

At Your Pace Online LLC
1383 2nd Ave., Gold Hill, OR 97525
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Utah - 4-hour Topics in Plumbing Continuing Education: Water Heaters

4h 7m 16s

Section/Topic Titles	Word Count	Minute Count	Section Time	Quiz Q's
I. Introduction to Class on Residential Water Heaters (Video)	480	3.6	4m 4s	
Review Question	Q	0.5		1
II. Types of Water Heaters	344	4.6	23m 50s	
a. How a Direct-Fired Automatic Storage Water Heater Works	109	1.4		
1. Controls	244	3.3		
2. Stratification	141	1.9		
3. Condensation and Overflow Water	365	4.9		
4. Venting	137	1.8		
5. Cathodic Protection	412	5.5		
Review Question	Q	0.5		1
III. Code & Standards	327	4.4	31m 39s	
a. Significant Code Provisions for Water Heater Installation	33	0.4		
1. 2015 UPC Section 507.13 - Installation in Garage	247	3.3		
a. A Note on FVIR	507	6.8		
2. 2015 IPC Section 504.6 - Requirements for Discharge Piping	368	4.9		
3. 2015 IPC Section 504.7 & 2015 UPC Section 507.5 - Drainage Pan	854	11.4		
Review Question	Q	0.5		1
IV. Pressure	169	2.3	23m 36s	

a. Safety Features	237	3.2		
1. T&P Relief Valves	508	6.8		
2. Expansion Tanks	530	7.1		
a. Installation	289	3.9		
Review Question	Q	0.5		1
V. Water Heater Sizing	3	0.0	17m 53s	
a. Information Gathering	396	5.3		
b. Sizing Methods	81	1.1		
1. Method 1: Average Hourly Demand	154	2.1		
2. Method 2: Occupancy Type	299	4.0		
3. Electric Water Heater Calculation	209	2.8		
c. Conclusion	162	2.2		
Review Question	Q	0.5		1
VI. Temperature Maintenance	72	1.0	27m 8s	
a. Codes	454	6.1		
1. Optimal Temperature for Hot Water	188	2.5		
b. History of Hot Water	353	4.7		
1. Thermostatic Mixing Valves	305	4.1		
2. Domestic Hot Water Recirculation and Self-Regulating Heat-Trace Systems	431	5.7		
a. Sample Code	195	2.6		
Review Question	Q	0.5		1
VII. Thermal Shock and Scalding	442	5.9	16m 18s	
a. How to Prevent Thermal Shock and Scalding	372	5.0		
1. Replacements and Alterations	326	4.3		
b. Conclusion	45	0.6		
Review Question	Q	0.5		1
VIII. Best Practices (Video)	198	1.5	1m 58s	

Review Question	Q	0.5		1
IX. Hydronic Heating	305	4.1	13m 48s	
a. Codes	178	2.4		
1. Protection of Water Supply	115	1.5		
2. Mechanical Code Provisions	400	5.3		
Review Question	Q	0.5		1
X. Green Water Heater Systems	225	3.0	30m 17s	
a. Enhanced Water Heater Efficiency	384	5.1		
1. Water Conservation	191	2.5		
2. Heat Recovery and Heat Traps	348	4.6		
3. Geothermal	344	4.6		
4. Demand Hot Water Recirculating Systems	352	4.7		
b. Solar Water Heaters	390	5.2		
Review Question	Q	0.5		1
XI. Nasty Microbes	188	2.5	15m 55s	
a. What is Legionnaires' Disease?	282	3.8		
b. Temperature Settings and Bacterial Development	162	2.2		
1. Where Legionella May Propagate in the Water Heater System	176	2.3		
2. Other Methods of Controlling Legionella	227	3.0		
a. Prevention Checklist	121	1.6		
Review Question	Q	0.5		1
XII. Best Practices	274	3.7	28m 14s	
a. Helping Select the Water Heater	425	5.7		
1. Alternate Water Heaters	324	4.3		
b. Expansion Tanks	355	4.7		
c. Maintenance	326	4.3		
d. What to Do About DIY Plumbing	376	5.0		

Review Question	Q	0.5		1
XIII. End of Class (Video)	250	1.9	2m 18s	
Review Question	Q	0.5		1
Total Word Count	17702	236.0	3h 56m 2s	
Total Presented Questions	13	6.5	0h 6m 30s	
Total Video Time		6.9	0h 6m 44s	
Total Time for Words and Questions		242.0	4h 7m 16s	

