

1. Fill in the missing values in the table below. Assume that the air at each weather station is forced to rise.

Weather Conditions and Rising Air Parcels at Five Weather Stations

Weather Station	A	B	C	D	E
Air temperature at ground level (°C)	10	20	25	29	30
Water vapor capacity at ground level (g/kg)	≈8	15	20.5	26	≈28
Relative Humidity at ground level (%)	25%	67%	39%	35%	50
Water vapor content of the air (g/kg)	2	10	≈8	9	14
Dew point temperature (°C)	≈-9	≈13.5	10	12	19
Condensation level (m)	1900	650	1500	1700	1100
Temperature at 2000 m (°C)	-9.6	5.4	7	10.2	13.6

2. a. 6°C b. 600 m c. -2.4°C d. 17.6°C
3. a. ≈10°C b. 1100 m c. 2100 m d. 25°C
- e. increase f. stay the same g. decrease
4. a. 20C b. 23 c. 600 m d. 500 m
- e. ≈750-775 m f. ≈1400-1425 m g. 0 m to ≈750 m h. 0 m to ≈1400 m
- i. 500-900 m j. 600 m k. 500 m l. ≈750-775 m
- m. ≈1400 m
- n. B. The cloud base is lower and the stability level is higher.
- o. The air inside parcel A is more dense than the air inside parcel B because it has a lower temperature.
- p. The air inside parcel A is more dense than the air *surrounding* parcel A because the air inside parcel A has a lower temperature than the ELR at 1000 m.
- q. At 1000 meters, is the air *inside* parcel B more, less or the same density as the air *surrounding* parcel B? Why?
- q. At 200 meters the air inside parcel B is more dense than at 1500 meters because density decreases as altitude increases no matter what the temperature.