

**At Your Pace Online LLC**  
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**4-hour Elective Continuing Education - What Can Go Wrong? Common Problems in Plumbing**

**3h 51m 6s**

Section/Topic Titles	Word Count	Minute Count	Section Time	Quiz Q's
I. Introduction to Class on Common Problems in Plumbing (Video)	236	2.8	2m 48s	
Review Question	Q	0.5		1
II Ten Plumbing Problem Areas	4	0.1	1h 3m 50s	
1. Noise	147	2.0		
a. Principles of Noise Transmission	89	1.2		
b. Drainage Piping	435	5.8		
c. Water Supply Pipes	228	3.0		
d. Water Hammer	364	4.9		
e. Pumps & Valves	181	2.4		
2. Sloping for Drainage Piping	242	3.2		
3. Mismatched Piping	381	5.1		
4. Inadequate or Inaccessible Cleanouts	459	6.1		
5. Air Gaps & Air Breaks	192	2.6		
6. Floor Drains	60	0.8		
7. Water Heater T&P Valves and Condensation	512	6.8		
a. Expansion Tanks	220	2.9		
b. Condensation from Water Heaters and T&P Valve Drainage	318	4.2		
8. Combustion Air	255	3.4		
9. Leaks	44	0.6		

10. Clearances and Handicapped Access	619	8.3		
Review Question	Q	0.5		1
III. Traps and Vents	3	0.0	45m 48s	
a. Water Seal Traps	165	2.2		
1. Sewer Gas	263	3.5		
2. Trap (and Interceptor) Types	480	6.4		
3. Grease Traps (Interceptors)	56	0.7		
4. Illegal Traps	103	1.4		
a. House Traps	147	2.0		
5. The Effect of Pressure Differentials on Trap Seals	166	2.2		
6. What Can Go Wrong with Traps	554	7.4		
7. Deep Seal Traps	129	1.7		
b. Venting System	187	2.5		
1. Design Considerations	277	3.7		
2. Fixture Trap Vents	161	2.1		
a. Common Vent	85	1.1		
b. Private Fixture Group Wet Venting	72	1.0		
c. Circuit Venting	132	1.8		
d. Waste Stack	94	1.3		
e. Combination Drain and Vent	95	1.3		
f. Island Vent	63	0.8		
3. Relief Vents	165	2.2		
Review Question	Q	0.5		1
IV. Midway Through the Class (Video)	V	1.2	1m 42s	
Review Question	Q	0.5		1
V. Cross-Connection	269	3.6	54m 21s	
a. Risk Assessment	345	4.6		

b. The Problem	176	2.3		
c. Causes	102	1.4		
1. Back-Pressure	214	2.9		
2. Siphonage and Back-Siphonage	483	6.4		
d. Protection Strategies	2	0.0		
1. Passive	1	0.0		
a. Air Gap	507	6.8		
2. Active	108	1.4		
a. Pressure-Type Vacuum Breaker	286	3.8		
b. Double Check Assemblies	280	3.7		
c. Reduced Pressure Principle Assemblies	337	4.5		
d. Atmospheric Vacuum Breaker (Anti-Siphon)	379	5.1		
3. Recommended Passive and Active Device Types for Specific Applications	32	0.4		
4. Hybrid	116	1.5		
e. Potential Problems	402	5.4		
Review Question	Q	0.5		1
VI. Corrosion	354	4.7	34m 40s	
a. Corrosion in Plastics	80	1.1		
b. Patterns of Metal Corrosion	312	4.2		
1. Galvanic Corrosion Factors	218	2.9		
2. Biological Corrosion	111	1.5		
c. Copper Pipe Erosion/Corrosion	238	3.2		
d. Corrosion Control	38	0.5		
1. Materials	145	1.9		
2. Design	142	1.9		
3. Protective Coating and Passivation	177	2.4		
4. Cathodic Protection	153	2.0		

a. Impressed Current Cathodic Protection	194	2.6		
b. Sample Code Section	158	2.1		
5. Dielectric Protection	113	1.5		
6. Inhibitors (Water Treatment)	130	1.7		
Review Question	Q	0.5		1
VII. Customer-Created Problems	199	2.7	26m 39s	
a. DIY Plumbers	230	3.1		
b. Drain Abuse	782	10.4		
c. Plumbing Fixtures Abuse	83	1.1		
d. MacGyvering Frozen Pipes	155	2.1		
e. Ignoring Plumbing Problems	135	1.8		
f. What Can Be Done?	377	5.0		
Review Question	Q	0.5		1
VIII. End of the Class (Video)	V	0.3	48s	
Review Question	Q	0.5		1
<b>Total Word Count</b>	16710	222.8	3h 42m 48s	
<b>Total Presented Questions</b>	8	4.0	0h 4m 0s	
<b>Total Video Time</b>		4.3	0h 4m 18s	
<b>Total Time for Words and Questions</b>		231.1	3h 51m 6s	



