where needed. • Tutor to create **Activity 19** on identifying acronyms that are used with	**Resources** For the tutor to devise/source in advance: • **Presentation 11** • **Activity 19** • **Worksheet 11** **Materials** • HVLP Spray system • Coatings • PPE equipment • Paper/pens • Flip charts	• Use **Activity 19** and **Worksheet 11** to test learners on subject knowledge. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 11**. • Tutor to check learners' step-by-step guides and offer support where needed. • Tutor to verbally question learners when they are disposing of materials to check their understanding of the regulations and why they should be followed. • Tutor to check learners' reflective log to see if they are recording key facts about session.

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Key learning activity/approach	Suggested materials and resources	Skills check
the HVLP systems. Learners to complete this activity individually and, once completed, swap it for **peer-marking** with assistance from the tutor. • Tutor to **demonstrate** how to dispose of materials after spraying application; **each stage** should be covered **separately** to allow learners to **take notes**. After each stage has been demonstrated, learners to **work individually** and copy demonstration. Tutor to **facilitate**, and give **advice** and **support** where needed. • Learners to **carry out** disposal of coatings, **following** all regulations correctly. Tutor to **facilitate** and ask **verbal questions** to check underpinning knowledge. • Tutor to create **Worksheet 11**, which could be a series of long and short questions about the safe disposal of materials. Learners to complete it in pairs and, once completed, papers to be swapped and peer-marked with assistance from the tutor. **Challenge focus:** • More able learners to **use ICT to produce** a PowerPoint presentation on disposing of waste materials/coatings to be **delivered** to peers. The presentation should **incorporate video recording** of correct disposal methods. **Independent learning:** • Learners to **record the knowledge** gained in a **reflective** diary/log, outlining **key facts** about the session that will **help** them with the tasks of **applying coatings** by HVLP spray equipment.		

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners can demonstrate **writing** skills when producing a **fact sheet** about disposing of waste coatings correctly. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used. • **Speaking and listening** skills can be demonstrated in developing the **discussion** about the importance of disposing of waste coatings, **giving a point of view** as well as **allowing** and **responding** to **others' opinions**. **ICT:** • Learners have the opportunity to use **advanced search techniques** to **locate, select and evaluate** relevant online sources that provide suitable information about the different equipment and tools needed to complete the correct disposal of waste materials task and health and safety legal information. • More able learners could use appropriate **presentation software** to complete their presentation about disposing waste materials/coatings.	**British values:** • Remind learners about the **importance** of the **laws of England**, and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace. **Employability:** • Learners should demonstrate they can **actively listen** during the demonstration, **understand** what has been said and **act** accordingly by following the instructions correctly. Learners should be encouraged to use techniques to ensure that they understand the instructions, eg **repeating back** what was said, **summarising** or **asking clarifying questions**.

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Session 11: Cleaning and storage of components and equipment **Suggested Teaching Time**: 4 hours

Learning Outcome: 4. Perform cleaning, maintenance and storage of HVLP spray equipment and materials

