

**National Certificate in Building, Construction and Allied Trades Skills (BCATS)**  
Teacher Information & Resources

**Demonstrate knowledge of the  
plumbing industry within a BCATS  
environment**

Unit Standard – 25333

Level 2, Credit 2





## Teaching and assessment tips

**Intent** – The intent of the unit standard is that the learner is able to demonstrate basic knowledge of the plumbing industry including:

- major industry sectors
- industry work processes
- industry clients, supply and inter-trade relationships
- the impact of regulatory and trade bodies on the industry and
- industry jobs and their training requirements.

It is intended that a learner who has an interest in a particular industry can achieve credits for their exploration of that industry by completing the relevant unit.

### **Unit standard Interpretation**

No more than **2** of the Demonstrate Knowledge units that relate to BCATS industries can be incorporated in the qualification.

A worksheet that covers the assessment requirements for this unit standard is included in this document. Also included are model answers for that worksheet.

### **Assessment**



Assessment of this unit standard consists of:

- Completion of the worksheet

# Worksheet US 25333

**Student Name:** \_\_\_\_\_

## Section 1

1. Plumbing work is defined as the installation of what features in a water supply system?

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2. Name the points on a plumbing system where plumbing work technically

(a) begins \_\_\_\_\_ and

(b) ends \_\_\_\_\_

3. As well as the installation of water supply pipes, fixtures, appliances, equipment, and waste and discharge pipes, what other installations can plumbers undertake?

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## Section 2 Work processes

Correctly insert words to complete the following

4. In the installation of sanitary plumbing systems, sanitary fixtures need to be firmly ..... to the building and ..... piped.

5. In the installation of sanitary plumbing systems, sanitary appliances need to be connected to the water supply and waste water system using .....

6. Rain water systems use channels at the edge of the roof called ....., and ..... pipes in order to convey rain water from the roof to the ..... water drain.

7. Waste water is that which has been used for domestic ..... or .....

8. Foul water contains ..... and/or ....., also known as .....

9. By law, ..... pipes are allowed to discharge waste water in the open air above a ..... trap.



- 10. By law, ..... pipes must be connected to a drain or a discharge .....
- 11. Traps contain a water ..... in order to prevent foul gases entering the building.
- 12. Trap seals can be lost through either ..... or .....
- 13. .... pipes allow ..... into or out from the plumbing system in order to prevent the loss of the trap.....

**Section 3 Client base**

14. For a plumber, who would be a direct client?

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15. List 4 possible clients a plumber could sub-contract to:

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**Section 4 Supply relationships**

Explain what is meant by:

16. "Accredited supply network"

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17. Trade account

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18. Trade discount

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19. "Five year guarantee"

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20. Why does a plumber need product training?

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**Section 5 Relationships with other trades**

21. What does a person require in order to legally carry out plumbing work?

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22. What tasks are plumbers responsible for in relation to gas installations?

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23. What tasks are builders and carpenters responsible for in relation to plumbing installations?

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24. What task(s) might a roofing contractor be required to carry out in relation to plumbing installation work?

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**Section 6 Requirements of industry bodies**

Insert the correct words in order to complete the following sentences:

25. A trainee plumber must sign a training agreement with their employer and the organisation called .....

26. Training is not carried out by the Skills Organisation, but by an accredited

.....



- 27. The Skills Organisation is responsible for how training providers ..... and ..... trainees.
- 28. The Plumbers, Gasfitters and Drainlayers Board (PGDB) is responsible for setting and marking ..... exams, issuing ..... licenses.

**Section 7 Job roles and training requirements**

29. In addition to the building owner, who else can raise a building consent for plumbing work?

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30. Which organisation(s) is responsible for issuing building consents?

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31. Who determines whether plumbing work that has been carried out is correct and complies with regulations?

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32. Who can legally carry out plumbing work?

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34. Does a Licensed plumber legally require supervision?

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**Assessor Sign off:**

Assessor name: ..... Assessor signature: ..... Date:.....	<b>RESULT:</b> A = Achieved, N = Not Yet Achieved
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# Model Answers

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## Section 1

1. Plumbing work is defined as the installation what features in a water supply system?

- (a) *supply pipes*
- (b) *fixtures*
- (c) *appliances*
- (d) *equipment*
- (e) *waste and discharge pipes.*

2. Name the points on a plumbing system where plumbing work technically

- (a) begins and
- (b) ends

- (a) *from the potable water supply point*
- (b) *at the connection to the drain.*

3. As well as the installation of water supply pipes, fixtures, appliances, equipment, and waste and discharge pipes, what other installations can plumbers undertake?

- *sanitary fixtures and appliances*
- *rain water handling systems*
- *cladding and flashings.*

## Section2 Work processes

Correctly insert words to complete the following

4. In the installation of sanitary plumbing systems, sanitary fixtures need to be firmly ..... to the building and ..... piped.

