



PHCC EDUCATIONAL FOUNDATION CERTIFICATION ASSESSMENT BLUEPRINT

PHCC Educational Foundation Plumbing Year 1

Test Code: 7661

Version: 01

Specific Competencies and Skills Tested in this Assessment:

Plumbing Profession

Explain history of plumbing profession
Describe career path for plumbing professionals

Mathematics

Perform simple arithmetic functions with and without calculators
Measure and calculate linear distances, circles, angles, and radii

Communication Skills

Communicate with customers
Display professionalism

Related Science

Define goals of plumbing, water sources and waste disposal
Understand and apply basic principles of matter, mass, and weight

General Safety Procedures

Understand and apply OSHA regulations that cover plumbing practices
Apply OSHA ladder, scaffold, and man lift safety and maintenance procedures
Apply PPE including safety glasses, electrical protection, shoes, hardhat, and other practices
Use proper procedures to prevent, report, and respond to fire and other safety hazardous risks
Apply brazing and soldering safety procedures to prevent fires and personal injury
Use proper protection/procedures to avoid contamination and infection from blood-borne pathogens
Apply safety requirements for working in confined spaces
Understand and apply proper safety procedures when working

Tools and Equipment

Hand tools used in the plumbing trade
Rough-In tools – copper, plastic, and soil pipe
Rough-In tools – steel pipe
Finish and repair tools
Welding and power tools

Plumbing Year 1 continued

Join Pipe and Connections

Describe and apply proper procedures for measuring and fabricating copper pipe
Describe and apply proper procedures for measuring and fabricating and testing
Describe and apply proper procedures for steel pipe joined with thread sealant
Describe and apply proper procedures for measuring, fabricating, and testing cast iron pipe
Explain factors that affect the selection of proper fittings or valves for a specific installation

Plumbing Drawings, Plans and Charts

Interpret symbols, dimensions and placement of plumbing fixtures and piping on isometric drawing
Sketch plan view and isometric drawings using standard plumbing fixture and piping symbols
Read plan view and isometric drawings using standard plumbing fixture and piping symbols

Install Drainage, Waste, and Vent Systems

Evacuation and grade

Install Water Supply and Distribution Systems

Rough-in for water supply and distribution systems
Cross connections
Water hammer arrestors
Water and hydrostatic pressure testing
Water supply sources
Private water systems
Water meters

Install Domestic Water Heaters

Domestic water heater components and operation
Gas water heaters
Electric water heaters
Oil water heaters
Point-of-use water heaters
Tankless water heaters and systems
Solar water heaters
Domestic hot water boilers
Indirect fired water heaters

Hydronic Systems

Test integrity of hydronic heating water circuits

Code

Administration and basic principles, plumbing code definitions and general regulations
Materials
Joints and connections, fittings and appurtenances
Plumbing fixtures and minimum fixture requirements
Hangers and supports, indirect waste piping and special waste
Water supply and distribution
DWV and storm drain systems
Tests and maintenance
Individual sewage disposal systems
Potable water supply systems

Backflow

Define backflow
Describe mechanical equipment for cross-connection control

Productivity

Identify factors that enhance productivity

Plumbing Year 1 continued

Written Assessment:

Administration Time: 3 hours

Number of Questions: 184

Areas Covered:

3%	Plumbing Profession
8%	Mathematics
7%	Communication Skills
6%	Related Science
16%	General Safety Procedures
13%	Tools and Equipment
11%	Join Pipe and Connections
6%	Plumbing Drawings, Plans, and Charts
.5%	Install Drainage, Waste, and Vent Systems
7%	Install Water Supply and Distribution Systems
9%	Install Domestic Water Heaters
.5%	Hydronic Systems
10%	Code
2%	Backflow
1%	Productivity

Sample Questions:

The federal law that covers safety in the work place is

- A. ESCA
- B. ACCA
- C. OSHA
- D. RSES

What type of pipe is used by a snap chain cutter?

- A. cast iron
- B. brass
- C. copper
- D. concrete

Which of the following joining methods is most commonly used to join galvanized pipe?

- A. brazing
- B. compressing
- C. flaring
- D. threading

A low pressure hot water heater boiler is _____ or less.

- A. 10 psi
- B. 15 psi
- C. 160 psi
- D. 200 psi

A water closet seat should be sized for the

- A. tank
- B. bowl
- C. floor
- D. water supply