Topics: 4.1 – Cleaning and storage of components and equipment

Key learning activity/approach	Suggested materials and resources	Skills check
Pre-learning: Learners to access the internet and use the following link: www.fujispray.com/cleaning-hvlp-spray-gun/ to access a PDF guide on cleaning an HVLP spray gun. Learners to then write out a fact sheet that states the tools, materials and equipment needed to clean spray guns, and also write a brief 'how to' guide which will be used as underpinning knowledge for the session. **Active learning:** • Tutor to produce **Presentation 12,** which should introduce the methods of cleaning and storing HVLP spray equipment correctly, using relevant equipment and tools needed for the task, and also incorporating relevant **health and safety regulations**. Learners to **take notes** during delivery, as tutor will use **verbal questioning** to check their underpinning knowledge. • Tutor to create **Activity 20**, where the steps to cleaning HVLP systems could be mixed up and learners have to reorganise them into the correct sequence. This **Activity** could be completed in pairs and, once completed, swapped for **peer-marking** with assistance from the tutor. • Tutor to **demonstrate** how to carry out the safe shut-down procedure; **each stage** should be covered **separately** to allow learners to **take notes**. After each stage has been demonstrated, learners to **work in pairs** and copy demonstration. Tutor to **facilitate**, and give **advice** and **support** where needed. • Learners to continue to **practise** safe shut-downs and cleaning process,	**Resources** For the tutor to devise/source in advance: • **Presentation 12** • **Activity 20** • **Activity 21** • **Worksheet 12** • Use of suggested learning resource textbook **Materials** • HVLP spray equipment, including air/fluid lines, spray guns, spray unit and all other related equipment used during the spraying process	• Use **Activities 20** and **21**, and **Worksheet 12** to test learners on subject knowledge. • Tutor to check learners' understanding of the learning outcomes by asking questions during **Presentation 12**. • Tutor to check learners' fact sheets and offer support where needed. • Tutor to verbally question learners when they are disposing of materials to check their understanding of the regulations and why they should be followed. • Tutor to check learners' reflective log to see if they are recording key facts about the session.

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Key learning activity/approach	Suggested materials and resources	Skills check
using appropriate tools, materials and equipment. Tutor to **facilitate** during practice sessions. • Tutor to create **Activity 21**, using a missing words exercise for learners to complete to check their understanding of cleaning and storing HVLP equipment. This **Activity** should be completed individually and, once completed, papers to be **swapped** and **peer-marked** with assistance from the tutor. • Tutor to **demonstrate** storage methods used with HVLP spray equipment, **verbally** asking learners **questions** throughout the **demonstration** to **test** underpinning knowledge. • Tutor to create **Worksheet 12**, which could be a series of long and short questions relating to the topic covered. Learners could complete this worksheet in pairs and, once completed, papers to be swapped and peer-marked with assistance from the tutor. **Challenge focus:** • More able learners to **carry out** cleaning and storage of equipment to **aid** tutor at the **end** of the session. **Independent learning:** • Learners to **record the knowledge** gained in a **reflective** diary/log, outlining **key facts** about the session that will **help** them with the tasks of **applying coatings** by HVLP spray equipment.		

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Opportunities to develop maths, English, ICT and wider skills:

English: • Learners can demonstrate **writing** skills when producing a **fact sheet and brief guide** about the correct tools, materials and equipment needed to clean spray guns correctly. Check that learners have used **formal language** appropriately. Ensure that correct **spelling**, **punctuation** and **grammar** have been used. • **Speaking and listening** skills can be demonstrated in developing the **discussion** about the importance of cleaning spray equipment, **giving a point of view** as well as **allowing** and **responding** to **others' opinions**. **ICT:** • Learners have the opportunity to use **advanced search techniques** to **locate, select and evaluate** relevant online sources that provide suitable information about the different equipment and tools needed to complete the cleaning and storing of equipment task, and health and safety legal information.	**British values:** • Remind learners about **staying safe online** and raise awareness of the potential risk of radicalisation, as part of the government's '**prevent strategy**'. • Learners to develop their **self-knowledge**, **self-esteem** and **self-confidence** when completing shutting down and cleaning procedures task. • Remind learners about the **importance** of the **laws of England**, and their **purpose** to **protect citizens**, when discussing health and safety laws in the workplace. **Employability:** • Learners should demonstrate they can **actively listen** during the demonstration, **understand** what has been said and **act** accordingly by following the instructions correctly. Learners should be encouraged to use techniques to ensure that they understand the instructions, eg **repeating back** what was said, **summarising** or **asking clarifying questions**. • Learners should demonstrate **self-analysis** by **identifying** the **skills** needed in the painting and decorating industry, and use this to evaluate and prioritise their **own strengths** and **skill gaps** for development.

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