*Secured, hard.*

5. In the installation of sanitary plumbing systems, sanitary appliances need to be connected to the water supply and waste water system using .....

*Flexible hoses.*

6. Rain water systems use channels at the edge of the roof called ....., and ..... pipes in order to convey rain water from the roof to the ..... water drain.

*Spouting; down; storm.*

7. Waste water is that which has been used for domestic ..... or .....

*Washing; bathing.*

- 8. Foul water contains ..... and/or ....., also known as .....

*Urine; excrement; human waste.*

- 9. By law, ..... pipes are allowed to discharge waste water in the open air above a ..... trap.

*Waste; gully.*

- 10. By law, ..... pipes must be connected to a drain or a discharge .....

*Discharge; stack.*

- 11. Traps contain a water ..... in order to prevent foul gases entering the building.

*Seal.*

- 12. Trap seals can be lost through either ..... or .....

*Siphonage (or evacuation, suction); compression.*

- 13. .... pipes allow ..... into or out from the plumbing system in order to prevent the loss of the trap.....

*Ventilation; air; seals.*

**Section 3 Client base**

- 14. For a plumber, who would be a direct client?

*A home or business owner who engages the plumber directly and pays them for their work.*

- 15. List four possible clients a plumber could sub-contract to:

- *architect*
- *builder*
- *fixture, appliance or equipment retailer*
- *property management company*



## Section 4 Supply relationships

Explain what is meant by:

16. "Accredited supply network"

*Any company trained by a supplier to sell, install, or maintain their products.*

17. Trade account

*An account with that a plumber holds with a merchant or supplier enabling them to purchase goods without the upfront payment of cash, but rather being billed at the end of the month.*

18. Trade discount

*The percentage below retail price at which the plumber can purchase goods from merchants or suppliers.*

19. "Five year guarantee"

*That the product will be replaced if it fails within five years, provided that it was correctly installed, not subjected to unduly harsh conditions, and properly registered with the manufacturer.*

20. Why does a plumber need product training?

*In order to learn how to correctly operate, install and maintain a particular product.*

## Section 5 Relationships with other trades

21. What does a person require in order to legally carry out plumbing work?

*A plumbing practicing license.*

22. What tasks are plumbers responsible for in relation to gas installations?

*Installing the cold water supply to, and the hot water supply from, gas water heaters; as well as any relief pipes, valves and water controls.*

23. What tasks are builders and carpenters responsible for in relation to plumbing installations?

*They build the structures within which the water pipes and appliances must be installed, such as mountings for water pipes, sanitation fixings and appliances; access points; penetrations; and permanent ventilation openings and covers.*

- 24. What task(s) might a roofing contractor be required to carry out in relation to plumbing installation work?

*Provide flashings for roof penetrations.*

**Section 6 Requirements of industry bodies**

Insert the correct words in order to complete the following sentences:

- 25. A trainee plumber must sign a training agreement with their employer and the organisation called .....

*The Skills Organisation. This is the Industry Training Organisation (ITO) that develops plumbing qualifications and arranges training.*

- 26. Training is not carried out by the Skills Organisation., but by an accredited .....

*Training provider.*

- 27. The Skills Organisation is responsible for how training providers \_\_\_\_\_ and \_\_\_\_\_ trainees.

*train, assess.*

- 28. The Plumbers, Gasfitters and Drainlayers Board (PGDB) is responsible for setting and marking ..... exams, issuing ..... licences.

*Registration; practicing.*

**Section 7 Job roles and training requirements**

- 29. In addition to the building owner, who else can raise a building consent for plumbing work?

*A Craftsman plumber.*

- 30. Which organisation(s) is responsible for issuing building consents?

*The Building Consent Authorities (BCA) such as the local council.*

- 31. Who determines whether plumbing work that has been carried out is correct and complies with regulations?

*A plumbing inspector.*

- 32. Who can legally carry out plumbing work?

*Licensed plumbers.*

**33.** Who can supervise an apprentice plumber?

*A Certifying plumber.*

**34.** Does a Licensed plumber legally require supervision?

*Yes, they must be supervised by a certifying person who is ultimately responsible for ensuring the work is done competently.*

### Examples of oral assessment questions

1. What is the name of the connection point where the mains supply of potable water connects with the property?

*The toby*

2. Who is responsible for the external water supply up to that point?

*The Territorial Authority/council.*

3. Who is responsible for the sanitary plumbing systems installed after that point?

*The building owner.*

4. Name four areas of sanitary plumbing that a plumber would be responsible for installing and/or maintaining:

- *potable water supply*
- *domestic hot water reticulation*
- *sanitary fixtures and appliances*
- *waste and foul water discharge systems*

5. Who can legally carry out plumbing work?

*Only licensed plumbers.*

6. By law, who must hold plumbing licenses?

*Trainee (Apprentice), Tradesman and Certifying plumbers.*