i. Temp decreases, slower, closer, more dense

- As air pressure increases, the air temperature increase
  - i. Closer, hit each other more, more heat
- As air pressure decreases, the air temperature decrease
  - i. Farther, don't hit each other, less heat

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#17

As the temperature of the atmosphere at a given location increases, the air pressure will most likely

(1) decrease (3) remain the same

(2) increase

H_2O

O_2 N_2

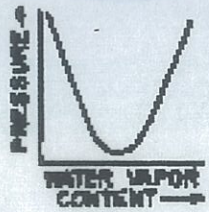
B. **Air pressure and humidity:**

- Water vapor is much lighter than other gases in the atmosphere.
- The higher the humidity, the lower the air pressure.
  - i. Increase water vapor, lower weight molecules push out heavier molecules, lower pressure
- The lower the humidity, the higher the air pressure.

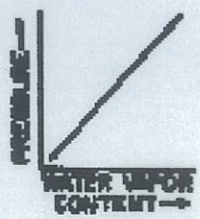
#18

Which graph best shows the relationship between atmospheric pressure and water vapor content at the Earth's surface?

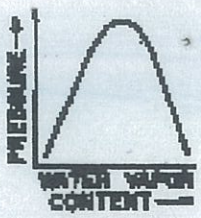
(1)



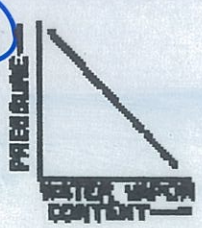
(3)



(2)



(4)



C. **Air temperature and humidity**

* Cold air can hold less water vapor.
* Warm air can hold more water vapor.

- If the temperature increases, the relative humidity will decrease
  - i. Hotter, has the capacity to hold more, % decreases.
- If the temperature decreases, the relative humidity will increase
  - i. Hotter, less capacity to hold, % increases.

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