

Name: \_\_\_\_\_

**Plumbing**

**Directions:**

Evaluate the student by checking the appropriate number to indicate the degree of competency.

**Rating Scale (0-6):**

- 0 No Exposure** – no experience/knowledge in this area; program/course did not provide instruction in this area
- 1 Unsuccessful Attempt** – unable to meet knowledge or performance criteria and/or required significant assistance
- 2 Partial Demonstration** – met some of the knowledge or performance criteria with or without minor assistance
- 3 Knowledge Demonstrated** – met knowledge criteria without assistance at least once
- 4 Performance Demonstrated** – met performance criteria without assistance at least once
- 5 Repetitive Demonstration** – met performance and/or knowledge criteria without assistance on multiple occasions
- 6 Mastered** – successfully applied knowledge or skills in this area to solve related problems independently

**NOTES:**

\* = Core competencies (essential for the first day on the job).

# = Core competencies with #3 (Knowledge Demonstrated) as the highest level of expected achievement.

The numbers in brackets [e.g., A01] represent the IDs used in computerized tracking software.

0	1	2	3	4	5	6	1. Safety	Notes:
							*1. Demonstrate good safety practices [A01]	
							*2. Demonstrate proper techniques for lifting and carrying [A02]	
							#3. Exercise extreme caution when working around electric lines and equipment [A03]	
							*4. Maintain work area properly [A04]	
							*5. Adhere to safety signs and color codes [A05]	
							*6. Identify and report potential safety hazards [A06]	
							*7. Practice ladder and scaffold safety [A07]	
							*8. Safely operate hand and power tools [A15]	
							#9. Properly handle gas cylinders, hoses, and regulators [A16]	
							*10. Wear required safety equipment [A09]	
							#11. Identify types of fire extinguishers and their proper uses [A12]	
							*12. Practice fire safety when operating heating equipment or working with hot materials [A13]	
							*13. Demonstrate safe practices when using flux [A14]	
							*14. Demonstrate safe use of solvents [A17]	
							#15. Read and interpret MSDS sheets [A18]	
							*16. Demonstrate an awareness of locating and verifying buried utility lines [A19]	
							#17. Shoring and bracing excavation [A20]	
							#18. Demonstrate awareness of confined space entry [A21]	
							#19. Identify hazardous materials on site (i.e., leaking gas, asbestos) [A22]	

							#20. Work safely around laser equipment [A23]	
							*21. Demonstrate awareness of OSHA guidelines [A24]	
							#22. Administer first aid and CPR [A25]	
							Other:	

0	1	2	3	4	5	6	2. Pre-Employment Skills	Notes:
							*1. Identify employment opportunities in the plumbing trade [J01]	
							*2. Complete a job application thoroughly [J02]	
							*3. Develop and present a resume [J03]	
							*4. Maintain a professional appearance (neat, clean, groomed, appropriately dressed) [J04]	
							*5. Demonstrate effectiveness in oral and written communication [J05]	
							*6. Demonstrate good interpersonal skills [J06]	
							*7. Demonstrate a polite/respectful attitude [J07]	
							*8. Demonstrate good interviewing skills [J08]	
							Other:	

0	1	2	3	4	5	6	3. Basic Skills	Notes:
							*1. Demonstrate basic reading skills [B12]	
							*2. Perform general mathematical calculations [B04]	
							*3. Use good time management skills (i.e., efficient use of time on job site) [B13]	
							4. Lay out and plan any given installation [B14]	
							#5. Define plumbing terminology [B02]	
							6. Read and interpret Americans with Disabilities Act (ADA) requirements [B15]	
							*7. Read measuring devices [B03]	
							8. Read and interpret a blueprint [B05]	
							9. Sketch a plumbing layout [B06]	
							#10. Read and interpret catalog and rough-in information [B07]	
							11. Read and interpret specifications [B08]	
							#12. Prepare a bill of materials [B09]	
							13. Read and interpret applicable codes [B10]	
							14. Identify basic structural framing components [B11]	

								15. Use judgment for structural penetrations (i.e., drilling, cutting, notching) [B16]	
								*16. Solder a 95/5 copper joint [B17]	
								*17. Assemble a soft and rigid lead-free copper joint [B18]	
								18. Silver braze a copper joint [B19]	
								19. Assemble a plastic joint/connection [B20]	
								Other:	

