Humidity in the air
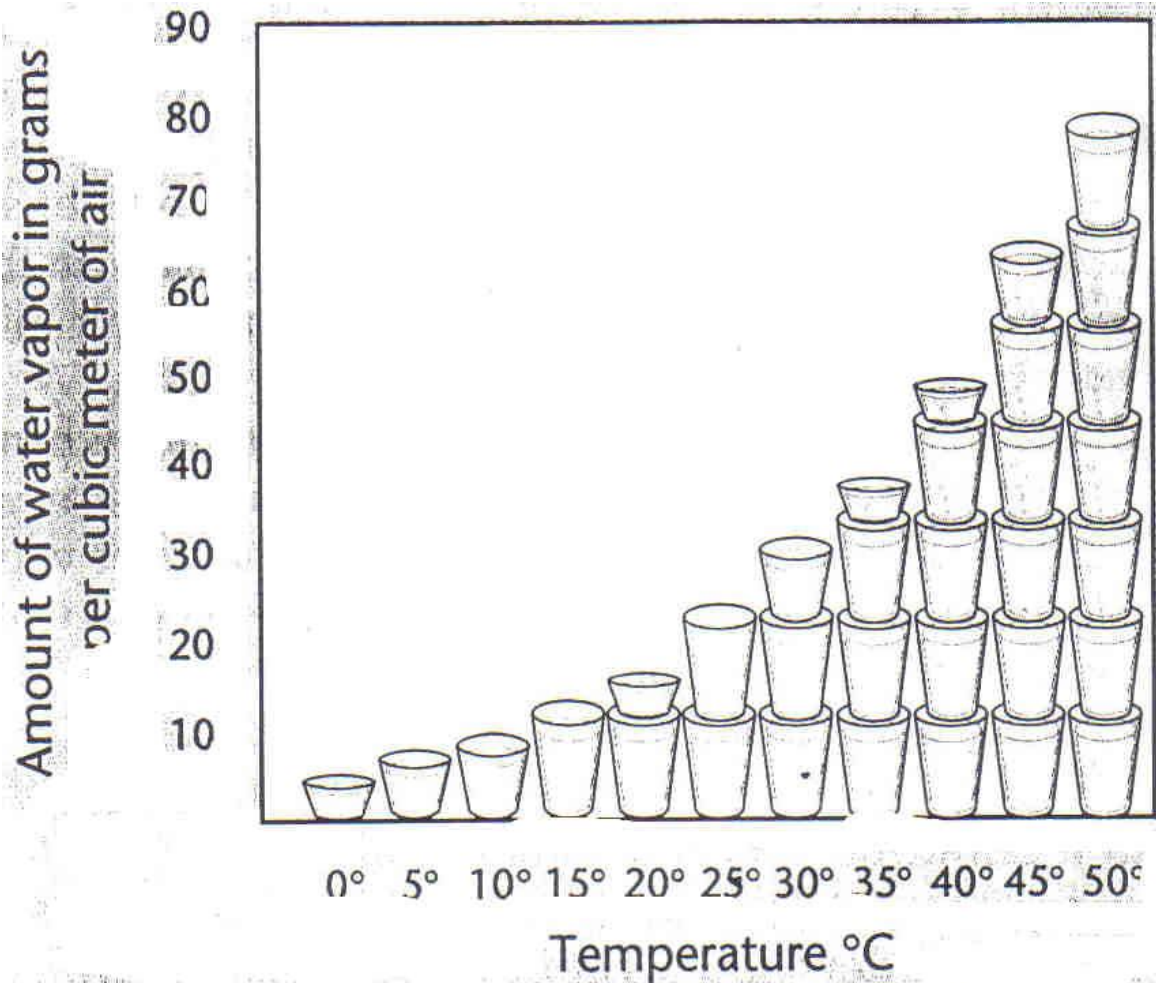

(1)   AIR AT 40 C is saturated when it contains just over 50 g of water vapor per cubic meter of air.

(2)   AIR at 25 C is saturated when it contains 22 g of water vapor.

Solve the following problems:

(3)   IF air at 25 C contains only 11 g of water vapor in each cubic meter of air, what is the relative humidity _____%

(4)   If the air at 20 degrees C, a cubic meter of air can hold a total of 17 grams of water vapor. If only 4 grams are present, what is the relative humidity? _____%

(5)   If the air at 40 degrees C, a cubic meter of air can hold a total of 50 grams of water vapor. If only 15.5 grams are present, what is the relative humidity? _____%

Relative Humidity Worksheet

To find **relative humidity** using the table:
(1)   Determine the difference between the **dry bulb** reading and the **wet bulb** reading. This is sometimes called the *Wet-Bulb Depression.*
(2)   Locate that number in the top row of the table.
(3)   Look down the column until you reach your **dry bulb** reading.
(4)   Find where these two numbers meet.
(5)   The number in that square is the percent of **relative humidity**.

Relative Humidity
Difference between dry and wet bulb readings

Dry bulb reading	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°	11°	12°
66°	95	90	85	80	75	71	66	61	57	53	48	44
68°	95	90	85	80	76	71	67	62	58	54	50	46
70°	95	90	86	81	77	72	68	64	59	55	51	48
72°	95	91	86	82	77	73	69	65	61	57	53	49
74°	95	91	86	82	78	74	69	65	61	58	54	50
76°	96	91	87	82	78	74	70	66	62	59	55	51
78°	96	91	87	83	79	75	71	67	63	60	56	53
80°	96	91	87	83	79	75	72	68	64	61	57	54
82°	96	92	88	84	80	76	72	69	65	61	58	55
84°	96	92	88	84	80	76	73	69	66	62	59	56
86°	96	92	88	84	81	77	73	70	66	63	60	57
88°	96	92	88	85	81	77	74	70	67	64	61	57
90°	96	92	89	85	81	78	74	71	68	65	61	58

For example: With a dry bulb reading of 72 °F and a wet bulb reading of 67°F, there is a difference of 5.° Locate 5° at the top of the table and move down the column to the square in line with 72° (the dry bulb reading). That square reads 77; therefore, the **relative humidity is 77%.**

Use the relative humidity chart to find the relative humidity under each of the following conditions.

DRY BULB READING	WET BULB READING	WET BULB DEPRESSION	RELATIVE HUMIDITY (%)
84	74		
76	68		
70	66		
88	81		
90	78		
90	84		
86	77		
68	66		
78	67		