02101

Introduction to Plumbing

Plumbing

Lesson Plans for Instructors

Performance Tasks

Recommended Teaching Time: 5 hours

Resources

Plumbing a House, 1998. Peter A. Hemp. Newtown, CT: Taunton Press.

The National Standard Plumbing Code, Current edition. Falls Church, VA: Plumbing-Heating-Cooling Contractors Association.

Introduction to Hand Tools, Module 00103, Latest Edition. NCCER. New York, NY: Pearson.

Introduction to Power Tools, Module 00104, Latest Edition. NCCER. New York, NY: Pearson.

Council Tool website, www.counciltool.com.

The Stanley Tools website, www.stanleytools.com.

Section One

The Plumbing Profession

Kickoff Activities

Have your trainees get into groups of three for three to four minutes and have each one discuss their interest in plumbing, prior experience, and knowledge they already have. Once the discussion is over, give them your background in plumbing and why you're teaching.

Sections 1.0.0–1.1.3

Describe how plumbing evolved from ancient times to modern times.

Teaching Tip

Select a few of the trade terms for Section 1.0.0 and write them on the board. Ask individual trainees to give broad definitions of the terms. Ask if there are any terms they would like to have further explained.

Sections 1.2.0–1.2.3

Describe the responsibilities of plumbers and discuss the other crafts that require similar skills, such as pipefitters and sprinkler fitters. Describe the types of work performed by plumbers.

Section 1.2.4–1.2.5

There are three phases of plumbing: underground rough-in, aboveground rough-in, and finish. Discuss the three phases and the importance of each phase.

Teaching Tip

Break students into three groups and assign each group one of the phases of a plumbing project. Have them determine what codes they would need to be prepared to know for their particular phase and how it impacts a job.

Wrap Up Activities

Exit Slip: have your students fill-out a notecard with one thing they learned and one question they have about plumbing after teaching section one.

Section Two

Responsibilities of a Plumbing Professional

Sections 2.0.0–2.1.9

Describe the personal characteristics needed for someone to become successful.

Teaching Tip

Have trainees break into groups based on what they identify as their weakest quality out of the eight qualities a plumber must exhibit. Have them discuss ways in which they can improve this quality to become a well-rounded plumber.

Sections 2.2.0–2.2.6

Describe the range of opportunities available to someone who becomes a journey-level plumber. Explain the roles and responsibilities of different job positions in the industry. Explain how an apprentice program is structured and discuss the responsibilities of the apprentice and the sponsor

Wrap Up Activities

Based on the various career possibilities, ask individual trainees which one they think they might pursue in the long term and why they chose it.

Laboratories/Performance Tasks

Safety Considerations

The following safety considerations should be emphasized as trainees complete the required Performance Tasks:

* Trainees will be required to handle and use various hand tools, power tools, and shop equipment. It is essential that instructors closely supervise each trainee as they use tools and operate equipment at this stage of training. Use each unsafe action observed as a teachable moment and demonstrate the safe use of tools and equipment at every opportunity.
* Ensure trainees have and wear the appropriate PPE for the tasks. Also ensure that they are properly clothed for operating power tools and shop equipment.
* Ensure that trainees wear gloves whenever possible to reduce the frequency of cuts and scrapes. This will help trainees become used to working with gloves in the future.

Module Performance Requirements

This is a knowledge-based module; there are no Performance Tasks.

Review and Testing

Module Review

Have the trainees complete the Review Questions and Trade Terms Quiz at the end of the module. Alternatively, if this was assigned as homework, have them retrieve their answers for both assignments. Go over the answers to both assignments prior to administering the Module Examination. Ask the trainees if they need clarification of any particular knowledge areas.

Examination

Administer the Module Examination. Allow one to two minutes per test item for the written exam. Remind the trainees that they must answer at least 70 percent of the questions correctly to pass the Module Examination.

Wrap Up Activities

Ask the trainees if there were any trouble areas on the exam. Ask each trainee about their favorite and least favorite parts of the module. As an alternative or if time allows, briefly introduce the next topic in your planned teaching sequence.

Instructor

Record the testing results as required for paper-based exams. The results for exams administered through the Testing Management System are recorded automatically in the Registry System.