0	1	2	3	4	5	6	4. Basic Use of Hand and Power Tools	Notes:
							*1. Identify types of pipe cutters [C14]	
							*2. Cut cast-iron pipe with a snap cutter [C15]	
							3. Cut cast-iron pipe with a ratchet cutter [C16]	
							#4. Cut cast-iron pipe using a hammer and a chisel [C17]	
							*5. Cut cast-iron pipe using hand saw [C18]	
							6. Cut plastic pipe using tubing cutter [C19]	
							7. Cut plastic pipe using ratchet shear [C20]	
							*8. Cut copper pipe using tubing cutter [C21]	
							9. Cut vitrified clay pipe using a hammer and chisel [C22]	
							10. Cut vitrified clay pipe with a snap cutter [C23]	
							11. Operate a three-way threader (by hand) [C03]	
							12. Operate an drop-head ratchet threader (by hand) [C04]	
							13. Operate an adjustable 1"-2" ratchet threader (by hand) [C05]	
							*14. Assemble fittings using two pipe wrenches [C06]	
							15. Operate a power threader with a nipple chuck [C07]	
							16. Operate a power vise with a three-way threader [C08]	
							17. Operate a power vise with a drop-head ratchet threader [C09]	
							18. Operate a power vise with a quick-open threader [C24]	
							#19. Operate a right-angle drill/high torque drill [C25]	
							#20. Operate a chop saw [C26]	
							#21. Operate a reciprocating saw [C13]	
							*22. Operate a fuel-air torch [C27]	
							23. Operate plastic fusion equipment [C28]	

								24. Operate laser equipment [C29]	
								Other:	

0	1	2	3	4	5	6	<b>5. Soil, Waste, and Vent Systems (Rough-In)</b>	<b>Notes:</b>
							1. Construct a cast-iron/lead and oakum assembly [D03]	
							2. Construct a cast-iron assembly with compression gasket joints [D04]	
							3. Construct a no-hub cast-iron pipe assembly [D05]	
							4. Assemble a vitrified clay pipe compression joint [D09]	
							5. Install a clay-to-plastic adapter coupling [D10]	
							6. Excavate a trench and maintain desired grade [D13]	
							7. Install a floor drain [D14]	
							8. Rough-in for a three-fixture bath, including main vent and flashing [D15]	
							9. Rough-in for a kitchen sink [D16]	
							10. Rough-in for a washing machine [D17]	
							11. Rough-in for indirect waste [D19]	
							12. Install backwater valve [D21]	
							#13. Perform a standing water test [D22]	
							#14. Perform an air test to manufacturer's specifications [D23]	
							15. Install a sump pump [D24]	
							16. Install a subsoil drainage system [D25]	
							Other:	

0	1	2	3	4	5	6	<b>6. Water Distribution (Rough-In)</b>	<b>Notes:</b>
							1. Install a building's water service [E12]	
							#2. Install a main shut-off valve [E17]	
							*3. Assemble soft tubing with flare fittings [E01]	
							*4. Assemble soft tubing with compression joints [E02]	
							*5. Construct a soft tubing assembly with solder joints [E03]	
							6. Install a water distribution system of galvanized steel [E04]	
							7. Install a water distribution system of hard-drawn copper [E05]	
							8. Install a water distribution system of CPVC (chlorinated polyvinyl chloride) [E06]	
							9. Rough-in water supply for a laundry box [E25]	

										10. Rough-in water supply for a laundry tub [E26]	
										11. Rough-in water supply for a kitchen sink [E10]	
										12. Install a sillcock [E27]	
										13. Rough-in water supply for a water heater [E15]	
										14. Rough-in water supply for three-fixture bath [E16]	
										15. Apply a 95/5 solder system [E19]	
										16. Apply a lead-free solder system [E20]	
										17. Apply a silver brazed system [E21]	
										18. Install water hammer arrestors [E28]	
										#19. Perform an air pressure test [E23]	
										#20. Perform a water pressure test [D24]	
										21. Install a pressure reducing valve [E29]	
										22. Install a backflow prevention assembly where required [E30]	
										23. Install a check valve on a water supply line to a plumbing appliance [E31]	
										24. Install a vacuum breaker on a water supply line to a plumbing appliance [E32]	
										Other:	

