

Relative Humidity

Relative humidity compares how moisture is in the air to how much moisture air can hold at a temperature.

The higher the humidity, the more uncomfortable we usually feel.

1. Which room would have a higher relative humidity, a warm room with 22 grams of water vapor or a cold room with 22 grams of water vapor? Explain.

Use the chart at the right to answer the following:

2. Calculate the relative humidity of both locations. In a kitchen, the dry bulb reading was 30 degrees and the wet bulb reading was 23 degrees, calculate the relative humidity of the room.

3. The smaller the difference in the dry and wet bulb temperatures on a sling psychrometer, the _____ the relative humidity.

4. A humid bathroom has a dry bulb reading of 34 degrees and a wet bulb reading of 32 degrees. Determine the relative humidity.

5. If a room has a relative humidity of 76% and the difference in the temperatures of the wet and dry bulbs is 3 degrees, find the temperature of the room.

6. Determine the wet bulb temperature of an area with a temperature of 14 degrees and a relative humidity 25%.

Relative Humidity Chart (%)															
Temp Dry Bulb (°C)	Difference Between Dry Bulb and Wet Bulb Temperatures (°C)														
	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
2	84	68	52	37	22	8									
4	85	70	56	42	29	26	3								
6	86	73	60	47	34	22	11								
8	87	75	63	51	39	28	18	7							
10	88	76	65	54	44	33	23	14	4						
12	89	78	67	57	47	38	29	20	11	3					
14	89	79	69	60	51	42	33	25	17	9					
15	90	80	71	62	54	45	37	29	22	14					
18	91	81	73	64	56	48	41	33	26	19	6				
20	91	82	74	66	58	51	44	37	30	24	11				
22	91	83	75	68	60	53	46	40	34	27	16	5			
24	92	84	76	69	62	55	49	43	37	31	20	9			
26	92	85	77	70	64	57	51	45	39	34	23	14	4		
28	92	85	78	72	65	59	53	47	42	37	26	17	8		
30	93	86	79	73	67	61	55	49	44	39	29	20	12	4	
32	93	86	80	74	68	62	56	51	46	41	32	23	15	8	1
34	93	87	81	75	69	63	58	53	48	43	34	26	18	11	5
36	93	87	81	75	70	64	59	54	50	45	36	28	21	14	8
38	94	88	82	76	71	65	60	56	51	47	38	31	23	17	11
40	94	88	82	77	72	66	62	57	52	48	40	33	26	19	13
42	94	88	83	77	72	67	63	58	54	50	42	34	28	21	16
44	94	89	82	78	73	68	64	59	55	51	43	36	29	23	18

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