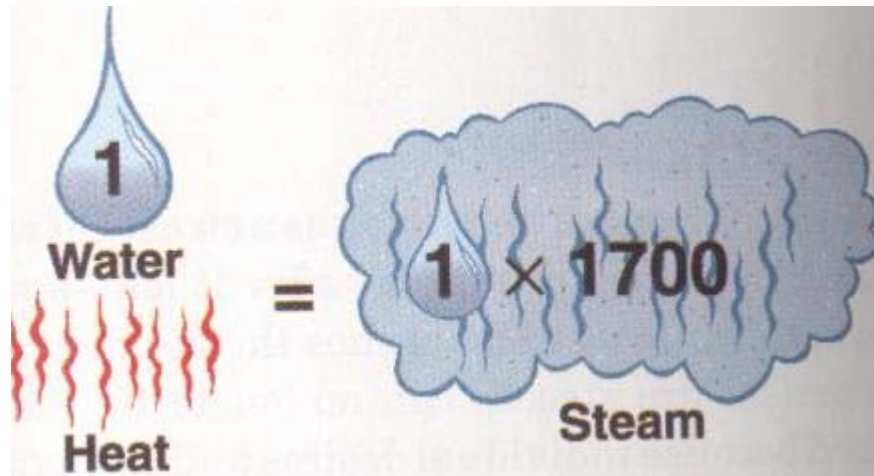


At 212° F water expands approximately 1700 times its original volume.



In hotter atmospheres, steam expands to even greater volumes. Consider a nozzle discharging 150 gallons of water fog every minute into an area heated to approximately 500° F, causing the water fog to convert to steam. During one minute of operation, 20 cubic feet of water is discharged and vaporized. This 20 cubic feet of water expands to approximately 48,000 cubic feet of steam.

48,000 cubic feet of steam will fill a room that is 10 feet high, 48 feet wide and 100 feet long. What are the dimensions of other rooms that also have this same volume?

| Height | Length | Width |
|--------|--------|-------|
| | | |
| | | |
| | | |
| | | |

If the temperature in these rooms is only 212° F, how much water is necessary to fill the rooms with steam? How long will a nozzle discharging 150 gallons per minute take to fill the room at this temperature?

A nozzle discharges 150 gallons of water fog every minute into an area heated to approximately 500° F, causing the water fog to convert to steam. During one minute of operation, 20 cubic feet of water is discharged and vaporized. Complete the table to show the amount of water discharged over a period of 5 minutes.

Describe the pattern. _____

Write an algebraic equation describing the relationship between the number of minutes and the amount of water discharged _____

| Number of min- | Gallons of wa- |
|----------------|----------------|
| 0 | 150 |
| 1 | |
| 2 | |
| 3 | |
| 4 | |
| 5 | |