0	1	2	3	4	5	6	7. Fixtures and Trim	Notes:
							*1. Identify components of fixture hardware [F01]	
							#2. Install a lavatory (cabinet installation ) [F02]	
							#3. Trim out a lavatory [F03]	
							#4. Install a tank-type water closet [F04]	
							#5. Install a kitchen sink [F05]	
							#6. Trim out a kitchen sink [F06]	
							#7. Install a garbage disposal [F07]	
							8. Hook up a dishwasher [F08]	
							#9. Install a wall-hung lavatory [F09]	
							10. Install a gas water hater [F10]	
							11. Install an electric water heater [F11]	
							12. Install a tub with tub filler [F18]	
							#13. Set a shower stall [F14]	

								14. Install a service sink [F15]	
								15. Install shut-off valves [F16]	
								16. Trim out a three-fixture bath [F17]	
								17. Install a water softener [F19]	
								Other:	

0	1	2	3	4	5	6	8. Service and Repair of Plumbing, Fixtures, and Appliances	Notes:
							1. Replace water closet wax ring [G01]	
							2. Repair or replace water closet ball cock [G02]	
							3. Repair or replace water closet flush valve [G03]	
							4. Replace water closet tank gasket [G04]	
							5. Repair or replace flushometer valves [G32]	
							6. Clear stoppage using closet auger [G05]	
							7. Replace faucet washer and seat [G06]	
							8. Replace patented overflow (P.O.) plug [G07]	
							9. Replace lavatory trap [G08]	
							10. Repair or replace lavatory faucet, two-handled mixing valve [G09]	
							11. Repair or replace lavatory faucet, single lever [G10]	
							12. Replace tub connected waste and overflow [G11]	
							13. Replace tub diverter [G12]	
							14. Replace tub shower arm and head [G13]	
							15. Replace kitchen sink [G14]	
							16. Repair or replace kitchen sink faucet, two-handled mixing valve [G15]	
							17. Repair or replace kitchen sink faucet, single lever [G16]	
							18. Replace sink waste, basket strainer type [G17]	
							19. Replace kitchen sink trap [G18]	
							20. Replace kitchen sink continuous waste [G19]	
							21. Remove and replace garbage disposal [G20]	
							22. Replace gas water heater [G21]	
							23. Replace gas water heater control valve [G22]	

								24. Replace gas water heater thermocouple [G23]	
								25. Replace electric water heater [G24]	
								26. Replace electric water heater elements [G25]	
								27. Replace electric water heater thermostats [G26]	
								28. Replace T & P relief valve with proper discharge type [G33]	
								29. Replace water heater drain valve [G34]	
								30. Thaw frozen pipes [G27]	
								*31. Insulate water lines [G28]	
								32. Repair solder joint [G29]	
								33. Install repair coupling [G30]	
								34. Repair or replace fixture shut-off valve [G35]	
								35. Clear stoppage using an electric sewer cable [G36]	
								Other:	

<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>9. Supporting and Hanging Pipe</b>	<b>Notes:</b>
							1. Install expansion anchors [H01]	
							2. Place inserts [H02]	
							3. Install stud anchors [H03]	
							4. Hang pipe using wire pipe hooks [H04]	
							5. Hang pipe using clevis hangers [H06]	
							6. Hang pipe using split-ring hangers [H07]	
							7. Install beam clamps [H08]	
							8. Support pipe using riser clamps [H09]	
							*9. Install backing boards for fixtures [H10]	
							*10. Install bathtub supports [H11]	
							*11. Install backing for shower head supports [H12]	
							12. Install pipe sleeves through concrete or masonry wall [H13]	
							13. Install fire caulking [H14]	
							14. Install unistrut supports [H15]	
							Other:	

0	1	2	3	4	5	6	10. Leadership	Notes:
							*1. Demonstrate an understanding of VICA, its structure, and activities [I01]	
							*2. Demonstrate an understanding of one's personal values [I02]	
							*3. Perform tasks related to effective personal management skills [I03]	
							*4. Demonstrate good interpersonal skills [I04]	
							*5. Demonstrate etiquette and courtesy [I05]	
							*6. Demonstrate effectiveness in oral and written communication [I06]	
							*7. Develop and maintain a code of professional ethics [I07]	
							*8. Maintain a good professional appearance [I08]	
							*9. Perform basic tasks related to securing and terminating employment [I09]	
							*10. Perform basic parliamentary procedures in a group meeting [I10]	
							Other:	