Density of air and water
Black body radiant heat energy calculator

Water heat of fusion
http://www.madsci.org/

Heat Capacity Problem
http://www.guilford.edu/original/academic/geology/WaterHeat.html

How to convert from Celsius to Fahrenheit and vice versahttp://www.hintsandthings.com/library/temperature.htm

Assume one has lots of water that is about 68 degrees Fahrenheit or 20 degrees centigrade. If one part of water is converted from steam to water how many parts of water will it heat up to 194 degree Fahrenheit or 90 degrees Centigrade if water is used to cool the seam?

Heat of vaporization is 540 cal/g. For each degree of temperature change of water will result in 1 Cal/g-deg-C. The basic unit of measure (part) in the case is the gram. 1 gram of steam will produce 540 calories of heat and this is set equal to "X" amount of water that changes in temperature from 20 to 90 degrees centigrade time 1 cal/g-deg-C. The equation becomes.

1g*540 cal/g = Xg*(90-20)deg-c*1 cal/g-deg-C

540 cal = X*70*1cal

X = 540/70 = 7.71 times more water for room temp to over 190 degree F.

X= 540/(70*5/9) = 540/40 = 13.5 for 140 deg water output

7 (over 200 deg F) to 14 (over 140 deg F) times more hot water produced than was turned used to make the steam.

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http://www.theweatherprediction.com/habyhints/216/index.html

Water has a density of 1000 kg/m^3. If you had a meter cubed of water it would weight about 1000 kg. Air that is near sea level has a density that averages 1.275 kg/m^3. If you have a balloon containing a meter cubed of sea level air, the air itself would weight only 1.275 kg. Therefore, to find how much more dense water is than air all we need to do is find a ratio of water to air. 1000 kg/m^3 divided by 1.275 kg/m^3 yields 784. Therefore, at sea level, air is 784 times less dense than water. Expressed in another way, a volume of air at sea level has 0.1275% of the density of

the same volume of water. Dirt is about 2.5 times the density of water. Dirt and water are much denser than air and are thus much easier to see.

The least dense "substance" in the universe is energy. Remember Einstein's equation, E=m*c^2. Energy is only visible when it is in enormous quantities or has condensed into mass.

If it takes about 16 inches of ½” id copper pipe to cool steam to condensing temperature using water to cool the copper. This is 16*.5*3.14 = about 25 sq inches of surface area.

Now 25 times 784 = 19600 sq. inches = 136 square ft.

3” al pipe has 3*3.14 = 9.42 sq inch per running inch = .785 sq ft/running ft.

Thus would need 136/.785 = 173 ft of this 3” tubing to be equivalent. This is assuming no leakage due to radiant energy.